

TEA

The
European Archaeologist

*The newsletter of EAA members for EAA members
Issue 77 – Summer 2023*



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The views expressed are those of the individual authors and do not necessarily represent official EAA policy.

Cover

The twisted tale of the Corrard Torc

Niamh Baker

National Museums Northern Ireland

Cover image: Gold torc from Corrard, County Fermanagh. Belum.A2013.1 © National Museums Northern Ireland

The Corrard gold torc is one of the most impressive objects dating to the Middle Bronze Age ever discovered in Ireland. Found in Upper Lough Erne at Corrard, Co. Fermanagh, the torc is an item of jewellery, possibly once worn around the neck or waist. The torc has a gold content of c. 87%, the remaining metals being silver (c. 11%) and copper (c. 2%). Weighing in at 720 g, it must have been regarded as a high status item.

Gold bar torcs of this type date to c. 1300-1100 BC. Most are circular in shape forming a large ring or hoop, which could be opened and closed by two interlocking clasps at either end. There are nine other examples of this specific type of flange twisted torc from Ireland, including the two iconic torcs from Tara, Co. Meath which are on display in the National Museum of Ireland in Dublin.

What makes the Corrard torc remarkable in an Irish context is that at some time in the past the shape of the torc was deliberately coiled to create a spring-like appearance. In its coiled state the torc measures c. 22cm in length and could no longer be worn around the neck, waist or arm. Other examples of coiled torcs have been found in Britain and France.

If not intended to be worn for personal use, it is possible that torcs may have been used as part of a ritual ceremony. The Corrard torc was buried in boggy ground and the coiling may have been an act of 'decommissioning', similar to the scenario as seen at Flag Fen, Cambridgeshire, where objects were deliberately broken and bent before being thrown into the water. The coiled shape certainly would have made it easier to transport, hide or bury in the ground.

The word torc is derived from the Latin *torquere*, 'to twist'. This does not refer to the coiled spring-like shape but to the main body of the torc, which takes the form of a thin cross-section with four flanges and rounded terminals at each end. Gold is highly malleable and can be worked into this shape from a single square bar of gold by hammering and then twisting to create a spiral ribbon-like appearance. This treatment gives the object its typological name – a four-flange twisted bar torc.

Regardless of its function or reason for burial, the Corrard torc clearly displays the skill of the Bronze Age goldsmith and it reflects access to a highly sought after commodity at this time. Having been buried in Fermanagh for over 3000 years, this piece of Bronze Age gold jewellery was discovered in 2009. It is now in the collection of National Museums NI and on display at the Ulster Museum, Belfast.

Letter from the Editors

Dear Colleagues,

Summer is back and temperatures throughout Europe are on the rise. As we transition from the previous La Niña trend of the last few years into an El Niño pattern, precipitation rates are expected to decrease. This has ominous implications, heralding high temperatures and extreme weather across Europe. Already, the 2020s have witnessed record-breaking heatwaves around the globe. Europe has been no exception; last year we saw the second worst wildfire season on record across the EU. These conditions have mixed implications for archaeology. In Norway, receding glaciers have revealed unprecedented well-preserved artefacts from the Viking Era and earlier periods. River levels along the Elbe and Danube reached historic lows, revealing ‘hunger stones,’ and offered a sobering reminder of conditions to come. Recently in Spain’s Caceres province, the Neolithic ‘Dolmen of Guadalperal’, submerged by the Valdecanas Reservoir since 1963, resurfaced once more from the reservoir’s receding waters. Venice’s famous canals have been running dry, even while spring flooding has taken lives and threatened livelihoods across northern Italy and parts of Central Europe.

Just as environmental and climatic issues continue to exacerbate problems throughout Europe, recent defence measures have been forced to ramp up the extent of the conflict on Ukrainian soil. Russia’s war has been disastrous in many ways, some of which are traced through this issue’s contributions. The impact on Ukraine’s cultural heritage and archaeological legacy is officially addressed by the EAA’s endorsement of the [joint Position Statement](#). As trade in illicit objects looted from Ukrainian territories and cultural institutions has been rampant since the Russian invasion, we include a [Newsflash](#) segment by Fedir Androshchuk on the subject. Although they are not directed only at the dangers to Ukrainian cultural heritage, a [Debate piece](#) by Christy Wong (part I of II) and the overview of the [Community on the Illicit Trade in Cultural Material](#) by Marianne Mödlinger, Evelyne Godfrey, and Andris Kairiss also touch upon important issues in relation to the current situation there.

These and other important issues will be brought to the table at the EAA’s upcoming Annual Meeting in Belfast where we will join together to plan, discuss and debate the *status quo* and future of archaeology, to re-connect with previous co-workers, to meet with colleagues and make new friends, and to honour those who are no longer with us, like the late [Prof. David Fontijn](#). In the spirit of this solidarity, this issue puts heavy emphasis on Northern Ireland. Our cover is graced by the [Corrard Torc](#), a masterwork of Irish Bronze Age goldsmithing, expertly described here by National Museum of Northern Ireland’s Niamh Baker. We continue with an archaeologist’s [insider guide to Belfast](#) by Courtney Mundt and our Meet a Member over TEA chat [with Prof. Eileen Murphy](#) from Queen’s University Belfast. We also feature chat a with [Win Scutt](#), who has been the EAA’s Social Media Editor for the last few years in addition to kindly providing our quarterly review of popular archaeology in the news: [In Case You Missed It...](#) Thanks for all of your hard work, Win! A second Newsflash by Kristina Penezić and Zorica Kuzmanović presents on the [evolving state of archaeology in Serbia](#) as the Serbian Archaeological Society celebrates its 140th anniversary. We also welcome the [Archéologie des Puits \(ADP\)](#) association’s Sacha Ranchin and Louis Lacoste to tell us all about the fascinating archaeological potential of wells. Jan-Heinrich Bunnefeld and Oliver Dietrich provide an Overview of Bunnefeld et al.’s recent work tracing the exchange implications of [two Baltic amber beads discovered in Bronze Age northern Mesopotamia](#). Lyn Blackmore and Liz Barham et al. present the exciting find of an [Anglo-Saxon elite women’s bed burial in Harpole](#), Northamptonshire. Dimitra Michael et al. give a Project Overview of The Bioarchaeology of Socio-Political Changes in Amphipolis ([BIOSOCIOPOLIS](#)) project. Alyssa White and Rick Schulting give a remarkable take on their investigation into one of the [earliest shark attacks in the archaeological record](#), and Anne Marie Høier Eriksen and David Gregory give us the lowdown on a fabulously well-preserved [16th-17th century shipwreck in the Eastern Gotland Basin](#). Finally, Katalin Wollák reports on the EAC’s recent [Heritage Management Symposium](#), touching on the importance and potential of historical, and even modern, archaeological heritage.

Take good care of yourselves and each other out there this summer; we look forward to seeing you in Belfast!

Best Regards,

Matthew J. Walsh and Samantha S. Reiter

Editors

Calendar for EAA Members July-Oct. 2023

12 July	Deadline for last AM bookings cancellation (no refund after this date)
1 August	EAA Student Award submissions deadline
1 August	TEA photo competition submission deadline
2 August	EAA Secretariat sends out ballot papers to current Members
30 August - 2 September	EAA 2023 Annual Meeting in Belfast
1 September 12:00 CEST	Deadline for submitting votes in EAA election
11 September 2023	deadline to publish on EAA web the video recording of the AMBM informal meeting deadline to provide individualised secured access to an electronic ballot to all Full Individual Members
11 - 15 September 2023	AMBM voting held <i>per rollam</i>
30 September	Attendance certificates available at submission website
1 October	Deadline for sending in articles and announcements for TEA fall issue
2 October 2023	deadline to publish the results of the AMBM voting on the EAA website and by e-mail to all Full Individual Members

Position Statement

The War in Ukraine & Ukrainian archaeology

The Organisations represented by their Presidents at the 88th SAA Conference in Portland (OR), alongside the National Academy of Sciences (NAS) of Ukraine, announce the following statement on the proceeding and publication of sites, finds and samples from Ukrainian archaeological sites:

The Russian aggression against the sovereignty of Ukraine, beyond being an attack against fundamental human rights, causes severe harm to the fair treatment of its cultural heritage, archaeological material and information, and to the fair treatment of the work of Ukrainian archaeologists, bioarchaeologists and their collaborators. The problem stems in part from historical context, wherein materials from the territory of Ukraine were removed and housed in institutions in Russia (e.g., the Hermitage, Institute and Museum of Anthropology at Moscow State University, Institute of Ethnology and Anthropology RAS, Kunstkamera in St. Petersburg) from earlier joint Russian-Ukrainian field projects (prior to the illegal annexation of Crimea in 2014) but more dramatically since the war, where finds and bioarchaeological samples have been removed to Russian institutions. Despite the fact that the National Commission for the Return of Cultural Property to Ukraine under the Cabinet of Ministers of Ukraine has called for repatriation of Ukrainian archaeological heritage including those from Crimea and from the occupied East Ukrainian territories, Russian institutions groundlessly act as the 'owners' of these materials.

The Presidents and their organisations call upon scientific committees of conferences, and indeed session organisers themselves, to carefully investigate each session and each presentation submitted by Russian authors, to determine whether any Ukrainian data are involved, and whether Ukrainian archaeologists/bioarchaeologists who excavated and/or processed the data are listed as co-authors. Lacking any of these, the inclusion of these presentations should be rejected.

We urge the same rigorous procedure in the case of all bioarchaeological samples originating from Ukraine that undergo scientific analysis in molecular biological laboratories, to provide a detailed account of the provenance of each sample and the details of how the sample came to be curated outside of Ukraine. In addition, the archaeological background must be provided by those who are authorised to give these.

Similarly, we wish to alert all publishers across the globe that they should not publish Ukrainian material included in studies by Russian authors, without the co-authorship and/or the written agreement of authorised Ukrainian state archaeological institutions, following the principles of "responsible research conduct". Should Ukrainian researchers, understandably, reject cooperation and joint publication with Russian authors, the publication of material from the territory of Ukraine should not proceed with Russian authors only.

All the above concerns are in the spirit of fairness and ethics. In the current situation, where in Ukraine's territory is under an aggressive attack, it is a moral imperative for all archaeological organisations to monitor the fate of sites, finds, samples and documentation, and to raise our voice against the discrimination of Ukrainian archaeologists, either by some of their Russian colleagues, by scientific committees, or by publishers.

Dan Cassedy

President

American Cultural Resources Association

Eszter Bánffy

President

European Association of Archaeologists (EAA)

John Peterson

International Scientific Committee on Archaeological Heritage Management (ICAHM)

John Yellen

President

PaleoAnthropology Society

Trish Fernandez

President

Register of Professional Archaeologists

Daniel Sandweiss

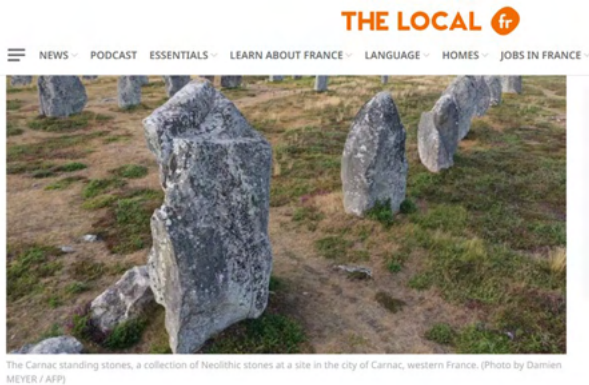
President

Society for American Archaeology (SAA)

In Case You Missed It...

Win Scutt

EAA Social Media Editor



Thirty nine ancient standing stones at the Neolithic site of Carnac, in north-west France, have been destroyed during the construction of a Mr Bricolage DIY store, it has been revealed. <https://buff.ly/3NIN1I0>

Image credit: Credit: Pixabay/CC0 Public Domain

Two Roman head sculptures, three times the size of human heads, have been found during excavations of a huge Roman bathhouse close to Hadrian's Wall in Carlisle, UK. <https://buff.ly/3OD9fWQ>

Footprints from early species of human, Homo heidelbergensis, who lived some 300,000 years ago, have been found in Schöningen, Germany. Children and juveniles were among the group that walked along a lakeside. <https://buff.ly/3OKwoGV>

New evidence of early use of controlled fire in Europe. Organic geochemical evidence of human-controlled fires at Acheulean site of Valdocarros II (Spain, 245 kya) Just published in Nature Scientific Reports and #OpenAccess <https://buff.ly/3pWcL4j>

Baltic Amber found in ancient Iraq. Amber found under the great ziggurat of Aššur in Iraq, in a deposit c.1800-1750 BC has now been identified using Fourier Transform Infrared Spectroscopy (FT-IR) as having been from the Baltic. <https://buff.ly/3WAzkbB>

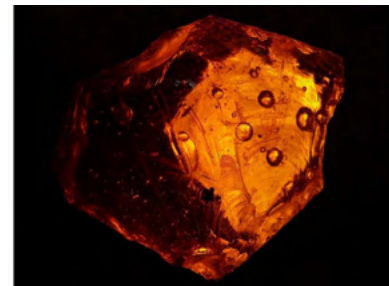


Image credit: Credit: Pixabay/CC0 Public Domain

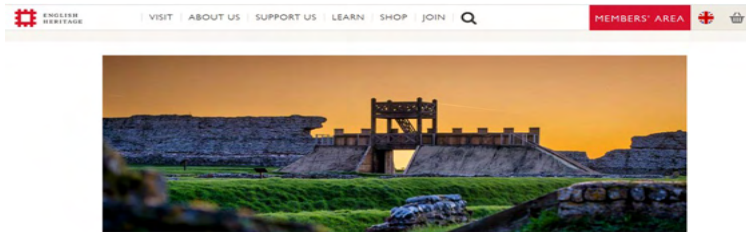
Roman watchtower from the 4th century CE discovered in Switzerland. <https://buff.ly/3HVxGuj>

Road, 4m wide, and perhaps 6,000 years old, connecting submerged neolithic settlement of Soline with the island of Korčula, is revealed by archaeologists from the University of Zadar, Croatia. <https://buff.ly/3B8uibU>

A 3,000 year old wooden burial chamber threatened by development in Saxony Anhalt, Germany, has been transported complete with its contents to a laboratory at the State Museum of Prehistory in Halle for analysis, including dna. <https://buff.ly/41clZp2>

Human DNA extracted from deer-tooth pendant, from Denisova Cave, estimated to be 19,000–25,000 years old. The ground-breaking development of a non-destructive method for the gradual release of DNA trapped in ancient bone and tooth artefacts. #openaccess at <https://buff.ly/426piAg> Synopsis: <https://buff.ly/3nxdIPT>

1st-century burial, excavated by archaeologists in Hungary, holds Roman doctor buried with medical tools, including 'top-quality' scalpels <https://buff.ly/3M5K9hR>



How English Heritage reconstructed a Roman gateway to tell the story of Britain's invasion <https://buff.ly/424jiYH>

Image credit: English Heritage

Homo sapiens colonised Europe in three separate waves between 54,000 and 42,000 years ago. New paper just published in PloS One <https://buff.ly/42yXaWA> and described by Professor Chris Stringer as "provocative and ambitious" <https://buff.ly/3M0mfEk>

Genealogical mapping by scientists at the University of Oxford and the Broad Institute of MIT and Harvard University has produced a tree of 27 million ancestors tracing human evolution and migration back one million years. <https://buff.ly/3yrD2Zp>

Do you have something that you would like to contribute to TEA?

We welcome a range of contributions including:

- Letters to the editors
- Opinion or debate pieces
- Short report articles
- Object biographies
- Research overviews
- Meet a Member over *TEA*
- Book reviews
- Announcements (jobs, field schools, publications, funding opportunities, etc.)

Please contact *TEA* editors Samantha S. Reiter and Matthew J. Walsh at: tea@e-a-a.org

Behind the Scenes Chat with the EAA: Social Media Editor

Win Scutt



Nationality: British

Institution: English Heritage

EAA member since: 2017

Position for EAA: Social Media Editor, 2020-2023

Image at left courtesy of W. Scutt

TEA: Can you tell us a bit more about what a Social Media editor does?

W. Scutt: It is mainly about posting on the EAA social media platforms – Facebook, Twitter, Instagram, LinkedIn, Mastodon and YouTube. In part it is to share the work of the EAA with the rest of the world, for example the latest paper in our journal, the [European Journal of Archaeology](#) or [TEA](#); or our policy statements, for example our [recent statement on Ukraine](#). We want the EAA to be noticed. We want the EAA to be recognised as the leading organisation for archaeologists in Europe and to be respected and consulted by politicians and influencers. We can share news of our members’ research and of archaeological research and news from the world. So, our social media is primarily outward-facing. We use it, too, to create a buzz before and during our annual meetings, sharing the call for papers and the programme. During our Budapest meeting, our tag #EAA2023 was even trending on Twitter in Hungary!

TEA: Where you the first person to hold this position for the EAA?

W. Scutt: Yes. It was a great innovation by the Executive Board under our previous President, Felipe Criado-Boado. I was appointed in June 2020, at the height of the Coronavirus pandemic. I was furloughed by English Heritage, so I had plenty of time to practise some new ideas. Most of our platforms were already established and were being updated by the Secretariat, but engagement was low.

TEA: How has the job changed since you started?

W. Scutt: The biggest change has been in the number of followers, many of them movers and shakers inside and outside the world of archaeology. Followers to our six platforms have increased from 14,050 to 35,358. In addition, under Jesper Hansen’s leadership, we have now agreed a wider Communications Strategy, which includes the SoMe strategy.

TEA: Archaeologists are such a diverse group; can you tell us a bit about what drew you to social media? What is the most important and relevant part of your work for the EAA?

W. Scutt: Archaeology is too exciting not to be shared with everyone! From the time I started as a museum curator it has always been my ambition to inspire people to take an interest in archaeology. As a sideline, I took up broadcasting with a regular slot on BBC Radio. When I started a 12-year stint as an archaeology correspondent for BBC Radio 5 Live in 2002, it was natural to share my weekly news updates on social media – on Facebook and Twitter, so that they could find out more. Sharing news about archaeology and promoting the EAA has been a great privilege and honour.

TEA: We understand that you have had quite a diverse career—has it always been archaeology-focussed?

W. Scutt: It was my grandmother who inspired me to follow a life in archaeology. She had travelled with her mother, her aunt Maud and Cornelius (the chauffeur for the Rolls) through Egypt and Palestine in the 1930s. She gave me a collection of Roman and Greek coins which, at the age of 9, I identified and catalogued. I studied under Colin Renfrew at the University of Southampton and excavated with him in Melos, Greece; and supervised excavations at Hambledon Hill. It was my skills in numismatics that got me my first job as a curator in Plymouth Museums; from there to setting up an EU-funded Visitor Centre. But that drew me into the world of tourism and I was invited to set up a new degree course for Plymouth University at a local college. They let me establish a degree course in archaeology in collaboration with the Institute of Field Archaeologists (now ClfA). In 2011, I joined English Heritage as Education Manager and, a year later, as a Properties Curator. After a diversion into museums and then tourism, my career has come full cycle back into field archaeology and conservation.

TEA: Can you tell us a bit about your future plans?

W. Scutt: I am enjoying my current role as Senior Properties Curator so much that I am not planning to move on! But, I do want to spend more time publishing my research into prehistoric land division of the landscape around Dartmoor as well as my work on place-names in the landscape.

TEA: How do you see archaeology changing in the future?

W. Scutt: During my career, I have noticed how the most fruitful projects have been interdisciplinary. The boundaries between the humanities as well as with the sciences are becoming increasingly blurred. I look forward to them being almost non-existent! – when psychology, linguistics, performance and visual arts, music (and so much more!) intertwine.

TEA: What/How does archaeology contribute to society at large?

W. Scutt: It is easy for people to take their cultural identity for granted. At the recent Experimental Archaeology conference in Torun, Poland, I was struck by how important archaeology is to the people of Ukraine, in spite of the far more pressing problems of the war. The physical, emotional and intangible cultural heritage is crucial for all of our different and shared identities.

TEA: What is the biggest issue facing European archaeology?

W. Scutt: I think the biggest issue is convincing the general public of the importance of preserving our past from the threat of development and heritage crime as well as the importance of the research which enriches our shared understanding. There is a risk that we archaeologists live in our own bubble, complacent in the belief that others value our heritage as much as we do.

TEA: What archaeology literature are you reading right now?

W. Scutt: Although prehistory dominates my reading, I am actually reading a new book about one of the English Heritage sites I curate “Wroxeter: Ashes under Uricon” by Roger White. It is a wonderful exploration of historic perceptions through poetry, images and texts of one of Roman Britain’s largest cities.

TEA: Describe your workspace in five words or less.

W. Scutt: A cupboard and a view

TEA: If you could have a conversation with any archaeologist living or dead, who would it be, and what would you choose as the topic?

W. Scutt: I have had so many interesting and challenging conversations with Colin Renfrew, but I will never have enough! And it is usually about language in prehistory.

TEA: If you could go back in time, would you go? Where and when?

W. Scutt: A causewayed enclosure in southern Britain in 3600 BCE.

TEA: Any advice to new archaeologists just starting out/joining the EAA?

W. Scutt: Engage with the media! Ask your local radio station if they would like a regular feature on archaeology. Radio is hungry for archaeology! And so is TV.

TEA: What is your favourite part of your job?

W. Scutt: Meeting fellow archaeologists on excavations.

TEA: Do you go to archaeological sites on vacation, or do you do other things?

W. Scutt: Yes, as many sites as I can fit in without my wife realising – until it is too late!



Newsflash

Ukraine and Illicit Trafficking in Cultural Objects

Fedir Androshchuk¹

¹*National Museum of the History of Ukraine*

At the end of May this year, a meeting of the informal network of law enforcement agencies and material culture experts was held in Stockholm (EU Cultnet). A whole day was devoted to the war in Ukraine, illicit trafficking in cultural goods in relation to the current situation, as well as how the projected evolution of these issues. This paper is based on my contribution to that discussion.

In the following, I will focus on two aspects of this issue: the current state of the war in Ukraine and some practical examples of our museum's collaboration with police, border guards and international experts.

According to UNESCO's latest review of damaged cultural sites in Ukraine (as of 17 May 2023), 256 sites had been registered since 24 February 2022. This figure includes 110 religious sites, 22 museums, 92 buildings of historical and/or artistic interest, 19 monuments, 12 libraries and one archive. These figures are considerably lower than those presented by Ukrainian monitoring groups. In this context, it is important to highlight the impact of the looting of three Ukrainian museums located in the southern regions of the country.

I will begin with the Mariupol Regional Museum, which was burnt down on 16 April 2022. The museum's collections included 53,000 objects and 17,000 books. Among the historical documents, the most valuable was a charter from Catherine the Great to the Greeks who settled in the place where the city of Mariupol was eventually founded. The archaeological collection included artefacts from the Stone Age and the Late Iron Age as well as a collection of early medieval stone sculptures, artefacts from the 1927-1928 excavations of Scythian burial mounds around Mariupol, artefacts from the Mongolian burial mound of Ljapynska Balka and individual objects from the Middle Ages. See Figure 1.

The exhibition was burned and some objects looted from it were taken to occupied Donetsk. The director of the museum was decried as a Russian collaborator ('Викрадача картин', 2023). Some of those looted objects were used by the Russian occupation administration in Mariupol in its anti-Ukrainian propaganda. For example, a Nazi medallion stolen from the museum was used as evidence of Nazi sympathies among the Ukrainian armed forces. See Figure 2.



Figure 1. An enamelled crucifix made in Limoges, in France at the end of the 12th - beginning of the 13th century on display at the Mariupol Regional Museum. Source: <https://pr.ua/news/mariupolqsqkiyi-kraueznavchiyi-muzeyi-stiraue-bili-plyami-v-biografiyah-artefaktiv>



Андрющенко Time



Трофей бойца ДНР в Мариуполе.

!! Мариуполь. Окупанти почали використовувати розграбовані музейні експонати для фейкових новин. Сьогодні по російським паблікам масово пішло це фото, як наче “трофей здобутий в бою у українських військових”.

Насправді, ця медаль є одним з експонатів Мариупольського краєзнавчого музею. Яку було викрадено днями разом з картинами Куїнджі та унікальною бібліотекою.

Чекаємо на появу “тачанки”, кулемета “Максим” або німецької MP40 як доказ нацизму в Мариуполі.

Фейкомети - грабіжники

Figure 2. A screenshot of the message of Mariupol mayor Petro Andryushchenko: “Mariupol. The occupants have began [sic] to use looted museum objects for fake news. Today, this photo featuring a swastika and Adolf Hitler’s image was widely published in the Russian news.”

The actual destruction of the museum was attributed to the Ukrainian military brigade known as "Azov" (Долгова 2022). There is information that the museum was shelled around 15 March of last year. Although the museum was locked, it was without additional electronic or police protection. Close

to that date, some local residents observed vandals with torches inside the museum building. The acting director blamed the Azov Brigade, which had been stationed at the museum before the Russians arrived. According to her, the rest of the museum's exhibits were taken by Ukrainian soldiers before they withdrew, and the museum itself was burned down, along with many of the exhibits on display, including the above-mentioned charter from Catherine the Great.

Another example comes from the museum collection in Melitopol, which was known for a selection of gold jewellery obtained from the excavation of a large Scythian mound in 1954. A total of 196 gold objects were found in the mound. Most of them were sent to the National Museum of the History of Ukraine in Kyiv, while a small collection remained in the local museum, which would later be looted by the Russian occupation authorities. The Melitopol museum collection also included some Sarmatian jewellery from the excavations at Novopylipivka and Voznesenka. About 90 objects from the 1948 excavations in the Kizljar Gorge from the tomb of a Hun chieftain were also kept in the museum. The most valuable objects from this tomb were a gold diadem and other objects made of amber, carnelian, and garnet. See Figure 3.



Figure 3. A gold diadem on the display at the Melitopol museum. Source: melitopol-muzeum.zp.ua.

Both the Regional Museum and the Kherson Art Museum were emptied of their objects in the last week of October 2022 (Andreikovets, Mamonova 2022). About 15,000 objects (most of which were works of art) were transferred by Russian forces to Russian-controlled museums in Crimea located in Sevastopol and Simferopol. Of the objects that were moved, most came from the objects on display in the Regional Museum. These include archaeological finds, coins, weapons, medals from the Tsarist and Soviet eras, furniture from the 18th and 19th centuries, as well as icons and paintings.

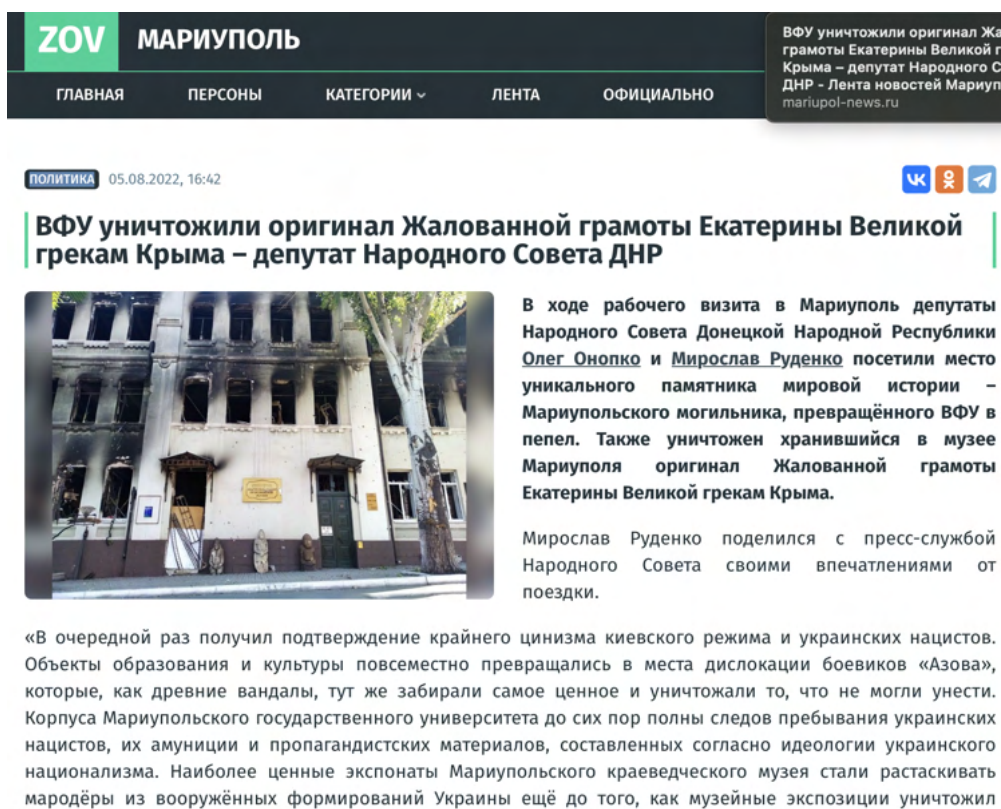


Figure 4. An article published by online newspaper Zov Mariupol stating that the Military forces of Ukraine destroyed the charter of Catherine the Great.

26 АПРЕЛЯ 2023, 12:20

Выставка "Русский Азов" открылась на ВДНХ



Figure 5. The same charter on display in Moscow in April 2023. A screenshot of the Russian online resource <https://smotrim.ru/article/3323488>.

There is information that other objects from Ukrainian museums have also been transferred to museums in Sevastopol and Simferopol. Also, on 25 April, an exhibition called 'Russian Azov' opened in Moscow. See Figures 4-5. It featured a number of objects stolen from Ukrainian museums as well as digital copies of exhibits which are in possession of Ukrainian museums. Among them were finds from the Mariupol Neolithic cemetery and Scythian gold from the Melitopol mound, the Arkhip Kuindzhi paintings from the Berdynask Art Museum and the charter of Catherine the Great from Mariupol.

In two of the three cases mentioned above, Ukrainian museum directors were charged with collaborating with administrations in occupied territories. Over the course of the investigation into the collaboration, the Ukrainian National Police came across a former Ukrainian politician who divided his time between Crimea and in Kyiv. A search of his office in Kyiv resulted in the seizure of a large number of archaeological objects. The National Museum of the History of Ukraine was asked to give an expert opinion. After three days of work, several thousand objects were recorded, including various archaeological items, coins and both ancient and modern weapons. A selection of these items was displayed at the museum for one day. See Figures 6. The idea of the exhibition was to draw public attention to the scale of the looting of Ukraine's cultural heritage.



Figure 6. Iryna Venediktova prosecutor general of Ukraine at the exhibition of illicit archaeological objects at the National Museum of the History of Ukraine. ©The National Museum of the History of Ukraine.

It appears that many objects came from illicit excavations in the Crimea, while other artefacts were bought at auction sites such as Viology. The scale of the illicit archaeological trade can be seen in a summary table from the year before the Russian invasion of Ukraine. See Table 1.

The auction lots	Number of lots
Lead seals (before 1700 AD)	147
Prehistoric and medieval objects (before 1700 AD)	15,399
Coins of Kyevan Rus, Lithuanian Rus, independent duchies and principalities, the Grand Principality of Moscow and Tsars	461
Coins of ancient states	390
Coins of ancient states of the Northern Coast of Black Sea	685
Roman coins	3222
Byzantine coins	87
Coins of Medieval Europe before 1500	238
Coins of Europe (1500-1700)	1700
Coins of ancient and medieval states (before 1700), wholesale lots (10 pieces or more in the lot)	182
Total	22,723

Table 1. Number of lots recorded on Violity auction 05.02.2021. Source: M. Levada.

The expansion of the illicit trade in Ukraine has been caused by metal detectorists who have turned their hobby into a profitable, 'tax-free' business. There is no area in Ukraine where detectorists have not left their traces. The customers who commonly buy such finds are residents of Ukraine, Russia, European countries and the USA. For example, illicit trade in archaeological objects to Germany and the UK has been documented in at least two cases.

One case dates back to 2015, when a unique bronze figurine from the late Viking period was found in Ukraine. It was quickly smuggled out and sold in the UK under a false identity (Gustafsson 2017). Another case was documented in 2020, when a hoard of hacked silver from the Roman period was found in the Ternopil region of Ukraine. This too was smuggled out under a false identity and sold in Germany. See Figures 7-8.

In order to stop the illicit trade and return the smuggled object to Ukraine, the National Museum of History of Ukraine sent an official letter to a German police station and appealed to the Ukrainian Ministry of Foreign Affairs.

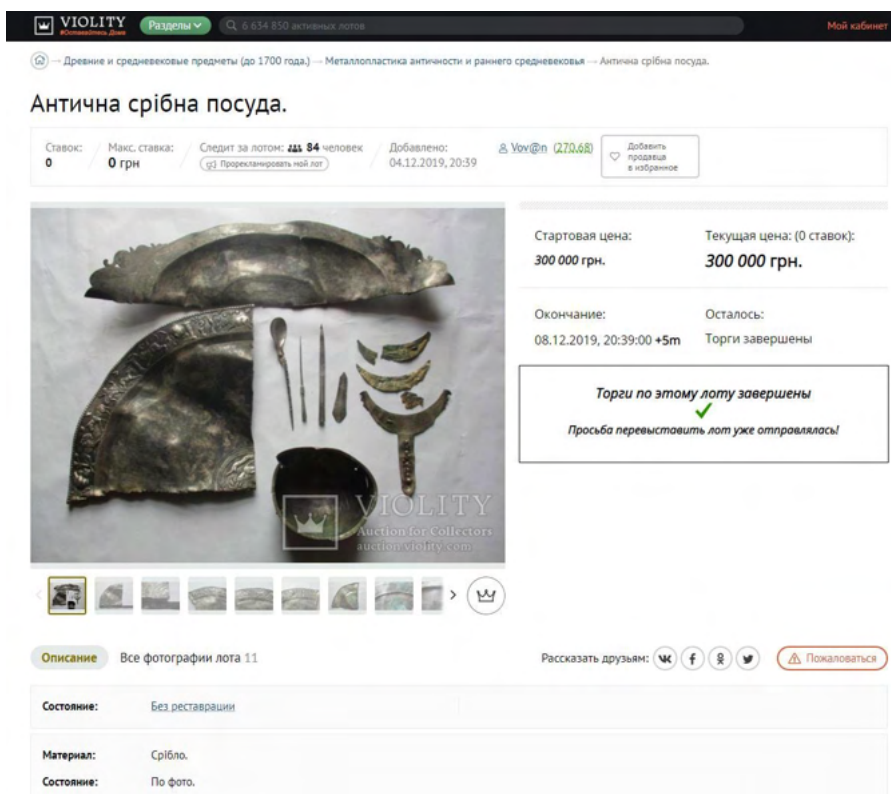


Figure 7. A hoard of hacked silver vessels from the Roman period for sale on the Violity auction. A screenshot of the Violity auction site.

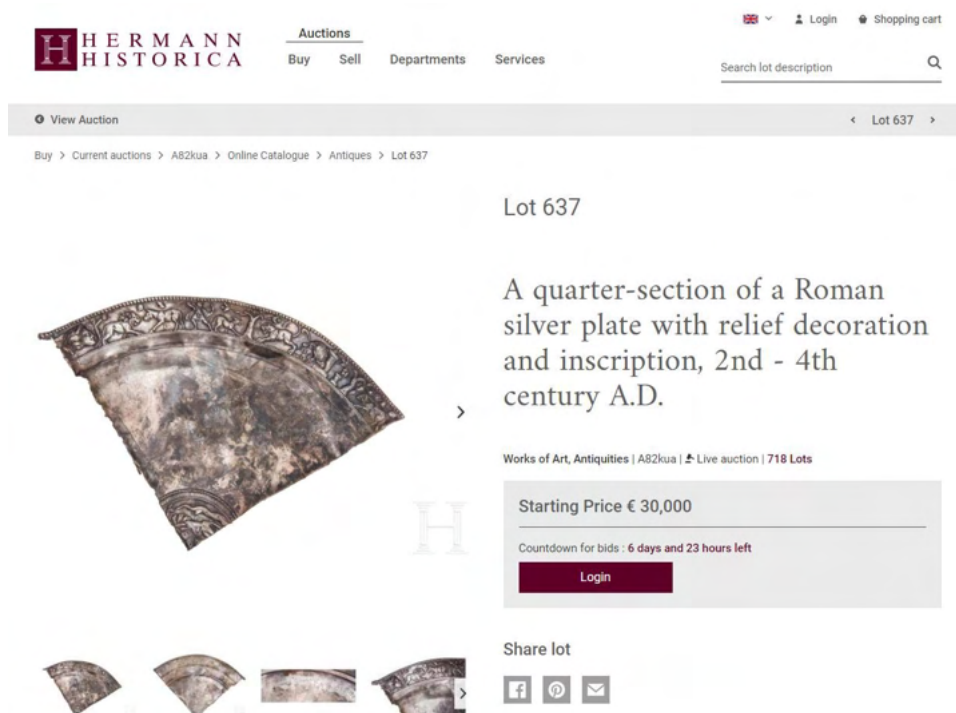


Figure 8. A silver dish from the same hoard for sale on the Hermann Historica auction. A screenshot of the Hermann Historica auction site.

As a result, the trade was stopped and an investigation was launched. It is hoped that the hoard will soon be returned to Ukraine. Unfortunately, the bronze figure still has yet to be returned from the UK as an illicitly smuggled item.

Two years ago, we set up a small department in the museum to monitor all auctions and social groups with a focus on illicit trade. We officially report such cases to the General Prosecutor's Office. The General Prosecutor's Office distributes the investigation tasks to regional departments within the Ukrainian police force. Recently, with the help of the Ukrainian police, we were able to stop the illicit trade of a Bronze Age hoard and return it to state ownership. See Figures 9-10.



Figure 9. A Bronze Age hoard for sale on the Vilosity auction. Image from Violity auction site.



Figure 10. The same hoard brought by the Ukrainian Police officers to the National Museum of the History of Ukraine in February 2023. © The National Museum of the History of Ukraine.

Another issue that should be highlighted is the international trade in copies of archaeological artefacts. This is something that can confuse both customs officials and experts. For example, last year Dutch customs seized a parcel sent from Ukraine containing a sword. It was identified as an ancient sword known as a falcata, dating from the 5th to the 1st century BC and characteristic of the territories of modern-day Spain and Portugal. However, it turned out that the object in question was not an original, but a modern replica made by a Ukrainian master forger.

The Ukrainian master forger works on an industrial scale and sells his reproductions abroad. He does not want to mark his replicas as modern goods, which intimates that the possibility remains that they may be sold as originals. Distinguishing between originals and copies or replicas is not an easy task. Sometimes such master forgers even incorporate fragments and/or pieces of ancient metal and/or decorative elements into the modern reproductions further confounding identification difficulties.

Finally, it is important to highlight some of the problems that remain to be solved:

- Obviously, illicit trafficking is a global problem. To prevent it, we need a network of working groups to monitor the illicit circulation of archaeological objects, to produce the necessary documentation and report on cultural crime.
- We need many experts working in different cultural fields and geographical regions.
- Universities, together with museums, customs and police, must develop special programmes to train experts to identify artefacts and their possible provenance.
- The relevant international laws must be taught and their implementation evaluated in relation to national regulations.

Finally, the use of culture as a tool and museums as visual propaganda in Russian expansion have shown that the return of cultural property to Ukraine and the decolonisation of Russian museums should be one of the conditions for the lifting of sanctions and the return to any form of cooperation with Russia.

Bibliography

Andreikovets K., Mamonova G. 'Russians stole 80% of paintings from the Kherson Museum. The occupiers were assisted by specialists from Crimea' Available at: <https://babel.ua/en/news/87308-russians-stole-80-of-paintings-from-the-kherson-museum-the-occupiers-were-assisted-by-specialists-from-crimea> (Accessed: 10 June 2023).

Gustafsson N.B. 2017. A looted Viking Period ship's vane terminal from Ukraine Fornvännen (112), 118-121.

(no author) 'Викрадача картин Куїнджі, ексдиректорка мариупольського музею провела виставку "Звичайний фашизм" в Ростові' Available at: <https://www.0629.com.ua/news/3578089/vikradacka-kartin-kuindzi-eks-direktorka-mariupolskogo-muzeu-provela-vistavku-zvichajnij-fasizm-v-rostovi-foto2023> (Accessed: 10 June 2023).

Долгова, О. (2022) 'Историческая память Мариуполя будет спасена', Available at:

<https://odnaryna.org/article/istoricheskaya-pamyat-mariupolya-budet-spasena> (Accessed: 10 June 2023).

Newsflash

The Great Jubilees and the Great Contemporary Challenges of Archaeology in Serbia

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July 1st of this year marks the 140th anniversary since the foundation of the Serbian Archaeological Society (1883). This is a great jubilee, not only in terms of the longevity of the Society, but also because the Society laid the foundations necessary for the institutional and professional development of archaeology in modern Serbia. The foundation of the Serbian Archaeological Society (SAS) represents the beginning of professionalization and the formalization of the scientific discipline of archaeology in Serbia. It was also accompanied by two other important events of the time: the introduction of studies of archaeology at the Great School in Belgrade (1881) and, in 1884, the publication *Starinar*, the first professional archaeological journal in Serbia.

The situation today

SAS, the University of Belgrade's department of archaeology, and *Starinar* are all still active today. Together, they represent cornerstones of the archaeological community in Serbia. In terms of figures, the archaeological community in Serbia is composed of around 250 professionals working exclusively in government-led institutions (e.g., museums, scientific institutes, universities). A survey from 2017 shows that there are 13 institutes for cultural protection in Serbia in which 24 archaeologists are employed. Additionally, there are a further 98 archaeologists working in museums throughout Serbia. When it comes to archaeologists working in science and research and employed at universities and institutes, another 91 archaeologists are employed (Црнобрња, 2017). This small group of professionals are employed to protect, conserve, guard, explore and investigate cultural heritage, as well as to document, catalogue, do field- and lab work and also to take part in education and promotion and/or the prevention of illegal artefact trade and the setting up of a legislative framework for the protection of cultural heritage. It is clear that these duties vastly outweigh the number of professionals available in Serbia. The archaeologists themselves are also outnumbered when faced with the expectations of the general public and stakeholders (Црнобрња, 2017).

What about international collaboration?

Recent decades saw numerous smaller and larger research projects with extensive international collaboration, student and professional exchange and important scientific outputs. The first European Research Council grant awarded to a Serbian PI (Sofija Stefanović, University of Belgrade and University of Novi Sad) was for the ERC '[BIRTH](#)' project (2015-2020). Other active ERC research collaborations and fieldwork include '[The Fall](#)' project (PI Barry Molloy, UCD), and intensive collaboration with the Austrian Archaeological Institute of the Austrian Academy of Sciences, with projects such as the '[Pusta Reka Research NEOTECH Project](#)', the '[New insights in Bronze Age metal](#)

[producing societies](#)' project and with the recently ended '[SeaChanges](#)' project, a Marie Skłodowska-Curie Actions (MSCA) Innovative Training Network (ITN). Another important collaboration took place in 2022 with the Western Balkans Fund project called '[Common Cultural Heritage](#)' that saw the exchange of students and senior lecturers between Serbia, Albania, and North Macedonia.

Concerns about collaboration?

Are there concerns about collaboration? Well, yes... As Professor Staša Babić (University of Belgrade) has said on implementing science-related methods in archaeological research:

For archaeologists in Serbia—and many other non-Western European countries—this lack of funds and infrastructure may lead to significant delays [in implementation]. Furthermore, those areas with a rich set of archaeological records, such as the Central Balkans, may become fertile ground for international projects in which the partners with more substantial material backing are at the same time the ones perceived as more academically advanced. This attitude may well lead to even more unequal distribution of authority in the wider archaeological community.

What about cultural heritage protection: rescue or preventive archaeology?

As mentioned above, archaeology in Serbia is mostly academically-oriented and produces fruitful results. Recent years saw an increase in the amount of infrastructure and construction work, consequently increasing the number of archaeological sites that require urgent attention. The relatively small professional archaeological community found itself stretched thin across numerous simultaneous field projects. The pressure is on the rise, as the government, investors and stakeholders all take part in the decision-making process. As Dr. Marija Marić, conservator-advisor at the Institute for the Protection of Cultural Heritage in Kraljevo has stated:

Safeguarding cultural assets in Serbia has been a significant challenge throughout the previous decade. The socio-political transition and exceeding organization of protection institutions have increasingly met with large-scale public investments that directly or indirectly harm our legacy.

Currently, archaeology in Serbia in the heritage protection sector unfortunately is mostly oriented towards the principles of salvage archaeology that were dominant in the second half of the 20th century. Aleksandar Aleksić, MSc, an Advisor Conservator-Researcher at the Institute for Cultural Heritage Preservation Niš, points out that "The protection of archaeological heritage in Serbia mostly comes down to 'incidents': the discovery of archaeological heritage during development activities. This then requires the taking steps to remedy the consequences of such 'incidents'." The existing legislation in Serbia does not prevent the development of archaeological heritage protection, but neither is it applied in a way that helps archaeology cross over from the rescue- led approach to preventive and development-led archaeology.

Is there any silver lining?

Yes, there is a silver lining amid all this. The positive effect of the intensive development and construction work that is taking place in Serbia nowadays and the fact that it is putting archaeological heritage under pressure is that there is a notable growth in the application of different archaeological research methods even in the planning phase (or shortly before the application of development plans). In addition to this, new legislation (either already adopted or in the process of implementation) further aids in navigating the critical transition stage from rescue to preventive archaeology, says Aleksić. He adds, furthermore, that projects funded by the EU and other international organizations are especially important in this process. Why? Because they are obliged to follow European Convention on the Protection of the Archaeological Heritage standards (Valletta Convention) regarding the protection of archaeological heritage. In return, these widely-accepted terms influence domestic companies and enable them to see the benefit of integrating preventive archaeological research as opposed to waiting for a potential “incident” to occur. Generally speaking, EU investments in Serbia have a positive influence not only on development, but also on speeding-up advancements in archaeological heritage protection while also guiding those changes in the direction of the principles of the European Convention standards. Obviously, international support is important!

What are the next steps?

There are, of course, improvements to be made. In addition to more obvious solutions (such as increasing the rate of employment of archaeologists), it is also of great interest to work on raising the visibility of Serbian archaeology. This goes with boosting the awareness of the importance of archaeology for both the wider public as well as policy makers and stakeholders. Keeping this in mind, the Serbian Archaeological Society declared 2025 the national ‘Year of Archaeology’ in commemoration of the 160th anniversary since the first archaeological excavations took place at Mt. Rudnik in central Serbia, undertaken by Janko Šafarik (Novaković, 1877). The ‘Year of Archaeology 2025’ project aims to create a wide network including archaeological institutions and organizations as well as non-governmental and private sectors in the Republic of Serbia through coordinated activities and joint projects (exhibitions, public lectures, workshops, conferences, media campaigns and archaeological excursions, etc.). This newly established network will work on the promotion of archaeology as an important social factor that plays an integral part in the economic and political development of contemporary society. Hopefully, with joint efforts toward raising awareness of the importance of archaeology and the state of archaeology in Serbia, the position and perception of both the profession itself and cultural heritage will improve.

Bibliography

Црнобрња, А., 2017., Археолошко наслеђе у Србији данас – брига државе или посао ентузијаста, Модерна Конзервација 5, 77-96

Novaković, S., 1877. Dr. Janko Šafarik. Rad Jugoslavenske akademije znanosti i umjetnosti, knjiga XLI, 190-226.

<https://arheologija.rs/en/foundation/>

Special Section

An Archaeologist's Guide to Belfast

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As an American who has lived on the island of Ireland for eight years (four years in Dublin and four years in Belfast), I almost forget what it is like to first come to Ireland's second largest city. Although it is a small city compared to Dublin (the capital of the Republic of Ireland), Northern Ireland's capital is packed with a variety of people, architecture, history and cultures that is distinctly different to Dublin. While it is a city that has seen the rise and fall of the linen industry and shipbuilding, an architectural boom in the Victorian era, the destruction caused by the Blitz during World War II, the hardships of the Troubles and the chaos of the COVID-19 pandemic, Belfast is now bouncing back once again into a vibrant city with plenty of "*craic*" (fun) for you to enjoy while you are here for EAA 2023!

One of the best things about Belfast is how walkable it is. From Queen's University to the city centre is only a twenty-minute walk, and there is a lot to take in during those twenty minutes! However, you can always grab a bus from in front of the Student's Union, rent a bike at one of the bike stations on campus, or order a taxi or Uber. First, though, you have to be prepared for your journey. Make sure you have a comfortable pair of walking shoes, some 'sunnies' (sunglasses) for the summer sun you will get to see in August and September, either a 'brelly' (umbrella) or a rain jacket to protect yourself from the (always present!) possibility of rain in Belfast, and a water bottle (reusable preferred but there are plenty of convenience stores along the way).

Queen's Quarter

Now that you are all set, we will explore the Queen's Quarter first. The campus of Queen's University has the brand-new Student's Union Building, with its own shop, lecture halls, study areas and bar. The Lanyon Building is the most photographed building at Queen's, with its Gothic-and-Tutor-inspired façade hiding the Great Hall, the Canada Room, the Quadrangle courtyard, and the Queen's Gift Shop. See Figure 11. The Lynn Building (now The Graduate School) was the university's original library. The McClay Library's impressive tower stands watch over Queen's University and the Botanic Gardens. The Botanic Gardens are located right next to Queen's. These have acres of lovely lawn, a rose garden, the Victorian Palm House glasshouse and the modern Tropical Ravine for a day out. Within the Gardens is the Ulster Museum, which showcases the art, natural sciences and history that make Ulster what it is today. See Figure 12.



Figure 11. The Lanyon Building, Queen's University Belfast (Photo by C. Mundt)



Figure 12. Ulster Museum (Photo by C. Mundt)

To the right of Ulster Museum is Stranmillis Road, a popular area for Belfast locals and Queen's students. While it may seem gloomy with Belfast's oldest cemetery (Friar's Bush) right behind the museum, the businesses here keep things lively. At the intersection of Stranmillis Road, Malone Road and University Road is Maggie May's, a cafe chain that has become a Belfast staple with its Ulster Fry breakfast, burgers, milkshakes and more. The Jeggy Nettle pub has a lively traditional atmosphere and is a great place to dogwatch as it is one of Belfast's many dog-friendly pubs. Along this road are plenty of restaurants such as Wellcome (voted the best Chinese restaurant in Belfast in 2022) and ORTO, a local favourite for a slice of pizza. At Maggie May's, you can walk to the right along Malone Road to find more places to eat such as Wing It, the Abacus Chinese Restaurant (my person favourite), and the more upscale Blank Restaurant (which serves Irish farm-to-table cuisine).

Down from the McClay Library is Common Grounds Cafe, known locally as 'Aleksandar's Bakery'. Amongst Queens students and staff alike it is well known for its quiet work atmosphere, great coffee, and delicious Croatian-inspired food (try the giant scones!). If you walk back from Aleksandar's Bakery to Botanic Avenue, you will be greeted by a variety of shops, restaurants, and cafes. Between Molly's Yard, Tribal Burger, Town Square and another Maggie May's, you will not go hungry, regardless of your dietary needs. If you are in need of 'a cuppa' (tea or coffee), Kaffe O, Clement's, Caffe Nero and French Village have you covered. Botanic Avenue also has several charity shops and bookshops if you feel like you need a quiet respite between EAA sessions.

Dublin Road

To get to the city centre, continue down Botanic Avenue, through Shaftsbury Square onto the Dublin Road. The Dublin Road has a traditional Irish pub called The Points, which is a great spot to check out if you are looking for a 'trad sesh' (traditional Irish music session). There is also the newly built Trademarket. See Figure 13. It is a covered market that hosts a variety of food and craft vendors. Walking further down you will find the Pug Ugly's pub, with The Bone Yard (its beer garden) located behind it. Walking further down and crossing Howard Street, you will be at the back of Belfast City Hall.



Figure 13. Trademarket, Dublin Road (Photo by C. Mundt)

City Centre

Walking around the left side of City Hall will get you to Donegall Square and the front of Belfast City Hall. See Figure 14. You are now officially in the heart of Belfast, with numerous shops, cafes, restaurants, and tourist sites to see.



Figure 14. Belfast City Hall (Photo by C. Mundt)

While Donegall Place is the main shopping area for Belfast visitors with the new Primark as its focal point, it is the area around this that you want to see. Behind Primark is Kelly's Cellars, one of Belfast's

oldest traditional Irish pubs. The rustic interior, outdoor seating area and live traditional Irish music and dancing make it a great spot to relax with a pint and a pizza. Next to nearby Castle Court Shopping Centre is Madden's Bar, another traditional Irish pub with an even cosier atmosphere in which to grab a pint of Guinness. Down from Primark is Winecellar Entry, one of the old trading alleys which will lead you to White's Tavern. Founded in 1630, it beats Kelly's Cellars as Belfast's oldest surviving pub, and features a cosy older section, a newer covered garden and great food menus, as well as a fantastic mural of the island of Ireland in the outdoor seating area.

From the city centre, you can either go back and pose for photographs in front of Belfast City Hall, hop on one of the red City Sightseeing buses to learn about every quarter of Belfast including the Peace Wall, go shopping in Victoria Square Shopping Centre (which has a great view of the city from its Dome) or walk down Donegall Place to the Cathedral Quarter.

Cathedral Quarter

The Cathedral Quarter is named after St. Anne's Cathedral. St. Anne's was designed by Belfast natives Thomas Drew and W.H. Lynn in the Romanesque style and was constructed from 1899 to 1903. While this quarter was once a trade hub filled with warehouses and a maze of cobbled streets, it is now the centre of Belfast's nightlife (cobbled streets still included!). From the front of the gorgeous Merchant Hotel, you can wander the cobbled streets to any number of other pubs and restaurants, but everyone's favourite spot is The Duke of York and The Dark Horse. See Figure 15. These pubs are one of the most photographed parts of Belfast with the cobbled Commercial Court lit up by the LED umbrellas and signs above. Another nearby favourite is The Dirty Onion and Yardbird on Hill Street, a dog-friendly outdoor pub and music venue with attached restaurant.



Figure 15. Commercial Court, The Duke of York (Left) and The Dark Horse (Right) (Photo by C. Mundt)

The River Lagan

If you walk back down Hill Street to the High Street and look left towards the River Lagan, you will see one of Belfast's unique landmarks – the Prince Albert Memorial Clocktower, or “Belfast's Leaning Tower of Pisa”. See Figure 16. Built from 1865 to 1869 in honour of Queen's Victoria's late husband Prince Albert, the 43-metre-high sandstone clocktower leans 1.22 metres due to its unstable foundation of reclaimed marshland. The 2002 restoration project restored the clocktower's appearance and stability, while still keeping its (now beloved) tilt.



Figure 16. Prince Albert Memorial Clocktower (Photo by C. Mundt)

Walking past the Clocktower and crossing the A2 road you will find The Big Fish on the Lagan Lookout, across from the Customs House. See Figure 17. The 10-metre sculpture is covered in blue and white ceramic tiles that describe Belfast's history and is based on the Salmon of Knowledge from Irish mythology.



Figure 17. The Big Fish, Lagan Lookout (Photo by C. Mundt)

Walk to the right and follow the Lagan to find the Beacon of Hope wire sculpture, the Waterfront Hall, and ICC Belfast before getting to St. George's Market on May Street. Built from 1890 to 1896, St. George's is the last surviving Victorian covered market in Belfast. Thanks to National Heritage Lottery-backed funding, the market was restored and reopened in 1999 and now hosts 200 market stalls that sell everything from handmade crafts to food. Named the UK'S Best Large Indoor Market 2023, it is open Friday to Sunday with varying stalls per day.

Walking back to the Big Fish and across the Donegall Quay Bridge you will find the famous Titanic Quarter.

Titanic Quarter

The Titanic Quarter is home to the SSE Arena, which hosts live music and sports, including the Belfast Giants ice hockey team. Going past this will get you to Titanic Belfast, the self-guided museum about the RMS *Titanic*. See Figure 18. This infamous steam liner was built here in the Harland and Wolff shipyard of Belfast before its fateful maiden voyage ended on the bottom of the Atlantic Ocean on 15 April 1912. This museum allows you to experience what it was like in Belfast and on the *Titanic* before and after the sinking with nine interactive galleries. Docked near the museum are two floating museums - SS *Nomadic*, which was originally built to ferry mail as well as first- and second-class passengers to the *Titanic* in Cherbourg before the *Titanic* set off across the Atlantic; and the HMS

Caroline, a vessel which saw action in WWI, WWII as well as during the Cold War before it was decommissioned and docked in Belfast in 2011.



Figure 18. Titanic Belfast Museum, Titanic Quarter (Photo by C. Mundt)

Belfast's nearby metal sentinels are the Samson and Goliath Cranes, two 140-metre-wide Harland and Wolff yellow shipbuilding cranes that symbolise Belfast's industrial heritage. The Harland and Wolff shipbuilding company was founded in 1861 on Queen's Island by Edward James Harland and Gustav Wilhelm Wolff. This company built not only the *Titanic* and its sister ships the *Olympic* and *Britannic* between 1909 and 1914, but they also built naval ships, cruisers, and aircraft carriers during the World Wars. Goliath was built in 1969 and is 96 metres high, while Samson was built in 1974 and is 106 metres high. They are named after Biblical giants and were constructed to help with shipbuilding as they can lift loads of up to 840 tonnes 70 metres into the air.

All in All...

Thanks for coming along on this brief tour of Belfast – hopefully something has piqued your interest! While EAA is offering plenty of trips around Ireland, take some time to immerse yourself and experience our city's colourful day- and nightlife. Wherever you end up, I hope you have plenty of “*craic*” (fun) while you're here for EAA 2023!

Féach tú i mBéal Feirste (See you in Belfast)!

Bibliography

Queen's University Belfast. (2023) *Historic Buildings*. Available at: <https://www.qub.ac.uk/about/History-and-heritage/Historic-Buildings/> (Accessed 1 June 2023)

National Museums Northern Ireland. (2023) *Discover Together: Ulster Museum*. Available at: <https://www.ulstermuseum.org/> (Accessed: 1 June 2023).

Trademarket. (2023) *Trademarket: The New Neighbour on the Block*. Available at: <https://trademarketbelfast.com/> (Accessed: 1 June 2023).

Belfast City Council. (2023) *Things to do in Belfast: City Hall*. Available at: <https://www.belfastcity.gov.uk/cityhall/> (Accessed: 1 June 2023).

Duke of York. (2023) *The Duke of York Bar. Commercial Court. Belfast*. Available at: <https://dukeofyorkbelfast.com/venues/duke-of-york/> (Accessed: 1 June 2023).

Discover Northern Ireland. (2023) *Albert Memorial Clock*. Available at: <https://discovernorthernireland.com/things-to-do/albert-memorial-clock-p677201> (Accessed 1 June 2023).

VisitBelfast. (2023) *Big Fish*. Available at: <https://visitbelfast.com/partners/big-fish/> (Accessed: 1 June 2023).

Titanic Belfast (2023) *Titanic Belfast: Shedding New Light on Titanic's Story*. Available at: <https://www.titanicbelfast.com/> (Accessed: 1 June 2023).

Debate

The impact of the internet on the antiquities market: Just how easy is it to blur lines?

This article is the first in a two-part series by C. Wong

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People have been captivated by history since an idea of the past could be conceptualised. Over time this interest only grew with different societies developing various ways to interact and connect with it. In Europe, this fascination reached a peak between the seventeenth and nineteenth centuries. In the age of Grand Tours, many Europeans travelled to the Mediterranean and the Near East to get closer to the ideas and ideals they had of bygone eras. At the same time, they also took countless artefacts back home. Many of these went to personal collections, while a fair few others became the founding compendiums of some of Europe's most esteemed museums, like Oxford University's own Pitts-River Museum (Rethinking Pitt-Rivers 2013). Artefacts have always had a history of being collected and traded, but what is significant about the Age of the Grand Tours is how it cemented a new period of this practice. With interests in the past at an all-time high, the growing number of European travellers—and the rate at which they had seized relics—soared. Any sincere thought about what was actually happening, what they were doing, or how they were doing it, fell to the wayside. In frank terms, visitors pilfered to their hearts' content, and there was no real ethical consideration of their actions. Moreover, while a fascination with the past may have given birth to the travels and collections, once people saw a profit to be made, that became the priority, and many more objects were simply taken without a trace; their contexts are now lost forever.

The quandary that is the modern world of antiquities dealings is a direct culmination of the long-term effects of these past practices in combination with issues that stem from the present era: specifically, the issues brought on by the internet. To quote archaeologist and professor Charles Stanish, "My greatest fear was that the Internet would democratize antiquities trafficking, which previously had been a wealthy person's vice, and lead to widespread looting" (University of California - Los Angeles 2009). Stanish made this statement in 2009, expressing how he felt when eBay had launched a decade earlier. Since then, it is clear his wariness was not misplaced, and he is not alone in this sentiment. As will be touched upon below, a common misconception of the illicit antiquities trade in the age of the internet may be that it must happen over the dark web. However, with the rise of the internet came the birth of social media (i.e. Facebook, WhatsApp and Telegram), online shopping sites (i.e. eBay and Catawiki), and even online venues from more traditional auction houses (i.e. Christie's and TimeLine Auctions). Channels for the antiquities trade opened exponentially, and it has never been easier to find and purchase artefacts.

Here, this paper will first examine three areas of the internet where artefacts are bought and sold, focusing on specific examples, – namely: Facebook for social media sites, eBay and Catawiki for online shopping, and Christie’s and TimeLine Auctions for online venues made by auction houses of art and *objects d’art*. These areas represent key issues that have risen from (or have been exacerbated by) the internet. Next, I will look into two recent world events – the COVID pandemic and Russia’s war on Ukraine – to highlight the unprecedented way that the antiquities market can also benefit in times of chaos, again, because of the internet. These examples and events also represent what is commonly thought of as “different sides” of the trade: one that is ethical and above board and another that is underground and shady. By presenting them here, the hope is to not only highlight the repercussions of the rise of the internet to the antiquities trade, but to see how the internet has further blurred the line that already existed between lawful and illicit in this so-called market.

Social Media: Facebook – Connections & networks

It is a common myth that antiquities traffickers conduct their business over the dark web or other more nefarious and hidden channels. However, according to the non-profit research organisation RAND, which conducted an open-source study on the illicit artefact trade in 2020, “technology used in the looted antiquities trade is mostly unsophisticated” (Sargent et al. 2020, p. XIII). Their analyses of dark web platforms found little to no evidence for the sales of antiquities. Instead, secure messaging applications like WhatsApp and Viber are exploited “to coordinate sales and streamline communications within existing networks” (Sargent et al. 2020, p. XIII). Deep web platforms, such as Facebook, also had little evidence for the direct sales of artefacts (Sargent et al. 2020, p. XIII); nevertheless, it is sites like Facebook that are the foundation of these “existing networks,” which brings us to our first key issue.

Although Facebook Marketplace was introduced in 2016 for users to market their own items, it is Facebook’s “Groups” feature that has been the most instrumental in the expansion of antiquities trafficking networks, as it allows users “to create and control a contained network of individuals with ‘shared interests’” (Al-Azm and Paul 2019, p. 6). In the eyes of participants in the illicit trade, Facebook’s function as a social network is its most lucrative element and the reason they flock to the site. The ability to create networks is significant because, although another common belief is that antiquities trafficking happens with other illicit markets, (such as drugs or weapons trafficking), and is conducted in more hierarchical systems and networks by gangs or smuggling rings, this is not the whole picture. RAND researchers interviewed several dealers and smugglers from Iraq and Turkey who described “a decentralized network of individuals who worked irregularly as antiquities traffickers” (Sargent et al. 2020, p. 41). Meaning these sellers were “small-time smugglers and economic opportunists” whose typical trafficked goods were mundane items such as household objects, electronics and food products (Sargent et al. 2020, p. 41). The informants also reported that the demand for goods is diffuse, the supply chain quite irregular and the market very decentralised. With this sporadic trade dynamic, these individual and part-time illicit traders and looters have no consistent system to offload their goods and require help in finding potential buyers. Facebook attracts such individuals because it is an advertising space for networking as much as it is a place for selling goods (Votey 2022, p. 675). Facebook Groups are ubiquitous and broad-reaching, allowing those with a ‘shared interest’ in selling and buying antiquities (which can be a mix ranging from

average citizens to violent extremists) a safe space to interact and communicate “efficiently and discretely” (Al-Azm and Paul 2019, p. 6).

While many of the antiquity-themed Facebook groups worldwide have no obvious affiliation with illegally excavated, looted or stolen items, both the 2020 RAND study and the 2019 Antiquities Trafficking and Heritage Anthropology Research (ATHAR) Project found their analysis to suggest Arabic- and (to a lesser degree) Turkish-speaking groups “occupy a broader niche, offering different information and addressing different types of users than those in Europe and North America” (Sargent et al. 2020, pp. 53-54). Particularly, these groups were observed to not only advertise illicit artefacts for sale, but members within would often openly discuss methods for finding and looting archaeological sites (Votey 2022, p. 676). The ATHAR Project conducted a study on 95 Arabic-speaking Facebook groups in which they investigated members as well as how they operate. However, the project most significantly highlights how Facebook is misused by looters in ways that allow them to thrive (Al-Azm and Paul 2019, p. 9). Black-market dealers exploit Facebook’s algorithm in a way that seems deceptively expert. In reality, such exploitation is all too simple. Facebook was built to connect people based on the similarities of user profiles. This simple factor has a great many flaws and loopholes of which it is easy to take advantage. For instance, (even though it sounds like a description of what they do), in one case, ATHAR researchers found an individual who has listed their workplace, word-for-word, as “trade in antiquities, artefacts, and antiques” (Al-Azm and Paul 2019, p. 9, Fig. 8). Despite the fact that no such workplace exists, Facebook still creates a business page for it. This is evidently problematic. Not only do individuals who openly declare that they traffic antiquities, not have authorities questioning their work, but they can more easily associate with others who do the same. Similarly, once a user joins a specific type of group, other similar groups will be suggested to them. Facebook’s algorithm, essentially “facilitates the ability of traffickers and criminals, even extremists, to rapidly expand their network and connect with others engaged in similar criminal or extremist activities with little to no effort” (Al-Azm and Paul 2019, p. 9).

Online shopping: eBay & Catawiki – Forgeries & trust

eBay is an interesting and unprecedented example, as it represents one of the first major online shopping sites and remains still the epicentre of internet sales, controlling virtually 95% of all online auctions (Kreder and Nintrup 2014, p. 144). Given that, it is fair to assess that the influence of eBay on the antiquities market is not insignificant, though—interestingly—not in the way one would expect. Doing a quick search on eBay.com for artefacts, one can see that anything imaginable is sold there: from prehistoric arrowheads and cuneiform tablets to Roman coins and bronze helmets. While considering whether or not such objects were stolen, the nearly 122,000 items listed in the ‘Antiquities & Other Antiques’ category on eBay also signpost another issue: authenticity. According to Stanish, of all the antiquities and antique objects, 30% are easily fakes or replicas, 5% can be believed to be genuine, while the remaining 65% account for what he labels “ambiguous objects” (Stanish 2009, p. 60). Thus, stolen goods are not the largest issue with eBay; instead “illicit antiquities sellers fell victim to crowding out by another criminal activity: The sale of forged illicit antiquities” (Votey 2022, p. 672). eBay has opened the doors to more high-quality forged objects, which has caused a rapid rise in these “ambiguous objects,” as it has become more difficult to discern between what is real, fake, or looted (Stanish 2009, p. 60). As a consequence, fraud has become a large issue. In addition, the rise of

ambiguous objects has only made the problem of protecting cultural heritage that much more difficult. Not only is it more problematic to identify real pieces, but it is arguably the potential authenticity of these artefacts that is the biggest concern. Since there is now a general sense among the public to be more wary with regards to the authenticity of items on eBay, less care is being taken both by buyers as well as any authorities to ensure that what is being sold is real, much less whether or not said objects were acquired legally. All too often, cultural items slip through the cracks in this way. This begs the question as to whether, be they legally acquired or not, such cultural items should be sold so haphazardly. The more forgeries are bought on eBay, the more the quality of forgeries increases; modern forgeries are now at a point at which they can deceive even experts (Stanish 2009, p. 66). eBay does not provide effective communication or interaction methods between sellers and buyers to help establish authenticity. As such, along with the ease of creating new seller accounts, forgers have ample opportunities to find one-off chances to deceive and pawn off their fakes (Votey 2022, p. 673).

In a sense, eBay represents a different side of the online market when compared to Facebook: it has no personal networking features and favours the anonymity allowed by its sales. But both sites equally provide a necessary amenity (convenience) as well as an enormous audience who can potentially represent anyone from customers to partners or from looters to forgers. Where Facebook facilitates the expansion of networks for looters, eBay provides forgers with an incredibly easily-accessible global marketplace, enabling the growth of counterfeit objects that increasingly weakens cultural protection efforts. Both sites make it all too easy for their platforms to be abused, which is why it may be surprising to discover that they do have user rules and guidelines against the trade and sale of artefacts. Facebook updated their Community Standards in 2020 to list historical artefacts as restricted goods that are not to be “bought, sold, traded, donated or gifted, or asked for” (Meta 2023). Among eBay’s policies, it states that looted objects are prohibited; artefacts must follow all government guidelines, be listed in the appropriate category and be authentic; moreover, replicas should state their status clearly in the listing title and description (eBay n.d.). Yet, despite these rules, the research studies as well as even a cursory glance at these sites demonstrate that, unfortunately, those guidelines and restrictions are no more than meaningless words.

The concept of ‘meaningless words’ is especially applicable in terms of the next example, which also shows that online shopping sites have issues which stretch even beyond the presence of undisclosed forgeries. Amongst the three areas examined by this paper, public opinion seems to put the most faith in auction houses and the least amount of faith in social media sites. Shopping sites, on the other hand, seem to operate somewhere in an in-between trust zone. The Dutch platform Catawiki (launched in 2008) is a site much like eBay; it is an online shopping hub where people can buy and sell almost anything from cars to wines and from sports memorabilia to books. Unlike eBay, however, Catawiki promotes itself as a curated marketplace specialising in more “hard-to-find” objects (Catawiki | About Catawiki, n.d.). Importantly, most unlike eBay, on one of Catawiki’s ‘help for sellers’ pages regarding ‘antiquities considered cultural goods’, it states that their “experts select each item to be listed in our auctions and aim to verify each lot’s provenance to ensure legally compliant trade” (Catawiki | Suitable items, n.d.). With the way the platform markets itself as “curated” by its own “experts”, it creates an air of authenticity in which users can trust. But should they? Several examples suggest that the answer is no.

First of all, fakes are seemingly just as rampant on Catawiki as they are on eBay. According to the detailed posts of one member of the Ancient Artefacts online forum on Groups.io, user “Renate” has been able to cast doubt on many lots that appear on Catawiki. Though having no archaeological expertise, as Renate personally states in each of their posts, the user is clearly an experienced artefact dealer, especially in fibulae. In their Catawiki notes posted regularly since June 2020, Renate has documented “questionable brooches” for each month, along with a suspected status of the item and a detailed and cited reasoning for the status given. Many of these suspicious listings have convincingly been marked as mislabelled, or even deemed fake by Renate. A notable example is lot no. 60034965 “Bronze Age Bronze hair knot brooch”, which emulates a kind of brooch that would have been worn in the hairs of high-status Bronze Age individuals and what is likely an attempted copy inspired by the “Lüneburg brooch of Hanover type” (Renate 2022b, pp. 6-7). However, the lot is likely a fake (unrealistic and poor craftsmanship) and seems, moreover, to be a part of a series of attempted forgeries of this type, as two other examples brooches of this same kind and style were sold on eBay.co.uk, albeit dated circa 500 BCE there (Renate 2022b, p. 6). See Figure 19.

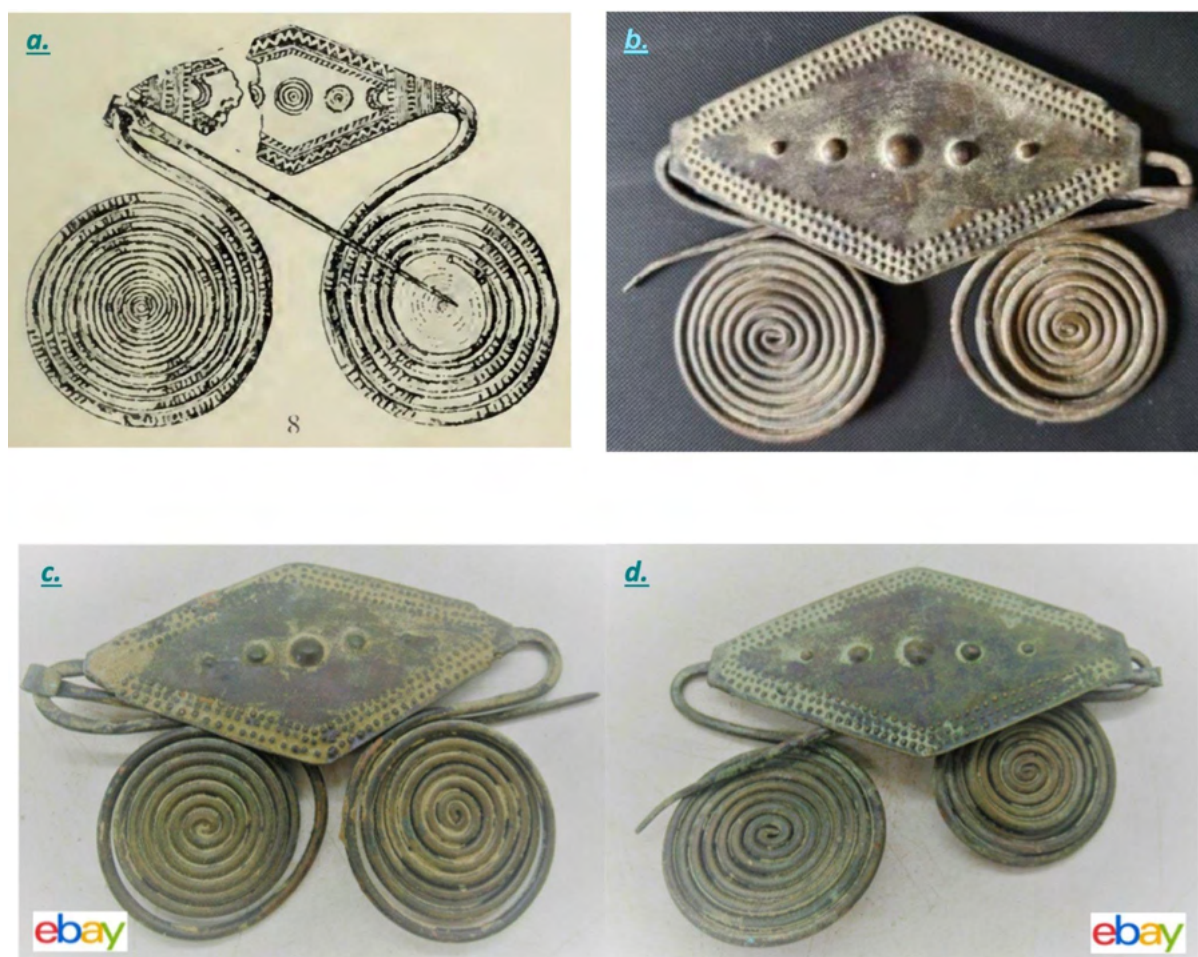


Figure 19. *a.* Bronze fibula documented in Hoops (1913), the likely template which inspired the fakes | *b.* Image of the forged brooch found on Catawiki, listed as being from the Middle Bronze Age (1400-1300 BCE) | *c* & *d.* Images of the two forged brooches found on eBay.co.uk, listed as being from 500 BCE.

In a post made in October 2022, Renate also pointed out the unusual presence of certain items which appeared both on Catawiki as well as Violity (a Russian online market site, which is as dubious as the rest). Thus far, the Catawiki links to many of these listings have been taken down or deleted. However, one such example (no. 60240827 “Great Migration Period, Germanic tribes Bronze Ostrogothic Zoomorphic Brooch-Fibula with Four Ravens Heads in Openwork Technique & Two Dragon Heads”; <https://www.catawiki.com/en/l/60240827>) closed bidding in June 2022 and was not sold. See Figure 20. On Violity, the exact same fibula (on the right) was listed and sold in October 2020. All that was stated on Violity regarding provenance was “Location: Kharkiv” and (a detail presumably added after the item was sold) “Sending lot to: Ukraine” (<https://violity.com/105913607-fibuly-penkovskaya-kultura>). What is peculiar is that the description on Catawiki (again, for the exact same item!) states, “Purchased by the current owner in 2016 in Austria, Wien. Collected Since: 1990’s. Previous owners history: Old Austrian Private Collection. The Seller can prove that the lot was obtained legally, provenance statement seen by Catawiki.” Aside from the clear contradiction of these details, even if everything were true, the question which remains is why the Catawiki description did not include a history in Eastern Europe, as documented by the listing on Violity. For something that was so easily found online, how could their “team of in-house experts” have missed this? Though the links to the other listings are no longer available, “Renate” has provided documented proof of the same troubling issue for several other objects that have appeared on both Catawiki and Violity with inconsistent information (Renate 2022a).



Figure 20. A comparison of the bronze brooches posted on Violity and Catawiki.

The Catawiki case exemplifies the abuse of trust that is rampant in the antiquities market. The platform claims that “your trust is extremely important to us,” so their “experts carefully select and verify the special objects that are put up for auction on Catawiki... to ensure their authenticity” (Catawiki | Help Center, n.d.) and “aim to verify each lot’s provenance to ensure legally compliant trade” (Catawiki | Suitable items, n.d.). Yet, in the next breath, they shunt responsibility to sellers and buyers, as they “are expected to take all reasonable steps to guarantee the lawfulness of what they buy and sell” (Catawiki | Suitable items, n.d.). In this case, it is unclear if the job of their team of alleged 200 experts (Jones et al. 2020, p. 27) is to only double-check the information given to them. But with the few examples here (which barely scratch the surface of Catawiki’s problems) the dubious listings that have gotten through this team of experts is alarming. From the way the platform is presented, it is clear that Catawiki attempts to present itself as a different sort of platform which is both more high-end and more auction house-like. Perhaps their intent is to cash in on the goodwill and trust afforded to auction houses by seeming to present themselves in a similar manner. The irony is that, on one hand, like Facebook and eBay, Catawiki has shown that, despite words, guidelines, and countless declarations of working to protect cultural heritage, it does not take much study to show that online platforms do not care to bear responsibility or even to enforce their own rules. Many users break these guidelines daily without repercussions. However, on the other hand, as we will see in the second instalment, this behaviour is not unprecedented. Catawiki (and by extension, Facebook and eBay), is also exactly like an auction house, though probably not in the way they intended.

Bibliography

al-Azm, A. and Paul, K.A. (2019). *Facebook’s Black Market in Antiquities*. [online] Antiquities Trafficking and Heritage Anthropology Research Project. Available at: <http://atharproject.org/report2019/>.

Catawiki. (n.d.). *About Catawiki*. [online] Available at: <https://www.catawiki.com/en/help/about>.

Catawiki. (n.d.). *Help center: buyer’s trust and safety*. [online] Available at: <https://www.catawiki.com/en/p/483-helpcenter-buyers-trust-and-safety#:~:text=Our%20team%20of%20experts%20carefully> [Accessed 17 May 2023].

Catawiki. (n.d.). *Suitable items: What items are legally prohibited from selling?* [online] Available at: <https://www.catawiki.com/en/help/permitted-and-prohibited-items/what-items-are-legally-prohibited-from-selling> [Accessed 17 May 2023].

eBay. (n.d.). *Artefacts and cave formations policy*. [online] Available at: <https://www.ebay.com/help/policies/prohibited-restricted-items/artefacts-cave-formations-policy?id=4282> [Accessed 5 Oct. 2022].

Jones, V., Hadjifrangiskou, G., Cantraine, E., Bossert, O. and Nonclercq, M. (2020). *Dirty Money, Pretty Art Fighting Money Laundering in the Age of Art Financialization*. Maastricht University Premium Program.

Kreder, J.A. and Nintrup, J. (2014). Antiquity Meets the Modern Age: eBay's Potential Criminal Liability for Fake and Stolen International Antiquity Sales. *Case Western Reserve Journal of Law, Technology & the Internet*, [online] 5, pp.143–178. Available at: <https://ssrn.com/abstract=2321387>
<https://ssrn.com/abstract=2321387>.

Meta (2023). *Restricted Goods and Services* . [online] Transparency Center. Available at: <https://transparency.fb.com/en-gb/policies/community-standards/regulated-goods/>.

Renate (2022a). *a few brief notes a few brief notes about ancient about ancient brooches offered at brooches offered catawiki.com in at catawiki.com Aug. & Sept. 2022 in Aug./Sep. 2022*. [online] *groups.io*, pp.3–20. Available at: <https://groups.io/g/AncientArtefacts/message/97491?p=%2C%2C%2C20%2C0%2C0%2C0%3A%3ACreated%2C%2CRenate%2C20%2C2%2C0%2C94047104> [Accessed 17 May 2023].

Renate (2022b). *a few brief notes about ancient brooches offered at catawiki.com in July 2022*. [online] *groups.io*, pp.2–12. Available at: <https://groups.io/g/AncientArtefacts/message/97170?p=%2C%2C%2C20%2C0%2C0%2C0%3A%3ARelevance%2C%2Cposterid%3A2912667%2C20%2C2%2C0%2C92742028%2Cd%253D5&d=5> [Accessed 17 May 2023].

Rethinking Pitt-Rivers. (2013). *The Founding Collection at Oxford*. [online] Available at: <https://web.prm.ox.ac.uk/rpr/index.php/objectbiographies/29-uncategorised/1-prmuscollection.html> [Accessed 17 May 2023].

Sargent, M., Marrone, J.V., Evans, A.T., Lilly, B., Nemeth, E. and Dalzell, S. (2020). *Tracking and Disrupting the Illicit Antiquities Trade with Open Source Data*. [online] RAND . RAND Corporation. Available at: https://www.rand.org/pubs/research_reports/RR2706.html.

Stanish, C. (2009). Forging Ahead. *Archaeology*, [online] 62(3), pp.18–66. Available at: <http://www.jstor.org/stable/41781288>.

University of California - Los Angeles (2009). *EBay Has Unexpected, Chilling Effect On Looting Of Antiquities, Archaeologist Finds*. [online] ScienceDaily. Available at: <https://www.sciencedaily.com/releases/2009/05/090504193641.htm> [Accessed 17 May 2023].

Votey, M. (2022). Illicit Antiquities and the Internet: the Trafficking of Heritage on Digital Platforms. *New York University Journal of International Law and Politics*, [online] 54(2), pp.659–697. Available at: https://www.nyuilp.org/wp-content/uploads/2022/06/nyi_54-2-355-393_Votey..pdf.

New Association

Digging wells: Wells and the association Archéologie des Puits (ADP)

Sacha Ranchin & Louis Lacoste

Archéologie des Puits

The “Archéologie des Puits” (ADP) association was founded in 2021 with the aim of offering safe archaeological excavation of wells based on the use of a specific technical equipment. The association is located in Aspiran, in the Hérault Valley, southern France. Its founding members are professional archaeologists with diverse skill sets and field experience including the exploration of numerous wells. Some of our members used to be a part of the French association known as “Archéopuits” which pioneered the methodology of well exploration by platform. See Figure 21.



Figure 21. ADP’s platform equipped and ready for the dig. Image courtesy of Archéologie des Puits.

Archaeological interest in wells

Wells are structures which are omnipresent in archaeology from the Neolithic to the Modern era. Before the popularization of the distribution of water through a pressured pipe system, they constituted most people's main reliable access to water.

On archaeological sites, which are often leveled in rural contexts by agricultural activities, or perturbed by the stratigraphy of following occupations in urban contexts, wells provide a stratigraphy of their use and subsequent filling which can span from a few meters to tens of meters. These stratigraphic layers bring up information that is often completely absent from archaeological levels at the surface. The contexts represented by wells are subject to very few alterations and thus allow for an excellent conservation potential of artefacts. Therefore, the study of wells allows us to explore the stratigraphy of their use from the original digging of a structure to its eventual abandonment.

Furthermore, wells are great for trapping pollen, insects and seeds. Studying wells and their contents thus allows us to rejuvenate our approach of ancient environments with paleo-environmental studies made possible by the outstanding conservation state of organic matter in these contexts. As a consequence, we are able to better understand the evolution of an ancient environment in relation to any explored well currently under study. The specific context of wells also favors the conservation of wood and wooden material. In addition, they also provide information regarding unknown religious and cultural activities and practices by the discovery of votive objects and other organized caches. Additionally, study of the construction of the well-shaft of these structures also brings us information about well construction and maintenance over time.

Well exploration usually takes place in the final stages of archaeological field work. The data that is gathered in these structures demands the intervention of a number of specialists and represents a truly multidisciplinary endeavor. Nonetheless, the amount of data to be gathered in these structures justifies the effort and the expenses put into their exploration. See Figure 22.



Figure 22. Some archaeological material found in a well. Image courtesy of Archéologie des Puits.

A brief history of the exploration of wells

Even if the scientific potential of these structures is acknowledged, their exploration often remained an incomplete process, dictated by time pressures and in dangerous conditions. In France, the archaeological exploration of wells began during the 19th century, but was only truly developed over the last 30 years through upgrades in the operating conditions and through the acquisition of innovative and exciting scientific results from conservation of organic matter whose outstanding state of preservation is linked to wells' dark, humid, and low oxygen contexts. These improvements were made through the realization of the inherent risks attached to this kind of archaeological explorations and the establishment of a strict methodology.

The dangers of well exploration

Well explorations expose archaeologists to a number of potential risks of which they have to be both aware and are equipped to avoid. Firstly, before, during and after the exploration process, there is always a risk of people falling into the structure. During the excavation process, the most vulnerable individual is the person at the bottom of the structure who faces multiple kinds of danger. The technician is the first affected by falling tools, rocks, pebbles and other objects. As the shaft of wells can potentially be quite deep, there is a risk of collapse. This is often compounded by the well-shaft having not been in structural tension for some time as any potential fill is removed. There is also a risk of dangerous gaseous emanations which can potentially be lethal at certain depths. (ADP was confronted by this situation during the exploration of a structure in Martigues, in Bouches-du-Rhône, France). Furthermore, the digger at the bottom of the structure is faced with the potential dangers of floods and the associated risk of drowning. The technician is also exposed to microbial contamination from the stagnant water contained in these structures. The equipment on the surface presents further technical and electrical dangers. Even after the completion of the exploration process, wells remain potential sources of danger; it is, thus, advisable to refill the structures entirely.

These various safety risks highlight the need for the establishment of a strict operational methodology, which grants the scientific community access to the wealth of scientific knowledge contained in these structures all the while lowering potential risks to a minimum.

The methodology of well exploration

The technical stakes which precede the archaeological exploration of wells are intended to minimize danger and to ensure the safety of everyone involved. To that end, the installation of an independent mobile platform above the shaft of the structure is fundamental. This platform is built from steel beams which are used as a support for a winch cage. Made from construction grade material, this above ground structure constitutes a mobile and adaptable ensemble capable of supporting high charges, and capable of being set in place in any type of context. A floor is then installed on the structure to create a workspace. The winch cage is fixed above the shaft and is equipped with two winches to bring the technician and the content of the structure up and down the well safely. The equipment set up in the cage includes an electrical winch, a mechanical winch, the anti-fall device, a life line and an electrical counter connected to an independent generator. The lights, the ventilation and the pumps are plugged into the counter. A skirt is installed around the opening to the shaft as a measure to prevent tools and other objects from falling down the shaft. A set of railing is installed to avoid the fall of persons. The platform is also equipped with an extinguisher and a first aid kit, and its potential dangers are indicated through the use of easily readable danger signs.

Our team generally does an initial assessment to determine the safety levels and the technical requirements needed for the exploration of a particular structure before setting the platform up. Consequently, we are able to take into account the problems posed by the evacuation of water and

debris. Once this technical challenge has been met, our team follows strict protocols to facilitate the exploration process, which can last up to a week.

Before lowering any personal in the structure, it is crucial to proceed with the execution of a gas test in order to identify any potential traces of methane, carbon monoxide, carbon dioxide, sulfured hydrogen and to measure the amount of oxygen present. Filling out and signing off on a comprehensive checklist is required before each descent. During the underground operations, the licensed technician is also required to check the walls of the shaft to assess their status and determine any potential need for consolidation. If any doubts are raised during this process, the operation can be suspended until the specific problems are solved in order to guarantee the safety of the technician.

During the operation, the work is focused on two individuals; the technician at the bottom of the well, and the winch operator who communicates with the technician and raises debris and artefacts according to the principles of working with heights. Every individual on the platform is required to be equipped with a secured hard hat, a harness, gloves, and an anti-fall device to ensure their safety at all times. Outside of the operations on the platform, well exploration requires the use of several other technicians to evacuate and sift through sediments, to take samples, and treat artefacts, etc. See Figure 23.



Figure 23. The technician digging a dry well. Image courtesy of Archéologie des Puits.

The Archéologie des Puits association

Archéologie des Puits (ADP) was founded to meet those technical and scientific challenges, and to do so safely. Our first duty is to secure the well in order to grant us the ability to safely explore the structure. Our custom-made platform and its mobility allow us to work in any type of context, be it inside or outside, wet or dry.

Thanks to the great amount of expertise and experience held by the members of our association, we are able to explore well structures but to also conduct artefacts studies and we are capable of handling

any type of samples and are experts in paleo-environmental sampling and studies. As of 2023, ADP has 20 members, all of whom are archaeologists, and whom are furthermore also trained and licensed for the exploration of confined spaces.

ADP is able to:

- Stratigraphically explore wells in urban and rural contexts following a safe protocol (including the recording and description of each stratigraphic unit).
- Proceed with the treatment of different artefacts (terracotta, ceramic, amphorae, glass, small finds, etc.) as they are being excavated from the structure (including washing, inventory, isolation and conditioning).
- Take systematic paleo-environmental samples, sort these and follow through with subsequent studies.
- Conduct artefact studies

ADP is equipped with an adaptable and metallic platform. The structure is mobile and secured and is equipped with every possible piece of gear needed to realize the full range of its operational capabilities. The aims of the association are the following:

- To implement exploration as well as to promote, study and develop the archaeological exploration of wells.
- To offer training sessions and internships for students of archaeology, with the goal of introducing them to the different specializations within archaeology.
- To organize cultural and scientific communications relative to the archaeological exploration of wells.
- Execute archaeological operations, artefact inventories and well studies for a variety of actors in the field of archaeology (Europe and north Africa).
- Promote scientific and methodological exchanges between specialists of different subjects within archaeology around the Mediterranean and in Europe.

Persons interested in working further with Archéologie des Puits are welcome to contact us via our website: <https://archeologiedespuits.fr/>

Bibliography and further resources

Archéologie des Puits, 2023. [online] Available at: <https://archeologiedespuits.fr/>

Fémenias, J.-M. Tardy, C. Chantant, R. “Les apports de la plate-forme Archéopuits”, *Archéopages* 40, 2015, p.162-163. [online] Available at: <http://journals.openedition.org/archeopages/651> (Accessed May 23, 2022)

INRAP. “Synthèse méthodologique. La fouille des puits”, *Atlas archéologique*, 2017. [online] Available at: <https://multimedia.inrap.fr/atlas/Nimes/Syntheses/Synthese-methodologique/p-20792-La-fouille-des-puits.htm> (Accessed May 30, 2022)

INRAP. “Les puits, mines de données incomparables pour un travail d’équipe”, *Actualités de l’INRAP*, 2021. [online] Available at: <https://www.inrap.fr/les-puits-mines-de-donnees-incomparables-pour-un-travail-d-equipe-15843> (Accessed May 30, 2022)

Tardy, C. Fémenias, J.-M. Pellecuer, C. Pomarèdes, H. “La fouille de puits. Contraintes, protocoles et perspectives de recherche ”, *Archéopages* 40, 2015, p.156-161. [online] Available at: <https://journals.openedition.org/archeopages/647> (Accessed May 27, 2022)

Meet a Member over TEA:

Eileen Murphy



Full name and title: Professor Eileen Murphy

Current position: Deputy Head of School

Institution: Archaeology & Palaeoecology, School of Natural & Built Environment, Queen's University Belfast

EAA member since: 1999

Photo at left by P. Murphy

TEA: Why do you do archaeology/How did you decide to do it?

E. Murphy: As a child I was fascinated by archaeology but at the time I did not think it would be possible for me to actually be an archaeologist. I have strong memories of childhood trips to the Ulster Museum with my Mum and cousins and being completely enthralled by the mummified remains of Takabuti, a high-status young woman from the 25th Dynasty of ancient Egypt (who I had the pleasure of studying in recent years). I also spent a summer 'excavating' what turned out to be a brass headboard with different cousins – and how we enjoyed every moment of the experience! When I was a teenager in the 1980s, I was a big fan of the Indiana Jones films (very excited about the new one too!). As I progressed through school, however, all I wanted to do was go to art college. However, archaeology was still there in the background and a lot of my pieces focused on archaeological sites, especially the castles of Fermanagh where I lived. I completed a Foundation course in Belfast Art College but then decided it was not for me. I well remember the panic of wondering what on earth I was going to do with my life. I decided to put down archaeology on my university application form. In the first week of the course the late Professor Derek Simpson gave us lectures on prehistoric Wiltshire and I was enthralled. I realized I had found my home.

TEA: What is the most important and relevant part of your work?

E. Murphy: My main area of expertise lies in human osteoarchaeology. I have learned that we can gain important new information that has the potential to benefit the living by studying the remains of our ancestors. For example, collaborative projects with isotope and aDNA specialists can improve understanding of the evolution and spread of infectious diseases, such as leprosy and tuberculosis as well as genetic conditions, including multiple osteochondromas. Ancient DNA can also identify conditions that are invisible in the skeleton, such as lactose intolerance and haemochromatosis. I am also particularly interested in ensuring the children of the past are visible and I have been the editor of *Childhood in the Past* since establishing the journal in 2008. My work in this area has largely focused

on children's burial grounds (*cillíní*) in Ireland – there are over 1600 of these poignant sites dotted around Ireland where the remains of unbaptized infants and others excluded by the Catholic church in the wake of the Counter-Reformation are buried. There is an important social justice aspect to this work which encourages communities to record the locations of *cillíní* in their area to ensure they are protected from future development.



Photo at right by Abi Murphy-Donnelly

TEA: How does archaeology contribute to society at large?

E. Murphy: I strongly believe that to understand our place in the world we need to have a good appreciation of where we came from. Archaeology can strengthen a sense of identity as well as enhance a sense of connection to a particular place. Together with Dr. Colm Donnelly, I am co-director of the Centre for Community Archaeology in Queen's University (Belfast). Our group works hard to share the excitement of archaeological discovery with people of all ages and wakes of life across Northern Ireland. With the increasing understanding of the potential for involvement in archaeology to enhance wellbeing, we aim to be as inclusive as possible and to reach out to groups who traditionally would be less involved in heritage activities. Living in a post-conflict society with an education system segregated on religious lines, we also aim to provide a space for shared education



where school groups can come together. I was one of the founders of the Belfast Young Archaeologists' Club at Queen's University in 2006 and I still thoroughly enjoy engaging with our young members (aged 6-16 years) as they explore aspects of the past. Instilling the value of heritage in children is crucial since they are the future custodians of our precious archaeological heritage and all the benefits that it brings to society.

Photo at above: Community event during the excavation of a famine road in Boho, Co. Fermanagh. Photo courtesy of Ciaran Campton.

TEA: What archaeology literature are you reading right now?

E. Murphy: Laqueur, T. W. 2015. *The Work of the Dead: A Cultural History of Mortal Remains*. Princeton: Princeton University Press.

TEA: Describe your workspace in five words or less

E. Murphy: Active, organized chaos, multi-functional, familiar

TEA: What is the one piece of gear that you can't live without in the field?

E. Murphy: The weather in Ireland is very changeable so either a waterproof coat or Factor 50 sun cream.

TEA: If you could go back in time, would you go? Where and when?

E. Murphy: This is a very difficult question since there are so many places I would like to go! While I would love to go and live among the medieval populations of Ballyhanna, Co. Donegal, or Ranelagh, Co. Roscommon, since I have spent so long studying the remains of these people and there are many I would like to meet, I think I would go further afield to Iron Age Siberia. My PhD research focused on the substantial population buried at Aymyrlyg in Tuva. By studying the remains of these people, it was possible to gain major insights concerning their seasonal burial practices, diet and economic practices, attitudes towards individuals with disabilities and warfaring activities, amongst others. I would love to go back and see how accurate our interpretations were and experience such things as how their shamanic belief system impacted upon their daily lives. I might even have the chance to meet an Amazon!

TEA: Any advice to new archaeologists just starting out?

E. Murphy: Enjoy every minute of your studies and seize every opportunity that comes your way. Archaeology is a hugely broad field, and you should try to experience it in as many different ways as possible before you settle into your chosen area. This will help you be open-minded to the different aspects of the discipline.

Research Overview

Baltic Amber in Aššur: Rediscovering significant evidence of amber exchange between Europe and the Middle East, c. 1800–1750 BC

Jan-Heinrich Bunnefeld and Oliver Dietrich

State Office for Heritage Management and Archaeology Saxony-Anhalt - State Museum of Prehistory, Halle (Saale)

**Editors' note: Portions of this overview appear [online](#) and are reproduced here with the permission of the authors.*

Aššur (now Qala'at Sherqat, located on the west bank of the Tigris in Iraq) is one of the most important archaeological sites in northern Mesopotamia. The beginnings of the settlement go back to the 3rd millennium BC. Starting from the late 19th century BC, the city became the centre of an Assyrian territorial state.

From 1903 to 1914, the Royal Museums in Berlin and the German Orient Society conducted excavations in Aššur under the direction of Walter Andrae (1875–1956). One of the aims of the excavation was to study the great ziggurat built by Šamši-Adad I, who was the first Assyrian king to describe himself as *šar kiššatim* (literally the “King of the Whole”). In April 1914, in search of the foundation layers, the excavators widened an existing old tunnel. In doing so, they uncovered several thousand beads of shell, stone, glass and pottery lying directly on the bedrock beneath the first layer of mudbricks. On the basis of find-sharing agreements, parts of the finds ended up in the collection of the Vorderasiatisches Museum Berlin.

Among the beads were two disc-shaped examples whose material differed from the rest (i. a. Harding/Hughes-Brock 1974, 169). See Figure 24. They have now been re-examined by researchers from the State Office for Heritage Management and Archaeology Saxony-Anhalt, the Martin-Luther-University of Halle-Wittenberg and the Staatliche Museen zu Berlin (Bunnefeld et al. 2023). Fragments of the two beads were analysed in 2019 by the Rathgen-Forschungslabor der Staatlichen Museen zu Berlin – Stiftung Preußischer Kulturbesitz using Fourier transformation infrared spectroscopy (FT-IR). Despite severe weathering, the spectra broadly matched those of Baltic amber (succinite), suggesting that the amber beneath the great ziggurat of Aššur most likely originated in the Baltic or North Sea region.

If one accepts the Low-Middle Chronology, which Stuart W. Manning et al. (2016; 2017) suggested based on ¹⁴C data, Šamši-Adad I ruled Assyria from c. 1801–1768 BC. The amber beads from Aššur discovered in the foundation deposit under the great ziggurat therefore date to around 1800 BC or in the first half of the 18th century BC.



Figure 24. The two Baltic amber beads found beneath the great ziggurat of Aššur (c. 1800–1750 BC) (Photo: J. Lipták, Munich).

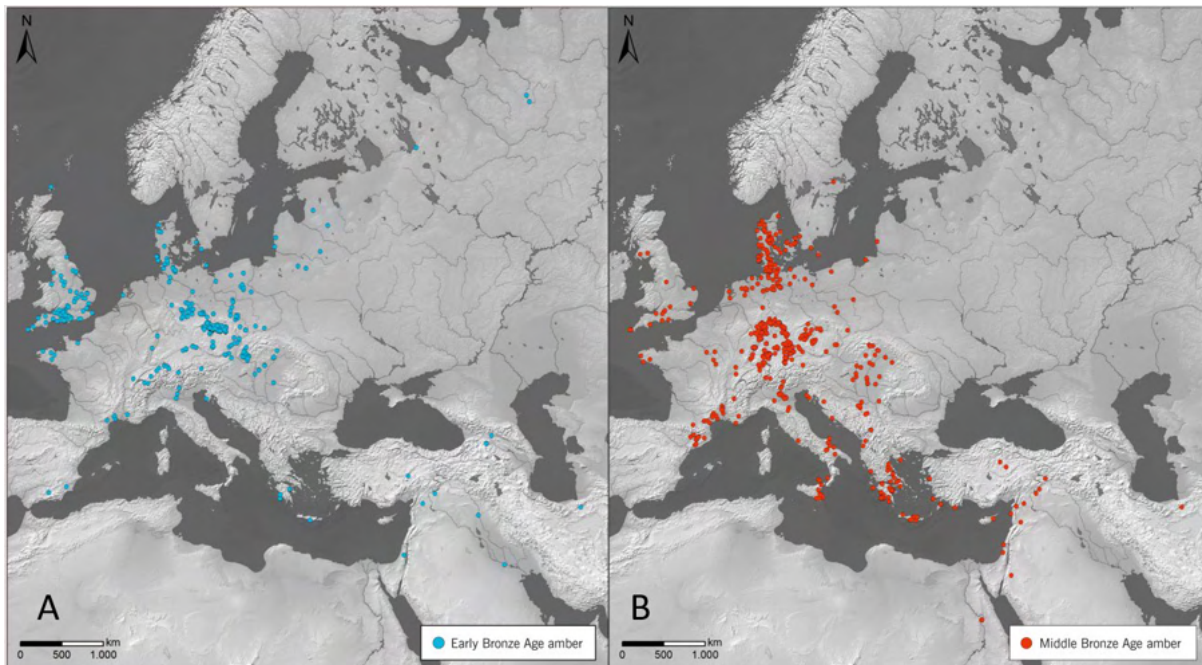


Figure 25. Distribution of amber finds in the period from (A) 2200–1550 BC and (B) 1550–1300 BC. In the period before c. 1550 BC, amber finds in the Mediterranean and the Middle East were extremely rare and were restricted to high-ranking find contexts and the top levels of society (J. Becker, Halle [Saale], J.-H. Bunnefeld, LDA Halle, mapping: A. Swieder, LDA Halle).

Long-distance contacts in the Early Bronze Age

The beads thus represent one of the earliest examples of amber in Southwest Asia and also one of the most remote from the source areas in the northern European region. See Figure 25). In the Mediterranean and the Middle East, amber was extremely rare before about 1550 BC and was restricted to high-ranking find contexts and the top levels of society, e.g. in Mycenae (Harding/Hughes-Brock 1974; Harding 1984, 81; Maran 2004, 55; Bunnefeld et al. 2023).

What is important in this context is a long-standing discussion about the relationships between Western Europe (especially the Wessex Culture from south England) and Mycenae (e.g., Renfrew 1968; Harding 1984; Barfield 1991; Gerloff 1993). Above all, the amber spacers, which probably appeared from the 19th century BC onwards in the Wessex Culture, from the 17th century BC in Mycenaean Greece and in the Alpine region (Koblach-Kadel, Austria) as well as from c. 1450 BC in the Tumulus Culture of Central Europe, are intensely debated (in summary: Gerloff 1993, 74–81; Gerloff 2010, 627–629; Verkooijen 2014). In view of the close parallels (particularly in relation to the specific drilling pattern) between Wessex Culture and Mycenaean examples and the complete absence of predecessors in the Mediterranean region, it seems that spacers and terminal plates of amber necklaces made the journey from southern England to Greece. Importantly, other, additional finds point to close connections between Western Europe and the Aegean (e.g., Harding 1984, 79–82; Barfield 1991; Gerloff 1993, 79; Maran 2004; Maran 2013). There may be a connection with the tin trade out of Cornwall, whereby amber objects could have been an important by-product of the exchange (Gerloff 1993, 83–85; Maran 2004, 58, 60–61).

Contacts between Central Europe and the Eastern Mediterranean have also been discussed (i. a. Gerloff 1993). With regard to contacts between the Únětice Culture in several parts of Central Europe and the Mediterranean, we have to mention e.g. the local imitation of a Mediterranean slotted spearhead from Kyhna, Germany (Gerloff 1993, 73–74; on the metal see Krause 2003, 247), or the very similar small electrum eyelet rings which were found in Dieskau, Germany, and Byblos, Lebanon (Gerloff 1993, 62, 66–69; cf. Meller 2019, 51). Furthermore, the amber spacers with three perforations and constrictions from Grave 2 of Mikulovice, Czech Republic (Ernée et al. 2020, 491 tab. 89, pl. 64), are worthy of mention despite their different dating, due to their similarity to a spacer from Tholos A of Kakovatos, Greece (Harding/Hughes-Brock 1974, 162, pl. 25c; de Vreé 2021; Woltermann 2016, 147).

The small number of amber objects outside the distribution areas of the Únětice and Wessex cultures before c. 1550 BC demonstrates that these two cultures apparently represented hubs which controlled amber exchange (Figure 25A; Ernée 2012; Meller 2019; Bunnefeld et al. 2023). The wealth and importance of the Únětice Culture in Central Germany is expressed e.g. in richly-furnished princely tombs (Leubingen, Helmsdorf, Bornhöck) and the Nebra Sky Disk as well as in Bohemia by richly-furnished burials and hoards (i. a. Ernée 2012; Meller 2019; Ernée et al. 2020).

The extremely rare amber finds from the early 2nd millennium BC in the Mediterranean and the Middle East (e. g. the finds from Mycenae or the beads in Aššur) probably represent exclusive gifts from well-travelled people from Central or Western Europe who visited elites in the south. However, the details of their path along the complex exchange systems remain unclear. After the end of the Únětice Culture around 1550 BC, the picture changed. Widespread trade was established, which made amber available in larger quantities in the Mediterranean and the Middle East, see e.g. the famous Uluburun shipwreck off the southwest coast of Turkey (Figure 25B; i.a. Harding/Hughes-Brock 1974). This difference is also indicated by “fall-off” curves for the distribution of sites with amber relative to the distance from the sources of the raw material. While the multi-modal “fall-off” curve of amber in the early 2nd millennium BC evidences the important role of the Wessex and the Únětice cultures as hubs as well as a relatively targeted transportation of this material, the curve for the finds after c.

1550 BC falls more evenly, although not without peaks similar to “down the line” exchange mechanisms (Bunnefeld et al. 2023). See Figure 26.

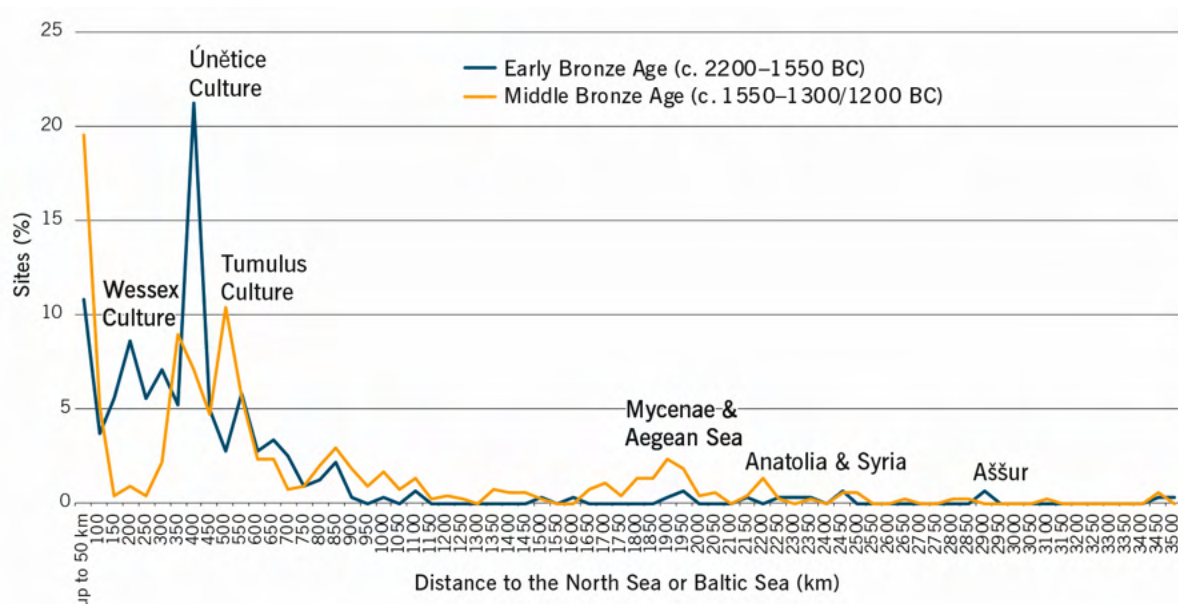


Figure 26. “Fall-off” curves for the distribution of amber findspots compared to distance from the Baltic and the North Sea coasts (J.-H. Bunnefeld & A. Swieder, LDA Halle).

Of course, it was not only material things that were transported through exchange networks and by travellers. We must imagine that knowledge, stories, myths, etc. also travelled with them. One example might be provided by the Nebra Sky Disc, which was deposited around 1600 BC some 3000 km from Aššur. In the original version, the bronze disc showed probably some mechanism for accounting for leap years to harmonize the solar and lunar years in encrypted form, which was recorded in the late 8th–7th century BC in the astronomical MUL.APIN texts (Hunger/Steele 2019). However, it is possible that this knowledge could date from the Old Babylonian period (Hansen 2006; Meller 2010, 59–62; Meller 2013; Hunger/Steele 2019). The origins of this knowledge in the Central German context remains uncertain. Nevertheless, it seems most plausible that the leap rule was developed through intensive star observation and its written documentation in the Middle East and then made its way to Central Europe, where the Sky Disc was created (Meller 2010, 61).

Bibliography

Barfield, L. H. 1991. Wessex with and without Mycenae: new evidence from Switzerland. *Antiquity* 65: 102–107.

Bunnefeld, J.-H., J. Becker, L. Martin, R.-R. Pausewein, S. Simon & H. Meller. 2023. Baltic Amber in Aššur. Forms and Significance of Amber Exchange between Europe and the Middle East, c.2000–1300 BC. *Acta Archaeologica* 92,2: 228–243. <https://doi.org/10.1163/16000390-20210031>

Ernée, M. 2012. Jantar v české únětické kultuře – k počátkům jantarové stezky. *Památky Archeologické* 103: 71–172.

Ernée, M. et al. 2020. Mikulovice. Pohřebišťe starší doby bronzové na Jantarové stezce. Prague: Inst. of Archaeology, Acad. of Sciences of the Czech Republic.

Gerloff, S. 1993. Zu Fragen mittelmeerländischer Kontakte und absoluter Chronologie der Frühbronzezeit in Mittel- und Westeuropa. *Prähistorische Zeitschrift* 68: 58–102.

Gerloff, S. 2010. Von Troja an die Saale, von Wessex nach Mykene. Chronologie, Fernverbindungen und Zinnrouten der Frühbronzezeit Mittel- und Westeuropas, in H. Meller & F. Bertemes (ed.) *Der Griff nach den Sternen. Wie Europas Eliten zu Macht und Reichtum kamen* (Tagungen des Landesmuseum für Vorgeschichte Halle 5): 603–639. Halle (Saale): Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt, Landesmuseum für Vorgeschichte.

Hansen, R. 2006. Sonne oder Mond? Wie der Mensch der Bronzezeit mithilfe der Himmelscheibe Sonnen- und Mondkalender ausgleichen konnte. *Arch. in Sachsen-Anhalt* 4: 289–304. Halle (Saale): Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt, Landesmuseum für Vorgeschichte.

Harding, A. 1984. *The Mycenaean World and Europe*. London: Academic Press.

Harding, A. & H. Hughes-Brock. 1974. Amber in the Mycenaean World. *Annu. British School Athens* 69: 145–172. London: MacMillan.

Hunger, H. & J. Steele. 2019. *The Babylonian Astronomical Compendium MUL.APIN*. London: Routledge.

Krause, R. 2003. *Studien zur kupfer- und frühbronzezeitlichen Metallurgie zwischen Karpatenbecken und Ostsee* (Vorgeschichtliche Forschungen 24). Rahden/Westf.: Verlag Marie Leidorf.

Manning, S. W., G. Barjamovic, C. Bronk Ramsey, C. B. Griggs, B. Kromer, B. Lorentzen & E. M. Wild. 2016. Integrated Tree-Ring-Radiocarbon-High-Resolution Timeframe to Resolve Earlier Second Millennium BCE Mesopotamian Chronology. *PLoS ONE* 11 (17): e0157144. doi: 10.1371/journal.pone.0157144

Manning, S. W., G. Barjamovic & B. Lorentzen. 2017. The Course of ¹⁴C dating does not run smooth: tree-rings, radiocarbon and potential impacts of a calibration curve wiggle on dating Mesopotamian chronology. *Journal of Ancient Egyptian Interconnections* 13: 70–81.

Maran, J. 2004. Wessex und Mykene. Zur Deutung des Bernsteins in der Schachtgräberzeit Südgiichenlands, in B. Hänsel & E. Studenikova (ed.) *Zwischen Karpaten und Ägäis: Neolithikum und ältere Bronzezeit. Gedenkschrift für Viera Nemejová-Pavúková*: 47–65. Rahden: Leidorf.

Maran, J. 2013. Bright as the sun: The appropriation of amber objects in Mycenaean Greece, in H. P. Hahn & h. Weiss (ed.) *Mobility, Meaning and the Transformation of Things*: 147–169. Oxford: Oxbow.

Meller, H. 2010. Nebra: Vom Logos zum Mythos – Biographie eines Himmelsbildes, in H. Meller & F. Bertemes (ed.) *Der Griff nach den Sternen. Wie Europas Eliten zu Macht und Reichtum kamen* (Tagungen des Landesmuseum für Vorgeschichte Halle 5): 23–73. Halle (Saale): Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt, Landesmuseum für Vorgeschichte.

Meller, H. 2013. The Sky Disc of Nebra, in H. Fokkens & A. Harding (ed.) *The Oxford Handbook of the European Bronze Age*: 266–269. Oxford: Oxford University Press.

Meller, H. 2019. Princes, Armies and Sanctuaries: The Emergence of Complex Authority in the Central German Únětice Culture. *Acta Archaeologica* 90/1: 39–79.

Renfrew, C. 1968. Wessex without Mycenae. *Annual of the British School at Athens* 63: 277–85.

Verkooijen, K. M. 2014. Tears of the Sun. Bronze Age Amber Spacers from Britain and Europe. Unpublished PhD dissertation, Univ. Exeter.

Vrée, C. de 2021. The Tholos Tombs of Kakovatos: Their Place in Early Mycenaean Greece, in B. Eder & M. Zavadil (eds) *(Social) Place and Space in Early Mycenaean Greece* (Mykenische Studien 35): 85–106. Vienna: Austrian Academy of Sciences Press.

Woltermann, G. 2016. *Die prähistorischen Bernsteinartefakte aus Deutschland vom Paläolithikum bis zur Bronzezeit. Methodische Forschungen zur Lagerstättenengese, Distributionsstrukturen und sozioökonomischem Kontext* (Universitätsforschungen zur Prähistorischen Archäologie 290). Bonn: Habelt.

Research Overview

A newly discovered Anglo-Saxon bed burial at Harpole, Northamptonshire, England

Lyn Blackmore¹ and Liz Barham¹ with Levente Balazs, Chris Chinnock and Sara Farey

¹Museum of London Archaeology

The remarkable seventh century AD bed burial at Harpole, Northamptonshire (England) which contained some unparalleled grave goods, was discovered in 2022 during archaeological work undertaken by Museum of London Archaeology (MOLA) Northampton in advance of a residential development. See Figure 27. The project was devised and managed by RPS Consulting Ltd on behalf of Vistry Group Housing development. The following outlines the work carried out to date.

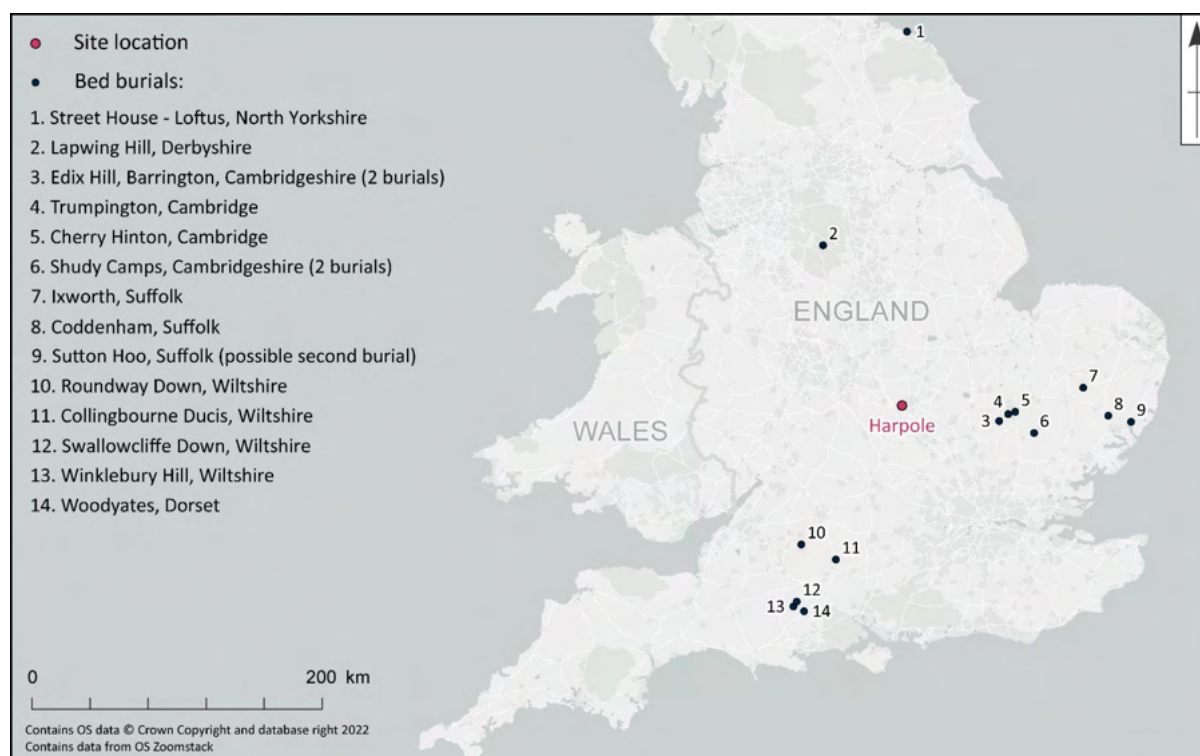


Figure 27. Site location with other known English bed burials.

The aim of the archaeological excavation was to examine an Iron Age-to-Roman farmstead; no Anglo-Saxon activity was expected. The grave was discovered on the penultimate day of an eight-week programme when what had looked like a standard pit was selected for excavation by half section. Opening the western half, the excavator first removed a sterile backfill deposit and then began to clean the underlying organic deposit by trowel. He soon stopped, however, when components of a gold necklace began to appear. See Figure 28.



Figure 28. The necklace partly exposed during excavation. Photo by Levente Balazs

A conservation team was sent out the next morning. The eastern half of the grave was then excavated down to the same level, where two pottery vessels were discovered next to an extensive organic deposit. See Figures 29-30.



Figure 29. Excavation of the eastern end of the grave. Photo by Levante Balazs

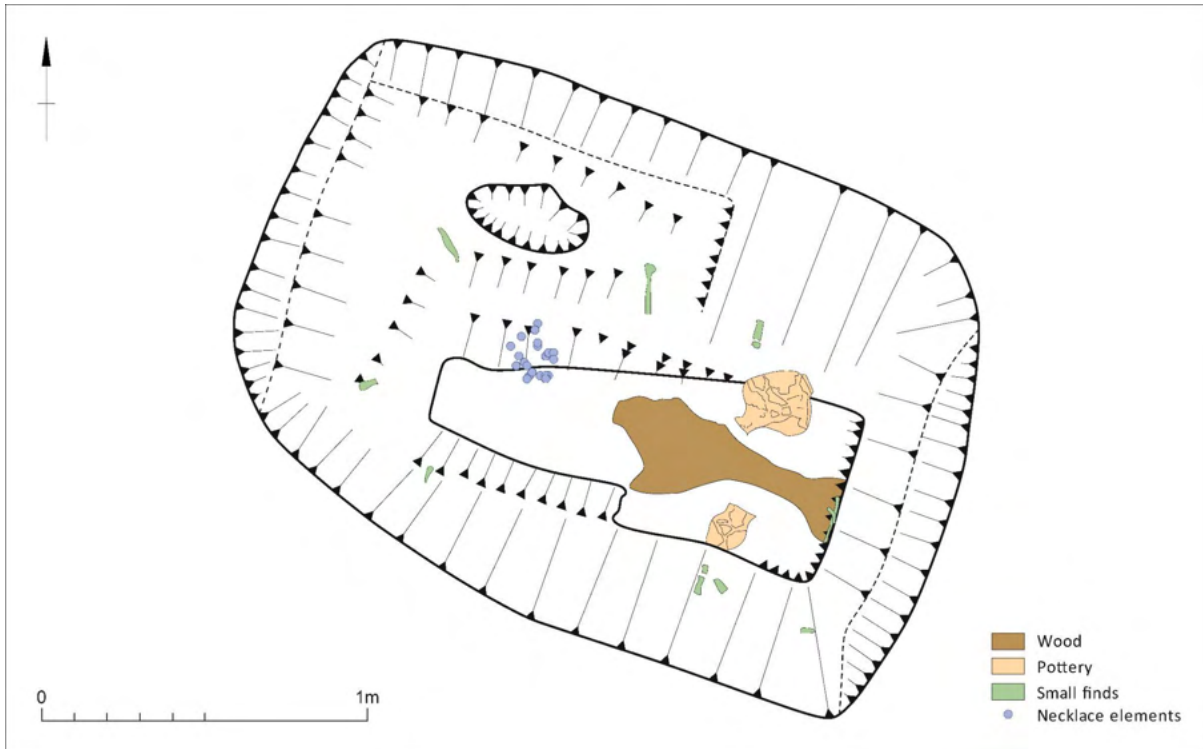


Figure 30. Plan of the grave showing the position of the two pots and necklace elements located by GPS. Plan by Carla Ardis.

Seven soil blocks containing surviving remains from the grave were lifted for excavation under controlled conditions. All loose soil was collected and sent for flotation analysis.

Overview of English bed burials

The Harpole burial belongs to a group of elite female bed burials found in England. See Figure 27. These have broadly been dated to between AD 630 and AD 680, a period when there was increased investment in female burial, and in several cases, they contain some form of religious symbolism (Speake 1989; Hamerow 2016; Brownlee 2022). In Europe, most such burials have been dated to the sixth century AD, while those in Scandinavia are of ninth or tenth century date (Brownlee 2022).

The 17 definite or probable English bed burials group mostly into two loose clusters (Figure 27): five in present day Wiltshire and Dorset (Wessex), up to ten in Cambridgeshire and Suffolk (East Anglia) with two outliers in Derbyshire (Mercia) and North Yorkshire (Northumbria). Harpole is the second to be found in the kingdom of Mercia, outside and to the west of the East Anglian cluster. Most such burials are part of a larger cemetery and, as a rule, there seems to be only one per site, sometimes below a mound. Occasionally, however, two examples may appear together.

Harpole soil blocks

The layering, orientation and relationships of the materials present in the seven soil blocks are presently being recorded in detail. This includes still and video imaging under the microscope, as well as X-ray imaging, drawings and photographic overviews. The aim of this approach is to note subtle details while the remains are still fresh and in situ and preserve and record these as a basis for future analyses to further contribute to our understanding of this individual and their burial rite.

It is fortunate and unusual that the burial includes some areas of extant organic remains: wood, bone and fibrous matter, most likely due to their proximity to metalwork and localized moisture retention in certain parts of the grave. At the same time, this is a challenging burial to study because the metals are highly corroded and the organic materials that survive are largely crushed or compacted due to decay and pressure during their time in the ground. Some of these, such as the notably sparse textile remains, are only mineral-replaced traces against ironwork.

A principal aim of this work has been to record the presence and the relationship of the human remains and objects surviving in the grave to the materials around them: Firstly, to look for subtle traces of the bed structure in organic layering beneath the skeletal remains and in examining the fragmentary fittings from around the sides. Potential evidence for soft furnishings, coverings or linings within the burial has been tracked, particularly in relation to their extent across the grave and their relationships with any human remains or objects through the recording and sampling of fibres and other compacted matter. In particular the work aims to contribute to the understanding of a large cross-like object and its relationship with the body and with other elements of the grave. See Figure 31. The intention is also to record clues to the taphonomy of the burial, such as evidence for movement during interment or collapse of structures, as well as environmental effects, which may explain the nature and position of the remains and may also suggest elements that may have been present originally but which are no longer extant.



Figure 31. X-ray of the large cross-like object in one of the soil blocks.

A range of scientific analyses of the surfaces and samples has been planned for the coming phases of work and it is hoped this will help clarify the stratigraphic sequence as well as conclusively identify and characterise materials and structures observed and recorded to date.

The bed

English beds are much simpler and more uniform than their Continental counterparts, being box-shaped with two horizontal side boards, mostly joined by double-ended cleats; some have a raised headboard. The Harpole bed follows this pattern, although its size is uncertain and we do not yet know whether it had a headboard, what the bedding was like or how the deceased was dressed. The fragmentary remains of the skeleton make description of the body within the bed difficult; however, surviving elements of the pelvis and femorae and their relative position to the necklace suggest that the deceased had been laid out in an extended supine (face up) position. See Figure 32.



Figure 32. A preliminary reconstruction of the burial (pre-analysis; some elements are conjectural). Reconstruction prepared by Hugh Gatt.

The grave goods

Of the English bed burials where the original contents are known (many were discovered in the nineteenth century and so poorly recorded), Harpole has the most gold, the most extravagant necklace and also the most explicit religious symbolism.

The necklace displays clear Frankish and Byzantine influences and is a definite statement of wealth as well as symbol of Christian faith. It is more elaborate than any other in England (Hines and Bayliss 2013: 538; Haworth 2021: 26) and certainly has more coin pendants: it includes eight examples which are either gold solidi made for the emperor Theodosius I (AD 379-395) or copies thereof. There are also nine oval cabochon pendants with settings of stone or glass in gold mounts, 12 biconical beads made of coiled gold wire and, most spectacular, a central pendant made from half of a hinged gold clasp with cloisonné decoration comprising a cross motif within a raised border, both set with mushroom garnet cloisonné, with filigree work in the recessed panels. See Figure 33. At present, the closest parallels are the shoulder clasps found in mound 1 at Sutton Hoo, dated to c. AD 620-630, although these are convex and rather larger (Bruce-Mitford 1978: 487-535; Adams 2010). Most pectoral crosses (worn on the breast) are circular, like those on the cross-like object (below), but the elaborate Desborough necklace (also found in Northamptonshire), which is the closest English parallel for the Harpole find, has a plain gold cross. References in Bede imply that such necklaces played an important role in the identity of women, both secular and in the church, although they were later considered inappropriate in a religious context (Yorke 2011).



Figure 33. A preliminary reconstruction drawing of the necklace (pre-analysis; some elements are conjectural). Reconstruction prepared by Hugh Gatt.

Adjacent to the necklace, on the left side of the deceased's upper body, was a large cross-like object lying face down, first recorded by x-ray of the soil blocks. See Figure 31 above. This find is remarkable not only for its size (c. 300mm), but also its complex construction (silver foil with gold and garnets on a wooden backing). The cruciform design incorporates at least four (probably five) equal-armed crosses with a rounded outline, one large at the centre (c. 80mm diameter) flanked by smaller ones on the arms. The central cross is superimposed by a smaller gold cross with garnets, with simpler decoration on the outer ones. The rounded cross motif is typical of the period and very similar to the pectoral crosses with cloisonné work associated with five other bed burials (e.g. Trumpington, Cambs, and Wilton, Norfolk; Lucy 2017), but the significance of the cast anthropomorphic mounts with blue glass eyes at the terminals of the arms is presently unclear. See Figure 34. As the cross is still being investigated, we cannot yet tell if it was of Greek or Latin form. If it was a processional cross like that in the Staffordshire hoard, it will be a really exciting discovery which would increase the already high level of devotion symbolised in this burial.



Figure 34. Anthropomorphic mount with blue glass eyes from a terminal of the cross. Photo by Carla Ardis

Although differing in shape and size, the two pots are made of the same clay and have the same incised linear decoration. Their source remains to be determined but they appear to be handmade (rather than wheel-thrown) and their decoration is also more Anglo-Saxon than Frankish.

Dating

Bed burials with explicit religious symbolism appear to date to between c. AD 650 and AD 680. However, the burial of elite women seems to peak in the 660s. The use of gold and the pendant and bead forms are typical of the necklaces dating to the mid/late seventh century AD (Geake 1997: 109-11; Haworth 2021: 26, 335-36), as are pectoral crosses. Documentary evidence tells us that the kingdom of Mercia converted to Christianity c. AD 655, but as the pagan King Penda tolerated Christian preaching it could be earlier than this. On balance, the burial is likely to fall between AD 625/650 and 660/680 (Hines and Bayliss 2013, tables 8.2, 10.1: phase AS-FE). As assessment and analysis of the preserved organic remains, skeletal remains and wooden objects progresses, a programme of radiocarbon dating may allow us to further refine the date of burial.

Age and identity

Where data exists, the occupants of the English bed burials noted by Brownlee (2022) range between infant (Cherry Hinton) and 45+ years of age (Collingbourne Ducis), but one was 14-18 (Trumpington), two are 17/18-25 (Edix Hill G18, Swallowcliffe) and one was 25-32 (Barrington G60). Preservation of the human skeletal remain from the Harpole burial is, unfortunately, poor. However, remaining fragments of tooth enamel suggest the individual was likely a young adult. It may be possible to have better insight into the person's life through analyses of stable isotopes, ancient DNA and enamel peptides.

Harpole is outside the East Anglian cluster, but the stylistic links between the finds from these sites suggest close contact between them. The deceased buried here could, therefore, be from that area. Alternatively, she could equally be a Frankish woman who moved to England for marriage and/or for the church.

Status and the church

The number of finds included in bed burials varies greatly – the richest in terms of the number of grave goods is Swallowcliffe in Wiltshire, which contained objects of silver but no gold and little jewellery (Speake 1989). The Harpole bed burial is, however, richer in terms of the investment of wealth, and the strong religious symbolism suggests an extremely devout person. The wave of high-status female burials in the mid seventh century AD seems to reflect a new ideology and the changing role of women in society leading to them establishing and/or becoming abbesses of family monasteries from the 660s onwards (Hamerow 2016: 443-47). It will be fascinating to investigate whether the Harpole woman was a religious leader and how she fitted into this important period in Mercia and the development of Anglo Saxon England. Please keep tuned for future developments!

Bibliography

Adams, N., 2010. Rethinking the Sutton Hoo shoulder clasps and armour. In C. Entwistle, and N. Adams, *Intelligible Beauty': recent research on Byzantine jewellery*. London: British Museum Research Publication 178: 83-112

Bruce-Mitford, R. L. S., 1978. *The Sutton Hoo ship burial volume 2: Arms, armour and regalia*. London: British Museum Publications.

Hines, J. and A. Bayliss (eds.), 2013. *Anglo-Saxon graves and grave goods of the 6th and 7th centuries AD: a chronological framework*. London (Society Medieval Archaeology Monograph 33).

Brownlee, E., 2022. Bed burials in early medieval Europe. *Medieval Archaeology* 66/1: 1-29.

Geake, H., 1997. The use of grave goods in conversion-period England c 600–c 850. Oxford: British Archaeological Reports (British Series 261).

Hamerow, H., 2016. Furnished female burial in seventh-century England: gender and sacral authority in the Conversion Period. *Early Medieval Europe* 24(4): 423-47.

Haworth, K. D., 2021. 'Most precious ornaments': Necklaces in seventh-century England, Durham theses, Durham University, <http://etheses.dur.ac.uk/14016/> accessed April 2023.

Lucy, S., 2017. The Trumpington Cross in Context. *Anglo-Saxon England* 45: 7-37. <https://www.jstor.org/stable/26332310>, accessed April 2023.

Speake, G., 1989. A Saxon bed burial on Swallowcliffe Down: excavations by F de M Vatcher. London: English Heritage Archaeological Report 10.

Yorke, B., 2011. "The weight of necklaces'. Some insights into the wearing of women's jewellery from Middle Saxon written sources". In S. H. Brookes and A Reynolds (eds.), *Studies in Anglo-Saxon Art and Archaeology: Papers in Honour of Martin G Welch*: 106-11. Oxford: British Archaeological Reports (British Series 527).

Project Overview

The BIOSOCIOPOLIS Project: Exploring the impact of diachronic status-quo transitions on the way of life and burial environment, using ancient Amphipolis as a model case study

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Living under different social and political regimes (e.g., under an oligarchic or democratic system) shapes the human body both biologically and culturally (e.g., Goodman and Leatherman, 1998). In theory, having knowledge of the types of political systems and aspects of their social hierarchy allows us to measure how different regimes may impact lifeways and the cultural practices surrounding death (deathways) for both rich and poor in a given society.

Thanks to funding from a European Individual Marie Skłodowska-Curie postdoctoral fellowship (to D.E. Michael), [the BIOSOCIOPOLIS project](#) (2022-2024) aims to develop a new understanding of how multiple socio-political transitions representing different forms of urbanism may impact lifeways and deathways across a diachronic scale. See Figure 35. This is accomplished through a combination of different archaeological analyses, both destructive and non-destructive. The diachronic case of ancient Amphipolis (currently located in the modern regional unit of Serres, Macedonia, northern Greece) experienced many different political models between the Late Archaic/Classical and Roman periods, and serves as an ideal illustrative case study. See Figure 36.



Figure 35. Our official logo (on the right), was inspired by the silver coin from Amphipolis on the left, which is dated at the first half of the 4th c. BC. The torch, which is the main theme, was connected with the great celebrations and torch relay races in honour of Artemis, the patron deity of the city. The symbol of the torch also appears later (during the time of Philip II and Alexander III), highlighting

the diachronic character of the city. Our project logo was designed by the archaeologist and graphic designer Mr. Nikos Valasiadis.



Figure 36. Amphipolis, located 97.94 km north-east of Thessaloniki. Map courtesy of Mr. Giannis Apostolou.

Amphipolis' *status quo* transitions and cultural changes

During the Late Archaic period, before the Athenians established a colony there in 437/6 BC (Thucydides IV.102.1), Amphipolis was mostly inhabited by the Hedonians (a local Thracian tribe). By the last quarter of the 5th c. BC, after a very brief period of Spartan occupation, the city practically gained its autonomy. Said autonomy lasted until the mid-4th c. B.C. In 357 B.C, Philip II of Macedonia entered “in a tide of slaughter” and Macedonian political and military officials settled in the city (Hammond and Griffith, 1979). During the mid-2nd c. BC, Macedonia became a Roman province. Amphipolis continued to be an important commercial center as the *Via Egnatia* passed nearby (Papazoglou, 1988). See Figure 37.

These transitions were accompanied by cultural changes that were reflected in Amphipolis' cemeteries. The modest pit graves of the Late Archaic period gave way to elaborate chamber tombs at the end of the 5th c. BC, which accommodated both inhumations as well as cremations. Monumental Macedonian-type tombs appeared at the end of the 4th/beginning of the 3rd c. BC (Malamidou, 2006). During the Roman period, a shift can be observed with the appearance of monumental underground chamber tombs whose marble sarcophagi were often marked out by elaborate funerary altars and stelae belonged to distinguished citizens (Lazaridis, 1976). See Figures 38-41.

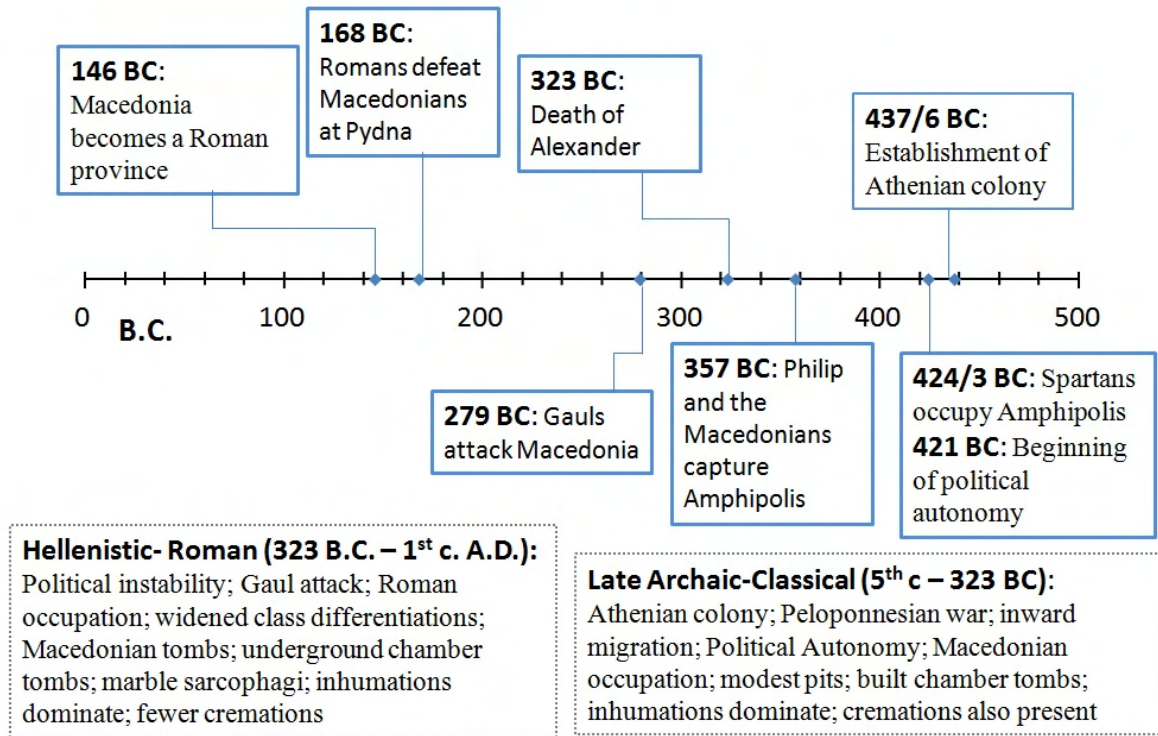


Figure 37. Brief timeline of Amphipolis' status-quo transitions and cultural changes between the Late Archaic/Classical and Roman periods.



Figure 38. A typical cist burial of the Classical era which could be characterized as 'rich' based on the funerary findings. Image © Ephorate of Antiquities of Serres.



Figure 39. A ‘rich’ Hellenistic period cremation burial. Image © Ephorate of Antiquities of Serres.



Figure 40. The façade of a Macedonian tomb construction which has been looted. Image © Ephorate of Antiquities of Serres.



Figure 41. Roman built cist tomb characterized as ‘middle state’ (neither poor or rich) based on the funerary offerings. Image © Ephorate of Antiquities of Serres.

Project Overview- An interdisciplinary approach

In sum, Amphipolis went through major changes in the *status quo* between the Late Archaic/Classical and Roman periods. The core aim of BIOSOCIOPOLIS is to develop a new interpretive model to reveal the extent to which multiple and consecutive socio-political transitions on a population affect human lifeways and deathways over time. Insofar as Amphipolis experienced different forms and ideologies of urbanism (e.g., colonization, political autonomy, consolidation and imperialization), the city provides an ideal setting to achieve this diachronic perspective. The project draws from different disciplines to do the following:

- 1) Better understand the relation between cultural identities as displayed in the burial environment (i.e., funerary practices) and lived reality (as manifested through health, diet, activity patterns and human mobility) under the prism of diachronic socio-political processes.
- 2) Reveal the degree and ways in which health and lifestyle are affected by multiple political systems.
- 3) Provide a high-resolution overview of how cultural and biological factors (such as access to food and/or genetic predisposition) may lead to stress and disease. This will be accomplished through investigating mobility and biodistance (i.e., biological distance between groups of people) combined with health/lifestyle. This approach will also offer a contextualized framework for the holistic study of human mobility.

These research objectives will be addressed in an integrated manner through a combined analysis of burial environments and lifeways. See Figure 42. The research objectives include:

- A) Funerary practices and Deathways: The analysis of a maximum of 300 inhumation burials and 100 cremations is scheduled to take place within the framework of the project. Different

burial types and elements of burial deposition as well as their relative frequencies in each period will be identified and analyzed in depth. Scoring grave goods by virtue of number, materials and/or elaborateness per burial will allow for the identification of an element of status differentiation. Funerary practices will be studied in relation to basic demographic data (i.e., age and sex), health, lifestyle, and mobility.

- B) **Health and Lifestyle:** Indicators of physiological stress, metabolic diseases, traumatic lesions (of violent or accidental origin) and activity patterns are macroscopically examined. Diet is to be investigated through a combined analysis of dental diseases and stable isotopes (carbon- $\delta^{13}\text{C}$, nitrogen- $\delta^{15}\text{N}$, and sulphur- $\delta^{34}\text{S}$). Apart from the bulk bone collagen analysis, a more detailed incremental dentine collagen analysis will be implemented in select cases for carbon and nitrogen isotopes as a means of identifying short term dietary changes.
- C) **Biodistance and mobility:** Stable isotope data will be combined with morphological cranial and dental non-metric analysis. Non-metric traits represent variants of the normal skeletal anatomy that cannot be measured as they are not pathological and their presence causes no symptoms (Tyrrell, 2000). Statistical modelling of non-metric traits has the potential to offer important information on affinities and biological distances between groups of people based on the assumption that phenotypic variability expresses phylogenetic variation (e.g., Scott, 2008). Oxygen- $\delta^{18}\text{O}$, strontium- $^{87}\text{Sr}/^{86}\text{Sr}$ and sulphur- $\delta^{34}\text{S}$ isotope ratios will be used as mobility proxies. Strontium analyses will be implemented on cremated bone (e.g., Snoeck et al., 2016). Additionally, human mobility will be explored through cranial and dental non-metric traits to infer biological distances among individuals from the different use-life periods within the cemeteries. This method is also implemented within the same period to investigate the concept of a kin-based structure of the Amphipolis' cemeteries and the likely familial use of collective tombs (Prevedorou and Stojanowksi, 2017). In simpler words, we will explore the possibility that Amphipolis' cemeteries were structured based on kinship relationships and that multiple inhumation burials were potentially used by members of the same family.

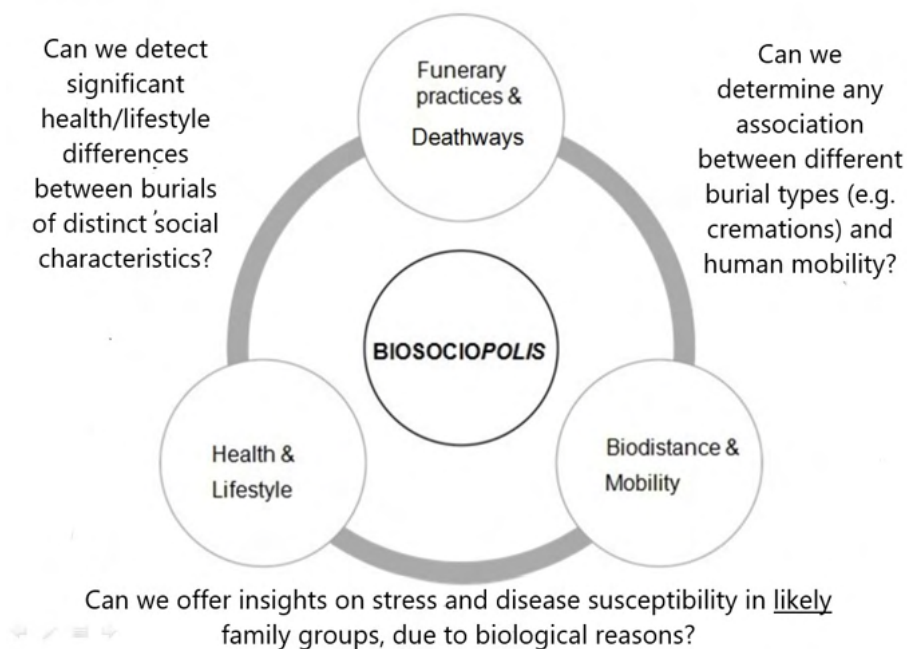


Figure 42. Our interdisciplinary methodology along with the project's three key research questions.

Together with the health data, this last approach forms the basis of exploring the sources of heterogeneous frailty at a biological level (while controlling for cultural factors). Heterogeneous frailty relies on the fact that every individual alive at a particular age is not at the same risk of dying at that age, due to biological (e.g., genetic predisposition) and cultural (e.g., access to food, migration) reasons. Mobility, health, and lifestyle data along with funerary practices will form the basis of investigating heterogeneous frailty as a consequence of cultural factors. Through the holistic investigation of frailty—which is a subject that remains rather unexplored (DeWitte and Stojanowski, 2015)—we aim to make a true methodological advancement for the field of social bioarchaeology. We also aim to create awareness of the importance of properly addressing the complex matter of heterogeneous frailty when dealing with contemporary crises (such as the recent COVID pandemic).

Moreover, the project aspires to make important progress for the Humanities, as Amphipolis was a city that formed intense inter-state relations with all the main forces of the Classical Greek world (Figueira, 1991). While written sources are extremely valuable as they can form the basis of hypothesis-driven bioarchaeological studies, we are nonetheless cognizant that they can be manipulated by their creators (or other individuals), thus offering an altered version of history (Shanks and Tilley, 1987). It is therefore imperative to critically integrate evidence derived from the written sources into bioarchaeological research, to enhance if not re-define our understanding of lifeways in the ancient Greek world and (by extension) in the Classical World on the whole. More specifically, we will attempt to approach palaeodemography with fresh eyes by combining the methodological toolkits of ancient history and historical bioarchaeology. We believe this constitutes a novel approach that may create significant methodological impacts for the field of historical bioarchaeology.

Final Remarks

The BIOSOCIOPOLIS project started in November of 2022 and is hosted by the Aristotle University of Thessaloniki (AUTH). It brings together researchers from different disciplines, creating an ideal interdisciplinary environment. Apart from the MSCA post-doctoral fellow who is a human osteologist (D. Michael) the project consists of five members: 1) Associate Professor Sevi Triantaphyllou (AUTH-Primary Supervision) who is a bioarchaeologist and an expert on mortuary practices, 2) Assistant Professor Panagiotis Tselekas (AUTH), who is a Classical archaeologist, 3) Associate Professor Ilias Sverkos (AUTH), who is an ancient historian, 4) Assistant Professor Christophe Snoeck (BB-LAB, VUB-Secondary Supervision), who is an expert on isotopic analyses and 5) Dr. Dimitra Malamidou (Director of the Eforeia of Antiquities in Serres), an archaeologist, who has extensively excavated the ancient cemeteries of Amphipolis.

Acknowledgements

We would also like to thank Mr. Giannis Apostolou (MSc) for providing the map of Amphipolis (Figure 36).

Bibliography

DeWitte, Sharon N. and Stojanowski, Christopher M. 2015. “The Osteological Paradox 20 Years Later: Past Perspectives, Future Directions”. *Journal of Archaeological Science*, 23: 397-450.

Lazaridis, Dimitrios. 1976. “Επίγραμμα Παρίων από την Αμφίπολη”, *Αρχαιολογική Εφημερίς*. pp. 164–81.

Figueira, Thomas J. 1991. “Athens and Aigina in the Age of Imperial Colonization”. Baltimore, London

Goodman, Alan H. and Leatherman, Thomas L. 1998. “Traversing the chasm between biology and culture: an introduction”. In: Goodman, A.H., Leatherman, T.L. (Eds.), *Building a New Biocultural*

Synthesis: Political-Economic Perspectives on Human Biology. University of Michigan Press, Ann Arbor, pp. 3–41.

Hammond Nicholas G.L. and Griffith Guy T. 1979. “A History of Macedonia”. Volume II: 550–336 BC. Oxford: Oxford University Press

Malamidou, Dimitra. 2006. Les nécropoles D’ Amphipolis: nouvelles données archéologiques et anthropologiques, In Rois, Cites, Necropoles, Institutions, Rites et Monuments en Macedoine. Athenes

Papazoglou, Fanula. 1988. “Les Villes de Macédoine à l’époque romaine”. Bulletin de Correspondance Hellénique Suppl. p. 11

Prevedorou, Eleana and Stojanowski, Christopher M. 2017. “Biological Kinship, Postmarital Residence and the Emergence of Cemetery Formalisation at Prehistoric Marathon”. *International Journal of Osteoarchaeology*, 27: 580- 597. <https://doi.org/10.1002/oa.2582>

Scott, Richard. 2008. “Dental morphology”. In: Katzenberg MA, Saunders SR, editors. Biological anthropology of the human skeleton. 2nd ed. New York: Wiley-Liss, pp. 265-298.

Shanks, Michael and Tilley, Christopher. 1987. “Re-Constructing Archaeology: Theory and Practice”. Cambridge University Press, Cambridge.

Snoeck, Christophe, Pouncett, John, Ramsey, Greer, Meighan, Ian G., Mattielli, Nadine, Goderis, Steven, Lee-Thorp, Julia A., Schulting, Rick J. 2016. “Mobility during the neolithic and bronze age in northern ireland explored using strontium isotope analysis of cremated human bone”. *American Journal of Physical Anthropology*, 160, 397–413. <https://doi.org/10.1002/ajpa.22977>

Tyrrell, Andrew. 2000. “Skeletal non-metric traits and the assessment of inter-and intra-population diversity: past problems and future potential”. In: Cox M, Mays S, editors. Human osteology in archaeology and forensic science. London: Greenwich Medical Media, pp. 289–306.

Research Overview

3000-year-old cold case: Shark attack victim from Okayama, Japan

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Individual No. 24 from the Tsukumo Shell-mound site in Okayama Prefecture, Japan was excavated in 1919 (Kiyono 1969). See Figure 43. Over the last century, numerous researchers have puzzled over his unusual burial position (Figure 44; Yamada 2001) and the degree of trauma present on his surviving skeleton. With the notable exceptions of the head and spine, the rest of his skeleton has extensive traumatic lesions consistent with being caused around the time of his death. As an international collaborative effort, my colleagues and I took on this cold case with the aim of better understanding the circumstances surrounding the death of individual Tsukumo No. 24, and in particular his brutal injuries. What we found was evidence for one of the oldest human shark attack victims (White et al. 2021).

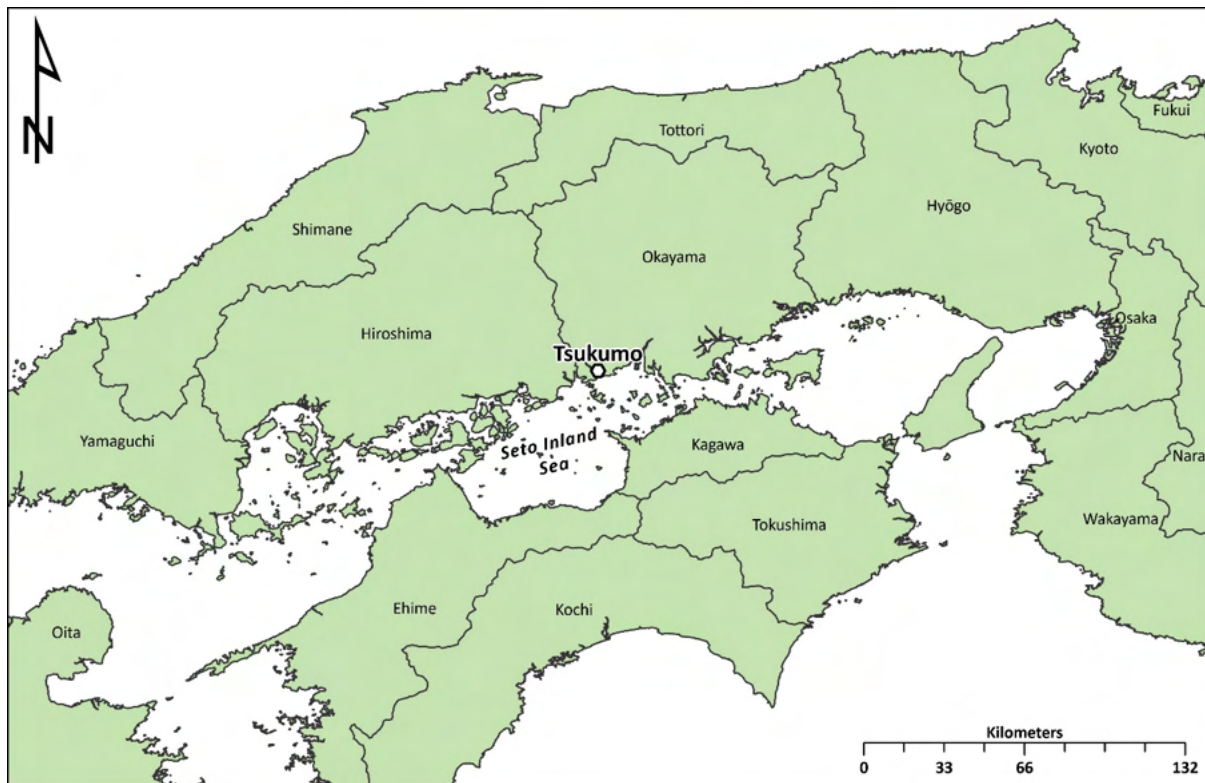


Figure 43. Map of the location of Tsukumo Shell-mound site in Okayama Prefecture, Japan.



Figure 44. The original excavation photograph of Tsukumo Shell-mound site. You can see that No.24's right leg was missing at the time of recovery and that his left leg was buried in an inverted position and atop his upper half. Photograph courtesy of the Laboratory of Physical Anthropology, Kyoto University.

Shark attack?

The first question that usually comes up when presenting this evidence is, how do you know it was a shark attack? The answer is that we determined this through a process of elimination.

What initially sparked our interest in the skeletal lesions on No. 24 was the possibility of warfare or violence, which we were in Japan to research at the time. The lesions on his skeleton are incredibly smooth and sharp, reminiscent of wounds caused by metal weaponry. Yet, during the hunter-gatherer period of the Japanese archipelago, there is no evidence for the use of metal weaponry (Hudson et al. 2021). What differentiated the lesions on No. 24 from some kind of anomalous metal weapon use was the pattern of consistent, serrated wound profiles (Figure 45) and the distribution of gouges, punctures, fractures, and overlapping striations on his skeleton. If not the result of weaponry, then another common cause of trauma in the archaeological record is animal scavenging. Of the possible terrestrial scavengers present on the Japanese archipelago, none would cause the combination of lesions present (particularly the serrated lesions), even if some might cause punctures (such as dogs) or fractures (Fernández-Jalvo, Andrews 2016; Johnson 1985; Sorg 2019; Tsujino, Yumoto 2014; Ubelaker 1997).

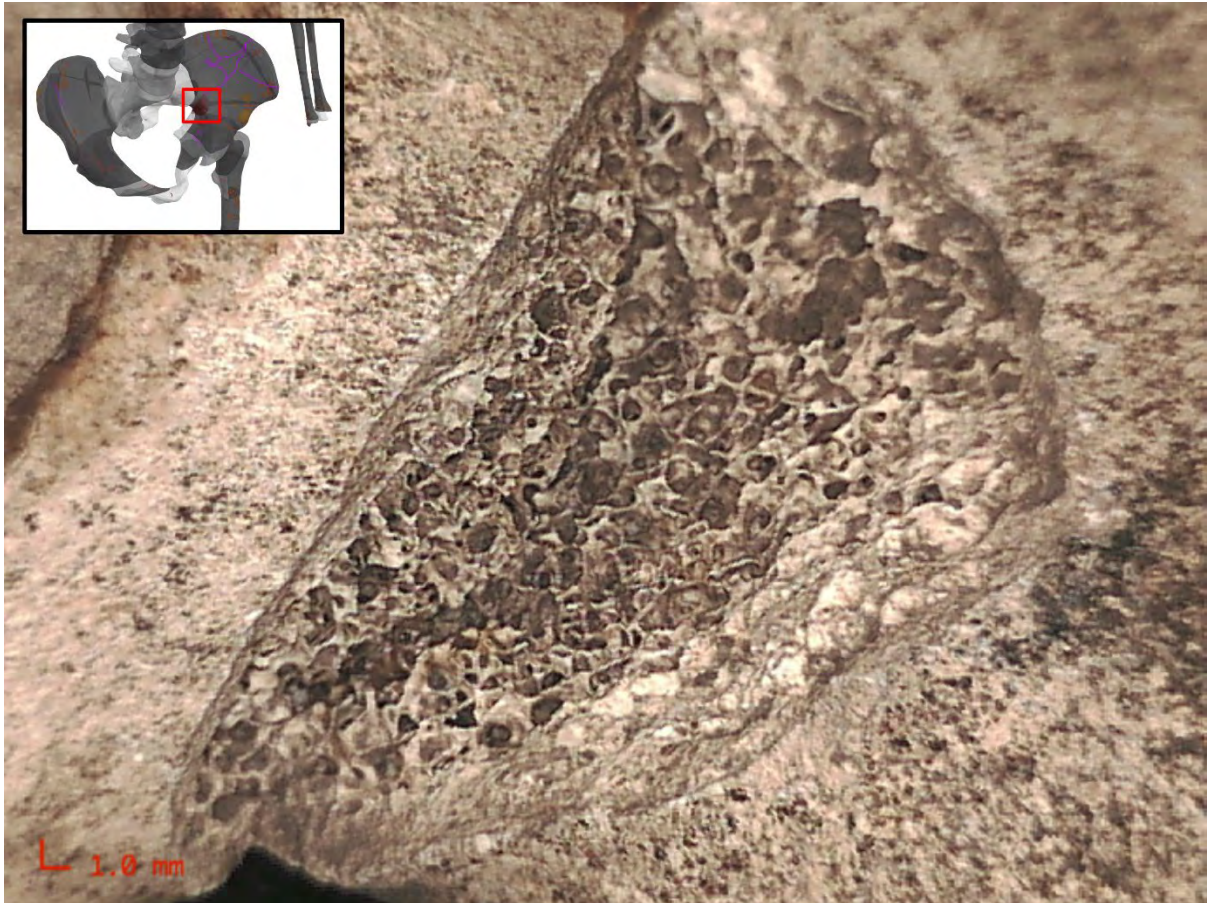


Figure 45. Close-up photograph of the largest gouge (33.2 × 20.2 mm, 21.3 mm deep) found on the skeleton, located on the left hip bone. On the right-most wall of the gouge, the scalloped edge is clearly visible. Photograph by JAW, courtesy of Kyoto University.

If we turn our focus to the sea, though, there are large predators with serrated teeth and a crushing bite that have been known to attack fishermen in the Seto Inland Sea, even in recent times: sharks. The vast majority of sharks do not preferentially or even occasionally attack humans, but of the attacks that do occur, three species in particular are implicated: tiger, (great) white, and bull sharks (Burgess 1991; Burgess, Callahan 1996; Caldicott et al. 2001; Clua et al. 2014; Coppleson 1962; Davies and Campbell 1962; Howard and Burgess 1993; İşcan, McCabe 1995; Nakaya 1993). Tiger sharks are even known to scavenge human remains in the sea (Ihama et al. 2009; İşcan, McCabe 1995; Rathburn, Rathburn 1984; Stock et al. 2017). Today, Japanese waters fall outside of the range of bull sharks, though white and tiger sharks are known to inhabit them. Within the Seto Inland Sea, white sharks were responsible for at least two attacks in the 1990s (Nakaya 1993; Schultz, Malin 1963). Based on estimates of sea surface temperatures (SST) in the prehistoric period, we can further conclude that conditions would have been most suitable for tiger (in the summer) and white sharks (in the winter) (Kawahata et al. 2017; Payne et al., 2018).

Yet, how likely would it have been for Tsukumo No. 24 to be, presumably, on a regular basis in shark-inhabited waters?

The archaeological context

Radiocarbon analysis of Tsukumo No. 24's bone collagen (3090 ± 25 BP, 1370–1010 cal BC once adjusted for the marine reservoir effect) revealed that he lived during the Final Jōmon period of the prehistoric Japanese archipelago. As the name suggests, this period marked the twilight of a long (over

10k year) fisher-hunter-gatherer culture that spanned the archipelago. Stable isotopic analysis of individuals from the Tsukumo cemetery indicate that they regularly consumed marine foods, including predatory fish. Moreover, there is ample evidence of material culture relating to fishing practices from the site and more widely among the Jōmon (Kusaka et al. 2010; Tajima 2015).

Archaeological evidence of sharks dating to the Jōmon is not common, but they are present throughout the archipelago. Sharks are largely cartilaginous, meaning that their remains do not survive well in an archaeological context. Nevertheless, their vertebrae and teeth are exceptions (Steel 1985). Despite these limiting factors, we summarised evidence of prehistoric shark remains from the archipelago in an attempt to find what patterns were present.

We found reports of possible tiger and white shark teeth and vertebrae from 20+ Jōmon sites spanning from Okinawa to Hokkaido. Many reports do not specify the species of shark, unfortunately, so it was not possible to produce a detailed distribution map by species according to period. That being said, we know that shark teeth and vertebrae are present both as ornamental and/or ceremonial objects (Nakazawa et al. 2017; Watanabe 1990) and in contexts that indicate that they were likely a food item (Shimane Prefecture Board of Education 2019). Other evidence includes an engraving of a hammerhead shark on a potsherd (Takahashi, 1972) and, from the subsequent protohistorical Yayoi period, accounts of divers and fishermen tattooing their bodies to ward off large fish and fowl (Kidder 2007:14).

Importantly, during this period, it was common to construct cemeteries in shell middens. The calcium carbonate in the shells creates an excellent preservation environment for bone in conditions which, due to high precipitation and warm temperatures (Barnes 2022), tend to result in very poor to no skeletal preservation in Japan. At the Tsukumo Shell-mound site, the presence of a shark vertebra was reported (Tomioka 2020). After our paper was published in 2021, researchers at the Tsukumo site once more examined the animal remains from the site and found a shark tooth in the assemblage as well (M Nakatsukasa 2021, personal communication, 7 July).

Shark attacks

Examination of patterns found in modern shark attacks was invaluable in helping to determine what may have happened to Tsukumo No. 24. To our knowledge, previous detailed reports of archaeological shark attacks amounted to one case from Puerto Rico dating to ca. 1000 AD (c.f. Keegan, Carlson 2008). An even older case from the Americas has been suggested (Benfer 2008:373; Quilter, 1989:59), but needs to be more fully documented and presented. Therefore, it was imperative that we rely on the extensive forensic literature. Nevertheless, when we first came across images of the Puerto Rico case, we knew that we were onto something.

From modern cases, we know that unprovoked shark attacks largely fall into three categories – ‘hit-and-run’, ‘bump-and-bite’, and ‘sneak’ attacks. Of these, the latter are the most fatal and tend to result in more injuries, which would be most consistent with the Tsukumo No. 24 case. Sneak attacks are the result of a shark intentionally targeting a human as prey. These attacks usually occur in deeper water (Allaire et al. 2012; Auerbach and Burgess 2007; Burgess 1991; Caldicott et al. 2001; Howard, Burgess 1993; Lentz et al. 2010; Stock et al. 2017).

Forensic reports of injuries resulting from shark attacks categorise injuries into crushing, cutting, and tearing, which on the skeleton are best seen in blunt force fractures, (overlapping) striations from teeth dragging across bone, and incised bone gouges. The areas of the body most targeted are those more likely to be underwater (such as the extremities) and those that have more fat and muscle (such as the torso, including the buttocks) (Allaire et al. 2012; Auerbach, Burgess 2007; Coppleson 1963; Davies, Campbell 1962; Lentz et al. 2010).

Reconstructing the attack

The injuries to the victim's remaining skeleton number over 790, ignoring severity of injury. His left hand (Figure 46), right leg, and most of his left foot all show evidence of traumatic removal. Based on the original excavation photo (Figure 44), his left leg was disarticulated by the time of burial and the right leg was missing. His hip bones and left leg show the largest and most numerous injuries. The front of his chest shows evidence of extensive fracturing and tooth marks. His arms and shoulders show evidence of bite marks as well, but these tend to be smaller than those seen on his lower body. The patterning of injuries in this case tells a gruesome story.

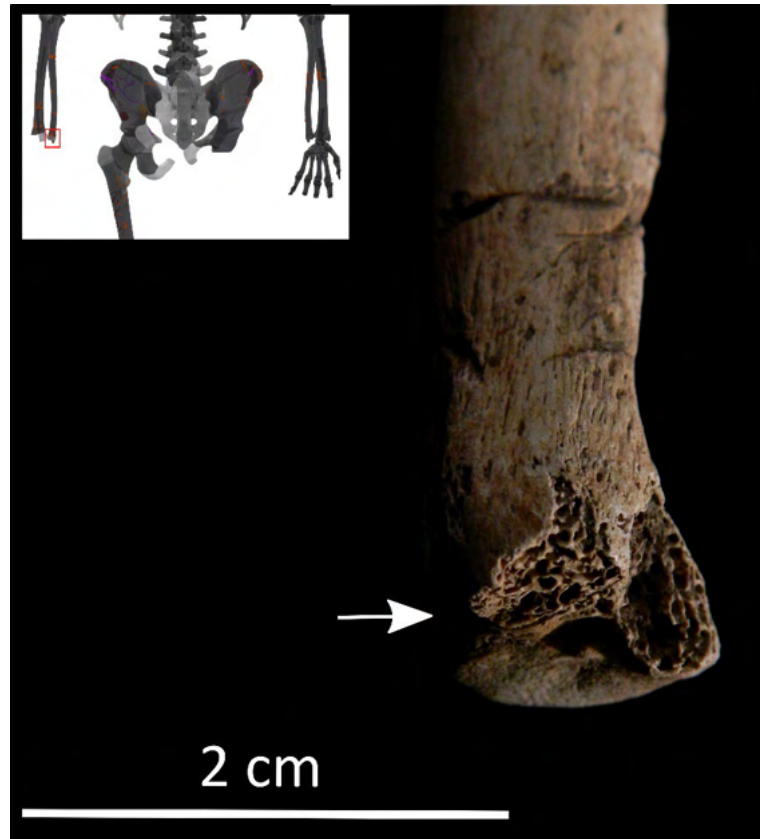


Figure 46. A photograph of the injuries to Tsukumo No. 24's left ulna (at his wrist), where you can see that part of the bone has been sheared off and associated tooth marks. Photograph by JAW, courtesy of Kyoto University

According to George Burgess, former curator of the International Shark Attack File and a collaborator on this project, the first shark bite tends to be the largest and most traumatic. Therefore, we can surmise that the first bite was likely to the missing right leg. The loss of the individual's left hand may have occurred at the same time while defending from these first bites. Injuries to the arms and hands often represent defensive wounds in the case of shark attacks (Ballas et al. 2017; Coppleson 1963). We know that the body was not in the water long enough for it to degrade significantly (due to how complete the skeleton is) (Haglund 1993). The simplest explanation is that the deceased's left hand was sheared off when he was trying to defend himself from the shark, implying that he was alive at the time of attack. His injuries are extensive and he would have bled out and gone into shock quickly. The number of injuries to the front of his body are best explained by a position in which the body floated face-down as the shark mauled him thereafter.

Companions must have been nearby or found him soon after, given the state of his body. He was buried in what was, presumably, the cemetery of his home village with respect and care.

Examine the evidence for yourself

As a part of our recording and examination of the injuries on Tsukumo No. 24, we mapped the preservation of the skeleton and the type and pattern of his injuries on a 3D model of the human skeleton using ArcGIS (see White et al. 2021 for more details). This [model](#) is freely available to interact with as a webapp, thanks to our collaborator John Pouncett (Figure 47), so that researchers and the public may interrogate the data for themselves.

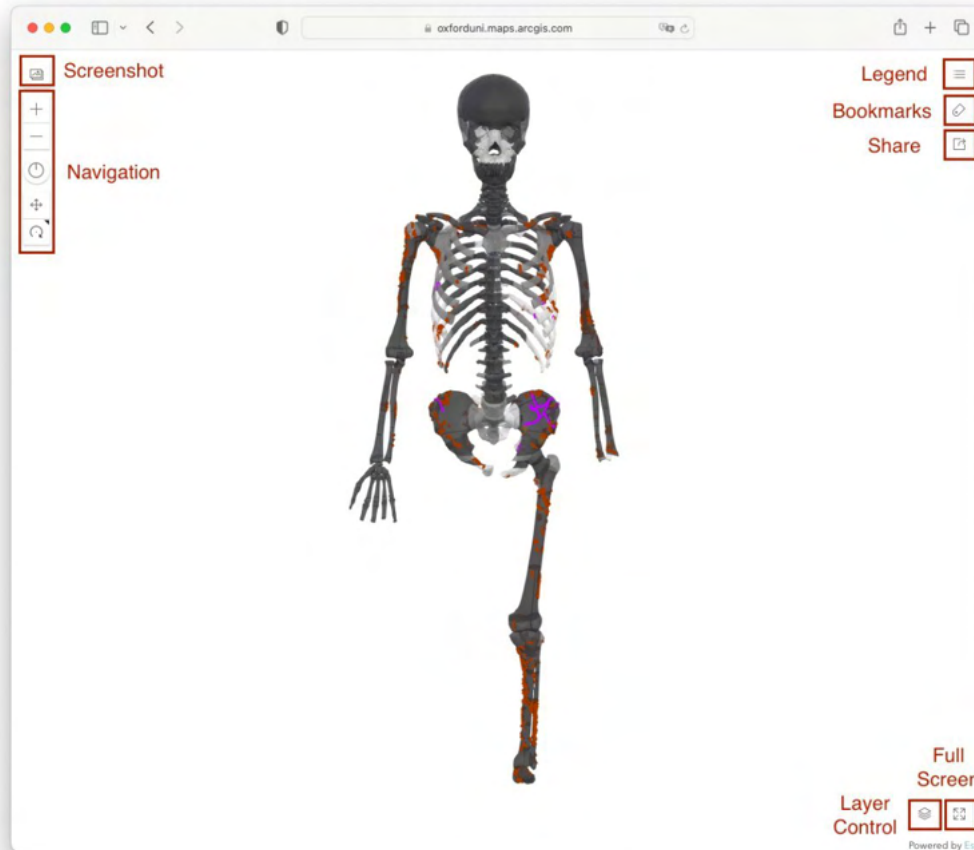


Figure 47. A screenshot of the Tsukumo No. 24 skeletal map webapp. The key features are labelled. Webapp by John Pouncett.

Shark species

We CT scanned the bones with the largest bite marks in the hopes of finding an embedded shark tooth fragment, but none were present. Both white and tiger sharks are capable of causing the serrated injuries found on Tsukumo No. 24. As mentioned previously, the prehistoric remains of both have been found on the archipelago and SST estimates indicate that the environment would have been ideal for either. Unfortunately, due to the severity and intensity of the attack, with numerous overlapping bites, we could not confidently isolate one to perform analyses, such as interdental measurements (cf. Lowry et al. 2009), to gain more precise details about the shark.

Take-away

It was our hope that by reporting on the Tsukumo No. 24 case in such detail that we could raise awareness of what kinds of injuries sharks can cause to the human body and their feeding behaviours. Humans and sharks have a long history of interaction with attacks on humans being just a small part

of that relationship (Charpentier et al. 2020; Westbrook et al. 2018; Worm et al. 2013), yet one that is likely underreported in the current archaeological literature.

This case also demonstrates the value of re-examination of individuals housed in university and museum collections. When Tsukumo No. 24 was excavated, a majority of the research on human remains from the Jōmon period focused on questions of ancestry and descent – trying to determine how these individuals related to each other and the modern Japanese people. Research focus and questions shift over time and the ability to re-examine and cross-examine evidence is key to the scientific endeavour and to really knowing about how people lived in the past.

The oldest shark attack case known previously from the Japanese archipelago dates to the 19th century AD (<https://www.sharkattackfile.net/index.htm>). We now have evidence for a shark attack dating to approximately the 13th century BC, greatly recontextualising our understanding of human-shark relations in the (pre-)history of the Japanese archipelago. Nevertheless, some things remain the same. Today, fishermen are out in the Seto Inland Sea and so might be a passing shark, both going about their daily business (Figure 48).



Figure 48. A photograph of the Seto Inland Sea by JAW (2018).

Bibliography

Allaire, M. T., Manhein, M. H. & Burgess, G. H. 2012. Shark-inflicted trauma: a case study of unidentified remains recovered from the Gulf of Mexico. *Journal of Forensic Sciences*, 57, 1675-8.

Auerbach, P. S. & Burgess, G. H. 2007. Injuries from nonvenomous marine animals. *In: Auerbach, P. S. (ed.) Wilderness Medicine*. New York: Elsevier, Inc.

- Ballas, R., Saetta, G., Peuchot, C., Elkienbaum, P. & Poinot, E. 2017. Clinical features of 27 shark attack cases on La Reunion Island. *The Journal of Trauma and Acute Care Surgery*, 82, 952–955.
- Barnes, G. L. 2022. Acid soils and acid rocks: misunderstood implications for bone preservation in Japan. In: Barnes, G. L. (ed.) *Tectonic Archaeology: Subduction zone geology in Japan and its archaeological implications*. Oxford: Archaeopress.
- Benfer, R. A. 2008. Early villages in South America. In: Pearsall, D. M. (ed.) *Encyclopedia of archaeology*. Academic Press.
- Burgess, G. H. & Callahan, M. 1996. Worldwide Patterns of White Shark Attacks on Humans. In: Klimley, A. P. & Ainley, D. G. (eds.) *Great White Sharks: The Biology of Carcharodon Carcharias*. Academic Press.
- Burgess, G. H. 1991. Shark attack and the International Shark Attack File. In: Gruber, S. H. (ed.) *Discovering Sharks*. Highlands, New Jersey: American Littoral Society.
- Caldicott, D. G. E., Mahajani, R. & Kuhn, M. 2001. The anatomy of a shark attack: a case report and review of the literature. *Injury*, 32, 445-453.
- Charpentier, V., Adnet, S. & Cappetta, H. 2020. The tooth of a giant sea creature *Otodus (Megaselachus)* in the material culture of Neolithic maritime hunter-gatherers at Sharbithat (Sultanate of Oman). *International Journal of Osteoarchaeology*, 30, 835–842.
- Clua, E., Bescond, P. M. & Reid, D. 2014. Fatal attack by a juvenile tiger shark, *Galeocerdo cuvier*, on a kitesurfer in New Caledonia (South Pacific). *Journal of Forensic and Legal Medicine*, 25, 67-70.
- Coppleson, V. M. 1962. *Shark Attack*, Sydney, Australia, Angus and Robertson Ltd.
- Davies, D. H. & Campbell, G. D. 1962. The aetiology, clinical pathology and treatment of shark attack (Based on observations in Natal, South Africa). *Journal of the Royal Naval Medical Service*, 48, 110–136.
- Fernández-Jalvo, Y. & Andrews, P. 2016. *Atlas of Taphonomic Identifications: 1001+ Images of Fossil and Recent Mammal Bone Modification*, Dordrecht, Springer Netherlands.
- Haglund, W. D. 1993. Disappearance of soft tissue and the disarticulation of human remains from aqueous environments. *Journal of Forensic Sciences*, 38, 806–815.
- Howard, R. J. & Burgess, G. H. 1993. Surgical Hazards Posed by Marine and Freshwater Animals in Florida. *The American Journal of Surgery*, 166, 563–567.
- Hudson, M. J., Bausch, I. R., Robbeets, M., Li, T., White, J. A. & Gilaizeau, L. 2021. Bronze Age globalisation and Eurasian impacts on later Jōmon social change. *Journal of World Prehistory*, 34, 121–158.
- Ihama, Y., Ninomiya, K., Noguchi, M., Fuke, C. & Miyazaki, T. 2009. Characteristic features of injuries due to shark attacks: a review of 12 cases. *Legal Medicine (Tokyo)*, 11, 219-25.
- İşcan, M. Y. & McCabe, B. Q. 1995. Analysis of human remains recovered from a shark. *Forensic Science International*, 72, 15-23.
- Johnson, E. 1985. Current developments in bone technology. *Advances in Archaeological Method and Theory*, 8.

- Kawahata, H., Matsuoka, M., Togami, A., Harada, N., Murayama, M., Yokoyama, Y., Miyairi, Y., Matsuzaki, H. & Tanaka, Y. 2017. Climatic change and its influence on human society in western Japan during the Holocene. *Quaternary International*, 440, 102–117.
- Keegan, W. F. & Carlson, L. A. 2008. First Documented Shark Attack in the Americas circa AD 1000 (2003). In: Keegan, W. F. & Carlson, L. A. (eds.) *Talking Taino: Caribbean Natural History from a Native Perspective*. Tuscaloosa: University of Alabama Press.
- Kidder, J. E. 2007. *Himiko and Japan's Elusive Chiefdom of Yamatai: Archaeology, History, and Mythology*, Honolulu, University of Hawai'i Press.
- Kiyono, K. 1969. *The Study of Japanese Shell Middens* [日本貝塚の研究], Tokyo, Iwanami Shoten.
- Kusaka, S., Hyodo, F., Yumoto, T. & Nakatsukasa, M. 2010. Carbon and nitrogen stable isotope analysis on the diet of Jomon populations from two coastal regions of Japan. *Journal of Archaeological Science*, 37, 1968–1977.
- Lentz, A. K., Burgess, G. H., Perrin, K., Brown, J. A., Mozingo, D. W. & Lottenberg, L. 2010. Mortality and Management of 96 Shark Attacks and Development of a Shark Bite Severity Scoring System. *The American Surgeon*, 1, 101–106.
- Lowry, D., De Castro, A. L. F., Mara, K., Whitenack, L. B., Delius, B., Burgess, G. H. & Motta, P. 2009. Determining shark size from forensic analysis of bite damage. *Marine Biology*, 156, 2483–2492.
- Nakaya, K. 1993. A Fatal Attack by a White Shark in Japan and a Review of Shark Attacks in Japanese Waters. *Japanese Journal of Ichthyology*, 40, 35–42.
- Nakazawa, M., Machida, K., Takasha, N. 2017. Comprehensive research on the use of shark teeth on the coast of the Sea of Japan during the Jōmon period [日本海沿岸における縄文時代のサメ類利用の総合的研究 (平成 29 年度)]. *Japan Sea Shell-Mound Culture Research Association* 1–5.
- Payne, N. L., Meyer, C. G., Smith, J. A., Houghton, J. D. R., Barnett, A., Holmes, B. J., Nakamura, I., Papastamatiou, Y. P., Royer, M. A., Coffey, D. M., Anderson, J. M., Hutchinson, M. R., Sato, K. & Halsey, L. G. 2018. Combining abundance and performance data reveals how temperature regulates coastal occurrences and activity of a roaming apex predator. *Global Change Biology*, 24, 1884–1893.
- Quilter, J. 1989. *Life and Death at Paloma: Society and Mortuary Practices in a Preceramic Peruvian Village*, Iowa City, University of Iowa Press.
- Rathburn, T. A. & Rathburn, B. C. 1984. Human Remains Recovered from a Shark's Stomach in South Carolina. *Journal of Forensic Sciences*, 29, 269–276.
- Schultz, L. P. & Malin, M. H. 1963. A List of Shark Attacks for the World. In: Gilbert, P. W. (ed.) *Sharks and Survival*. Lexington, Massachusetts: D.C. Heath and Company.
- Shimane Prefecture Board of Education 2019. Shimane Prefectural Office of Education Buried Cultural Property Research Center Annual Report 27 [島根県教育庁 埋蔵文化財調査センター年報 27]. Uchideno.
- Sorg, M. H. 2019. Differentiating trauma from taphonomic alterations. *Forensic Science International*, 302, 109893.
- Steel, R. 1985. *Sharks of the World*, New York, Facts on File Publications.

Stock, M. K., Winburn, A. P. & Burgess, G. H. 2017. Skeletal Indicators of Shark Feeding on Human Remains: Evidence from Florida Forensic Anthropology Cases. *Journal Forensic Science*, 1–8.

Tajima, M. 2015. The Study of the Prehistoric Fishing Gears in Okayama, Western Japan [先史漁撈関連資料の基礎的考察 -岡山県下出土事例の再検討-]. *Journal of Handayama Geography and Archaeology*, 3, 29–55.

Takahashi, K. 1972. Potsherd with fish-shaped line engraving [魚形線刻画のある土器片]. *Shinano*, 24, 52–54.

Tomioka, N. 2020. Report on the excavated animal remains from Tsukumo shell-mound [津雲貝塚出土動物遺存体報告]. In: Kasaoka City Educational Board (ed.) *Tsukumo Shell-mound: Comprehensive Survey Report*.

Tsujino, R. & Yumoto, T. 2014. Habitat preferences of medium/large mammals in human disturbed forests in Central Japan. *Ecological Research*, 29, 701–710.

Ubelaker, D. H. 1997. Taphonomic applications in forensic anthropology. In: Haglund, W. D. & Sorg, M. H. (eds.) *Forensic taphonomy: The postmortem fate of human remains*. Boca Raton: CRC Press.

Westbrook, V., Collin, S., Crawford, D. & Nicholls, M. 2018. *Sharks in the Arts: From feared to revered*, New York, Routledge.

White, J. A., Burgess, G. H., Nakatsukasa, M., Hudson, M. J., Pouncett, J., Kusaka, S., Yoneda, M., Yamada, Y. & Schulting, R. J. 2021. 3000-year-old shark attack victim from Tsukumo shell-mound, Okayama, Japan. *Journal of Archaeological Science: Reports*, 38, 103065.

Worm, B., Davis, B., Kettner, L., Ward-Paige, C. A., Chapman, D., Heithaus, M. R., Kessel, S. T. & Gruber, S. H. 2013. Global catches, exploitation rates, and rebuilding options for sharks. *Marine Policy*, 40, 194–204.

Yamada, Yasuhiro. 2001. The burial custom of Jōmon people (2) [縄文人の埋葬姿勢 (下)]. *Cultural Antiqua*, 53, 697–714.

New Discovery

Shipwreck expedition to the Baltic Sea

Anne Marie Høier Eriksen & David John Gregory

National Museum of Denmark

During reconnaissance the early 2000s and prior to the installation of the North Stream pipelines, three wrecks were picked up by sonar, but the reconnaissance team could not stop for a closer examination of the wrecks at the time of discovery. A group of experts and sailors some twenty-seven people strong were quickly assembled at the end of October 2022 before shipping out of Västervik in eastern Sweden bound for the Gotland Deep.

We had one week to prepare for this expedition to the Baltic Sea. An extraordinary and rare opportunity had arisen as the M/V *Sima* had been surveying in the Gotland Deep and was kindly made accessible for a research expedition by Gert Norman, the owner of J.D. contractors and founder of the Sea War Museum Jutland, Denmark. In terms of research, the advantages of participating were phenomenal, especially as the costs for running a vessel of *Sima's* size are normally prohibitive for archaeological projects and we wanted to make the best use of the time as possible.

The day after departure from Västervik we arrived at the first of the three positions marked the pipeline reconnaissance team. The wreck site was quickly relocated with the ship's multi-beam echosounder. The ROV (Remotely Operated Vehicle, an unmanned underwater robot) connected to the ship via cables was prepared and sent down to the wreck for a closer look. See Figure 49.



Figure 49. The ROV (equipped with cameras and lights) was prepared to be sent 150 meters down to the wreck. Photo by Anne Marie Høier Eriksen.

The ROV's full complement of advanced cameras relayed data up to the control room located in a container where a pilot navigated the ROV using a large number of screens and controls. See Figure 50. Understandably, the pilot was not alone in the room—it was full to bursting with the other expedition participants. The atmosphere was thick with anticipation as the ROV navigated through the complete darkness more than 150 meters below the ship.



Figure 50. The experienced ROV pilot from Ocean Discovery is navigating the ROV over and around the wreck while taking photos. Photo by Anne Marie Høier Eriksen.

Perfect preservation

The surprise and delight felt by the crowd was audible as the proud outline of an extremely well-preserved ship first caught the light from the ROV. The visibility was about 4-6 meters, which enabled a good view of the wreck as the ROV moved slowly over and around the wreck. The two masts remained standing, although the sails, rope and metals have decayed. See Figure 51. On the deck we sighted a broken dinghy, a tragic reminder of the events that preceded the wrecking of the vessel. Another gasp gusted through the control room as the ROV camera captured a figure of a man's head carved in wood located at the top of the steering rudder. See Figure 52. In terms of style, this figure allows us to date the ship to around the 16th-17th century. In addition to the ship's lines, this head is an indication of Dutch shipbuilding techniques, suggesting that the vessel had originated in the Netherlands.



Figure 51. Wreck 1 – A photogrammetric model of the 27 meter long excellently preserved shipwreck dated to around the 1600s. Model by: Ocean discovery, Sea War Museum Jutland



Figure 52. Wreck 1 – on the steering rudder a carved wooden figure of a man's head with a bird on top (possibly a swan) was located. Model by: Ocean discovery, Sea War Museum Jutland

The thousands of photos taken by the cameras on the ROV were stitched together as a mosaic creating a 3D photogrammetric model of the ship. See Figure 51. Raising and conserving the ship would be extremely difficult and costly (Björdal and Gregory 2012; Rule 1982; Hocker et al 2012); by using this technique, we can still get a good overview of the wreck which can provide detailed information about shipbuilding techniques and the maritime trade and seafaring in the Baltic Sea.

Besides the models we also obtain data of the extreme environment in which the wreck is located. A datalogger measuring the conductivity (used to calculate the salinity), temperature and depth was also sent down to the wreck site on a winch from the deck of *Sima*. Among other things, such parameters can give us a good indication of why the ship has remained so well preserved.

Termites of the ocean

A wooden ship wrecked in waters with higher salinity and oxygen levels than those surrounding this wreck would quickly be colonised and degraded by *Teredo navalis*, a boring mussel also known as shipworm. New wood with a high amount of cellulose can completely deteriorate over a few months. However, the shipworm not only needs wood for protection and nutrition, but it also needs to filter the ocean water for oxygen. The low oxygen content of the waters here are the main reason this wreck is so well preserved. However, in terms of overall preservation at the site, the microbial deterioration of the wood and other organic materials as well as the corrosion of metals will still be a problem in the long run. Thankfully, this kind of degradation takes hundreds (or even thousands!) of years. The depth at which the wreck is found is not only favourable for preservation in terms of low oxygen level; it also reduces of other environmental risk factors, such as sea currents and erosion as well as additional hazards from fishing and other human impact.

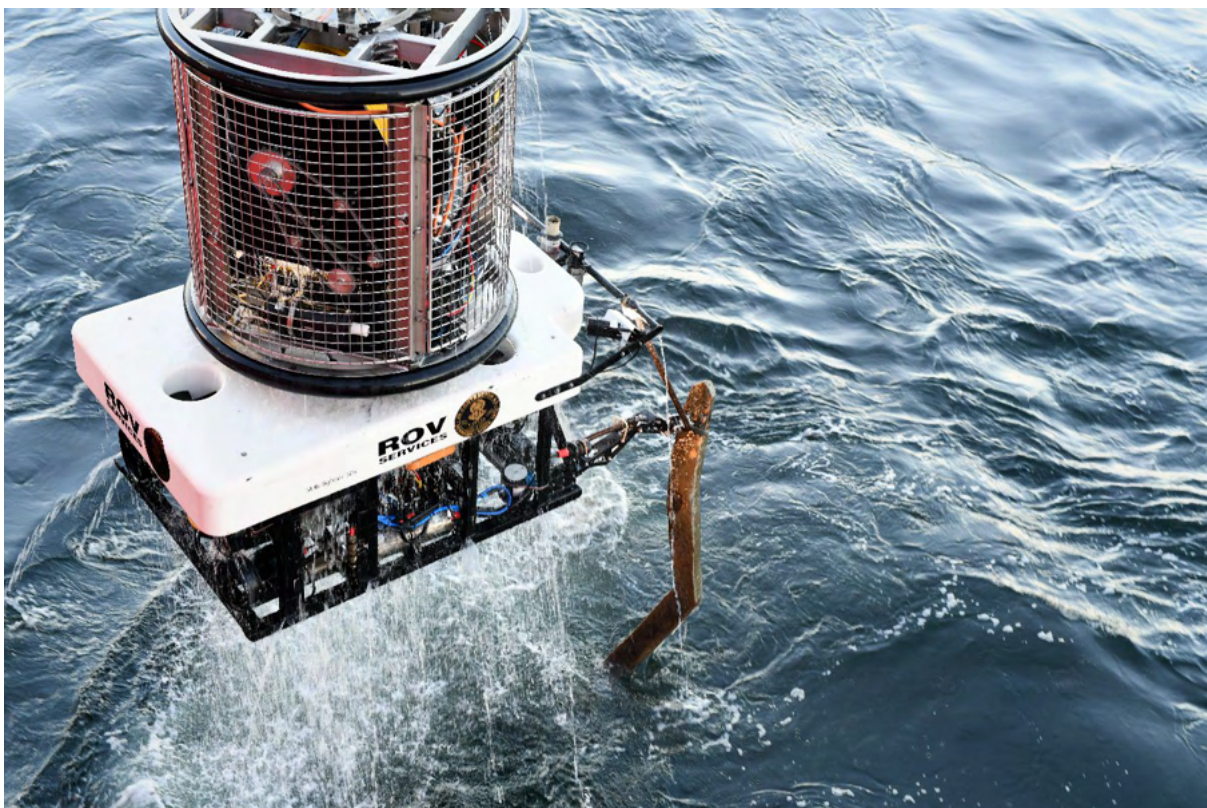


Figure 53. A sample was brought back to the surface for dating and further analysis at the laboratory by the National Museum of Denmark. The sample was a naturally broken piece of the wreck which was laying away from the wreck, so it could be collected without disturbing the site.

Back in the lab

Although a lot of information can be gained from the photogrammetric model and the measurements obtained from the dataloggers, it can be possible to learn about the origin of a wreck by examining the wood from which it was constructed. However, as we did not want to disturb the wreck site in order to secure a sample of the wood we searched until we found a suitable piece broken off from the wreck and slightly removed from the main area of the site which we could bring back to the lab for further analysis.

We are currently working on analysing the material. Please follow the research of this (and other) analyses done by the ENDURE project <https://www.endureerc.com/> here.

Bibliography

Hocker, E; Almkvist, G; Sahlstedt, M (2012) The *Vasa* experience with polyethylene glycol: A conservator's perspective. *Journal of Cultural Heritage*, 13:3, p S175-S182

Rule, Margaret (1982) *The Mary Rose: the excavation and raising of Henry VIII's flagship*. London: Conway Maritime, p 224

Björdal, C. G. & Gregory, D. 2012. *WreckProtect: Decay and Protection of Archaeological Wooden Shipwrecks*, Oxford, ArchaeoPress.

Community Overview

Community on the Illicit Trade in Cultural Material

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The EAA established the Community on the Illicit Trade in Cultural Material in 2015. The Community invites Members to sign in on the EAA website and to check the [Community's website](#) regularly to receive news and updates.

The archaeological record is unique and irreplaceable. It is, therefore, the duty and responsibility of every archaeologist to protect it, and so to contribute to the long-term preservation of our archaeological heritage. This includes a duty to raise the awareness of the general public and institutions regarding criminal activities, such as damage to or destruction of movable and immovable cultural heritage and illegal trafficking and trade in cultural material.

We as a Community encourage the protection of archaeological material culture and its context. We have ethical responsibilities to the artefacts and samples that we study, to the people with whom we work, to the people living in the areas from which those materials derive and also to the broader archaeological community and public. We act with political and socio-economic awareness, not only to protect cultural heritage for the future, but also out of responsibility for the present. We commit to questioning political, social, and economic decisions that might result in human suffering and in damage or destruction of cultural heritage.

The Community on the Illicit Trade in Cultural Material aims to:

- raise public, institutional, and political awareness of looting and illegal excavations as well as the impact of damage and destruction of cultural heritage, and of legal and socio-economic consequences;
- stop trafficking and illicit trade in cultural heritage;
- develop strategies for a common European legal basis for the protection of archaeological heritage;
- develop a new European Standard on the use of metal detectors to target archaeological artefacts;
- establish partnerships with interested parties, such as customs & excise, national and international heritage protection organisations, and law enforcement and other agencies working on similar issues (for example: UNESCO, UNIDROIT, Interpol, the Italian Carabinieri, the UK London Metropolitan Police Art and Antiques Unit).

Europe is a leading region in the international trade in cultural heritage. Damage to and destruction of archaeological sites results in the loss of material culture and its contextual information, all of which is essential to understanding our past.

Members of the EAA should discourage the commercialisation of archaeological material. EAA members should not act as experts or advisors to auction houses, Ancient art and antiquities galleries and dealers or private collectors, if such expert advice or research is likely to be used to enhance the financial value of the objects. The publication of artefacts of illicit origin or doubtful provenance should be avoided, unless the doubtful background is clearly pointed out and problematised.

At the 2023 annual EAA meeting in Belfast, the Community is organising a “Roundtable Session of the EAA Community on the Illicit Trade in Cultural Material” (session 389). Members of the Community are also engaged in the session entitled “Repositories and Datasets as Operational Tools in Countering the Illicit Trafficking of Cultural Goods” (session 714).

If you are interested in working further with the Community, please contact the chairs personally or via the [Community website](#).

Conference Report

New Challenges: Archaeological Heritage Management and the Archaeology of the 18th to 20th centuries

Katalin Wollák

Independent heritage expert

The European Archaeological Council's (EAC) 24th Heritage Management Symposium was held in Bonn, Germany on March 23-24, 2023 within the framework of the Council's Annual Meeting. The event took place at the LVR-LandesMuseum Bonn and was hosted by the LVR-State Service for Archaeological Heritage on behalf of the Association of State Archaeologists in the Federal Republic of Germany. See Figure 54.



Figure 54. LandesMuseum Bonn. Image by LVR-LandesMuseum Bonn.

The Council brings together 34 member countries. The annual conference is its flagship event, and each year it focuses on a specific theme within archaeological heritage management. Presentations are available in hard copy or as a PDF ([extended abstracts](#)) and are published in the next year's issue of *Internet Archaeology*. See Figure 55.



Figure 55. A picture of the last EAC publication from the EAC annual conference. Image by Marcel Zanjani/LVR-Amt für Bodendenkmalpflege im Rheinland.

The ca. 120 participants from 14 countries who attended the two-day conference listened to 24 [talks](#) organized into five sessions. The [exhibition](#) titled *Das Leben des BODI. Eine Forschungsreise ins frühe Mittelalter / The life of the BODI. A journey of discovery into the early Middle Ages* (running March 23 2023 - October 15 2023) provided an excellent backdrop for the conference. The exhibition presents the 7th-century Frankish warrior grave findings from Wesel-Bislich on the Lower Rhine along with related archaeological finds from all over Europe opened at the same time as the conference. A comprehensive exhibition catalogue was also made available. See Figure 56.



Figure 56. A snapshot from the exhibition. Image by J. Vogel, LVR-LandesMuseum Bonn.

The main theme of the symposium was the widening scope of archaeology and the challenges faced by research into the 18th–20th centuries. As several speakers pointed out, international scholarship has acknowledged for decades that it is possible to study the Early and Late Modern Era or even the recent past (i.e. contemporary history) through archaeological methods, and that this approach offers significant insights into these centuries. The fact that the chronological boundaries of archaeological heritage vary from one European country to another makes the concept and perception of heritage management even more complex. This boundary is sometimes linked to a specific historical period or date (e.g., 1538 in Norway, 1711 in Hungary), but more often the boundary is dynamic, i.e. features and artefacts that are older than 100 years are considered archaeological heritage. The [concept note](#) reached by the conference suggested that remains from the 18th–20th centuries should be examined via the same archaeological excavation and documentation methods used for exploring periods more conventionally understood as the subjects of archaeological research. Although the research methodology is the same, the statutory tasks of protecting and preserving the remains and monuments of this modern era are a great challenge for heritage conservation.

In countries where the archaeological research of the 20th century is a standard practice, the integration of contemporary archaeology into academic discourse poses no problem. In other countries, however, both involving experts and relevant institutions and developing a legal framework to support the process presents certain challenges. As artefacts from these periods are less specific due to industrialization, the preservation, selection and documentation of this kind of material requires amended strategies and techniques.

The scientific coordinators (Erich Claßen, LVR-State Service for Archaeological Heritage; Alex Hale and Rebecca Jones, Historic Environment Scotland; Thomas Kersting, Brandenburgisches Landesamt für Denkmalpflege und Archäologisches Landesmuseum and Regina Smolnik, Archaeological Heritage Office of Saxony) invited the conference’s speakers to discuss these issues and present good examples and initiatives that have the potential to serve as models for heritage management practices in other countries.

The opening keynote lecture was given by Olivier Laurent (National Museum of Archaeology, France), entitled “Archaeology of the Contemporary Past and Cultural Heritage in the Anthropocenic Age”. He discussed the novel challenges the discipline faces in the Anthropocene, which is characterized by a significant and global impact of human activity on the Earth’s ecosystems. In addition to the “Great Acceleration” of the mid-20th century, armed conflicts in recent decades pose serious problems. He suggested that the role of archaeology must be redefined in this context, in accordance with its duties of preserving material memory in a well-documented environment.

The first session was entitled “Protection, management and tensions”. The first speaker, Jaime Almansa-Sánchez (INCIPIT-CSIC) summarized the results of a four-year project called #pubarchMED (Public Archaeology in the Mediterranean Context), including 150 interviews with archaeology experts from different backgrounds. One of the topics covered was contemporary archaeology, with a particular concentration on the management of difficult heritage. As contemporary archaeology brings into focus those problems that have only been partially addressed so far (e.g. vast quantities of archaeological material, physical preservation), it may also be the key to finding new solutions.

By means of specific examples Liisa Seppänen (Finnish Heritage Agency) presented different approaches to archaeological material from younger periods and also discussed the legal framework that is currently being reformed. The next speaker, József Laszlovszky (National Institute of Cultural Heritage, Hungary), pointed out that the chronological boundaries of archaeology are often defined by political history. Via a Hungarian example, he demonstrated that legal background, academic approach, and actual practice may differ significantly. Via further examples, his lecture also demonstrated how excavations of historic gardens, industrial sites, battlefields, military camps, execution burials and quarantine sites contribute to our understanding and interpretation of the historical periods of the 18th-20th centuries.

Presenters Agnieszka Oniszcuk and Jakub Wrzosek (National Institute of Cultural Heritage, Poland) explained how large-scale development-led archaeology in Poland facilitated the discovery of abandoned villages, manors, cemeteries, farmsteads, as well as the locations of armed conflicts dated between 1800-1945. This also contributed to the development of forensic archaeology. They presented methods that are partly applicable within the existing heritage framework and partly require new innovative solutions.

The presentation by Alexander Gill (National Heritage Board, Sweden) emphasized the benefits of a legislative environment that can adapt to new expectations. An amendment of the Swedish Historic Environment Act in 2014 redefined ancient monuments as dating before 1850, adding that younger monuments can also be included in this category if they meet the statutory criteria, of which he gave several examples. At the end of the sessions, the floor was opened for questions and reflections. See Figure 57.



Figure 57. The floor is opened for questions and reflections. Image by Marcel Zanjani/LVR-Amt für Bodendenkmalpflege im Rheinland.

The second session was entitled “Challenges, choices and ceramics”. The first talk was given by Guy Stiebel (Tel-Aviv University & Israeli Archaeological Council), who discussed how the Israeli Antiquities law followed the concept of the British Mandate Law of the 1920s (in which artefacts and features that date before 1700 AD are considered antiquities). However, some key developments of recent history (such as extensive modern military activity in the 20th century, excavations in what was once concentration camps and the archaeology of refugees) necessitate a different approach to modern heritage.

The next speaker, Niko Anttiroiko (Heritage Agency, Finland) presented a novel application of 21st-century technology: machine learning adapted for heritage management. Within the LIDARK project, (semi-) automatic feature detection was carried out over half of the territory of the country, covering nearly 100,000 square km using LIDAR imagery and thousands of features were recorded. Some

features from the 17th-20th centuries (such as tar and charcoal kilns and the remains of World War I and II era defensive structures) are relatively uniform and are, therefore, easily detectable through remote sensing. The evaluation, validation and further analysis of the results raise a series of questions and may also pave the way to a paradigm shift.

No chronological boundary is applied in heritage management in Austria; therefore speaker Eva Steigberger (Federal Monuments Office, Austria) presented the previously-established practice in the management of three types of 20th-century material: Alpine terrain that holds the remains of two World Wars along the slopes and ridges up to 3000 meters above sea level, the unknown camps of World War I and II and the industrially-produced mass finds in connection with the atrocities of the two wars. She stressed the need for consistent, clear and transparent answers to the questions of 'what/how much/how to preserve', in which respect developed guidelines may be instructive. Christoph Keller (LVR-State Service for Archaeological Heritage in the Rhineland) discussed an example of how the archaeological research of late 18th and early 20th-century mass ceramic production in NordRhine Westphalia produced new results. He also touched upon challenges in documentation, archiving and selection.

In the third session, entitled "The Holocaust, conflict and changing approaches", five papers explored the sensitive issues of conflict / contested archaeology. The first speaker, Gilly Carr (University of Cambridge), focused on the delicate relation to Holocaust heritage, the complex problem of safeguarding these sites and their role in education, remembrance and pilgrimage, emphasising the indispensable involvement of local communities. She articulated her belief that only a pragmatic approach can take the matter forward.

A French case study presented by Vincent Carpentier (INRAP) focused on locations of the Normandy landings on D-Day in 1944, the Atlantic wall, battlefields and different camps. In the last decade, several preventive archaeological interventions took place at these locations and complex research programs were also launched. The speaker presented the scientific and heritage conservation background of the cited examples and the lessons learned from their research.

The next speaker, Barbara Hausmair (University of Innsbruck), discussed the archaeological methods used to investigate the legacy of the Nazi period. Presenting the archaeological inquiry into the Nazi shale-oil project 'Unternehmen Wüste', she demonstrated an excellent methodology for inclusive heritage management.

The next presentation by Sam De Decker Sam De Decker (Flemish Heritage Agency) and Wouter Gheyle (University of Ghent) focused on a Belgian (Flemish) initiative to provide support for synthesizing archaeological data produced via development-led archaeology in Flanders. They also discussed how new knowledge and insight is handled based on the comparative analysis of 172 recent excavations of WWII sites and historical aerial photographs.

The last paper of the session was given by Gediminas Petrauskas (Klaipėda University), Lijana Muradian and Augustina Kurilienė (the latter two both from the Ministry of Culture, Vilnius), who presented the emergence of Lithuanian forensic archaeology, the challenges posed by the research of artefacts linked to the Lithuanian Partisan War (1944-1953) and the possibilities of management and interpretation of 20th-century conflict sites.

In the fourth session, entitled "Developing interdisciplinary practices", the speakers Michael Baales and Manuel Zeiler (LWL-Archaeology for Westphalia), Marcus Weidner (LWL-Institute for

Westphalian Regional History), Juliette Brangé (Archaeology Nord-Est), Théo Aubry (Archaeological Service, Department of Charente-Maritime), Michaël Landolt (DRAC Grand Est), Jacek Konik (Warsaw Ghetto Museum / Vistula University), Pavel Vařeka (University of West Bohemia), and Uta Halle and Cathrin Hähn (both State Archaeological Office, Bremen) analysed the different attitudes towards dark heritage in the research on the tangible and immovable heritage of WWII in the territories of Germany, France, Poland and what is today part of the Czech Republic (prisons, concentration camps, forced labour, internment and prisoner of war camps, ghettos, massacre sites and cemeteries). The aspects

of memory politics, heritage management and preservation were discussed and different options of elaboration, social reception and interpretation were presented.

In the last session, titled “Significance, values and emerging themes”, first Michael Malliaris (LWL-Archaeology for Westphalia) presented examples of how 18th-20th-century developments often led to decisive interventions into landscape and land use in Westphalia. These changes and their impact often become subjects of interest both for citizen science and for academic research. The next presentation drew attention to a specific element of Irish heritage management—namely, that large infrastructure development companies have their own Archaeology & Heritage Departments. The Irish speaker, Emer Dehenny (TII Archaeology and Heritage Light Rail) presented the activities of one of these departments through examples of a public transport development project in Dublin. His talk demonstrated how archaeological investigations helped to gain a better understanding of the city’s development in the 18th-20th centuries in particular. The paper given by Kaloyan Pramatarov (National Archaeological Institute with Museum at the Bulgarian Academy of Sciences) highlighted that, although the history of Ottoman Bulgaria lasted nearly 500 years – namely, from the late 14th century to the Liberation of Bulgaria in 1878, in the second half of the 20th century due to the de-Turkification tendency, the demolition of Ottoman monuments (mosques, baths, bridges and public buildings) often occurred. Through examples from Sofia, the speaker demonstrated the changing approach to restoration and the preservation of Ottoman monuments in the last two decades. The last presentation was given by Anja Prust (State Office for Archaeology, Saxony), who explained the preservation dilemmas linked with lignite mining in the Lusatia region of Saxony. Five teams are currently working on industrial landscapes in abandoned mining districts, looking for long-term solutions for the proportional and feasible preservation of industrial heritage (such as the remains of monumental industrial buildings, collieries, forced labour camps and devastated settlements, etc.).

In his closing note, Alex Hale (Historic Environment Scotland) reflected on the issues outlined by each session, including the accelerating rate of change and its impact on historic landscapes and the people inhabiting them. He pointed out that several papers dealt with ‘contested’ or ‘difficult’ history/heritage, namely conflict archaeology in the context of WWII, especially the archaeology of the Holocaust. Although traces of historical events that took place 80 years ago are now the subject of research, their resonances and impacts are still perceived through personal stories. He stressed that the results and interpretations by experts should be linked to the added value of citizen science, as practitioners of contemporary archaeology are no longer passive observers, but active participants in processes that may be rooted in 20th-century events, but still continue to unfold today.

As the presentations made it clear, the central issue is not whether archaeology’s chronological boundaries include the 20th century. The key is an open, sensitive approach based on local communities’ involvement and social inclusion. The wide range of topics covered by the talks illustrated how research into the modern period facilitates a re-evaluation of archaeology’s methods and roles in understanding the past and how the discipline can contribute to the tackling of sensitive present-day issues through offering insights into modern developments.

In Memoriam

Prof. David Fontijn

Courtesy of Leiden University, reprinted with permission



David Fontijn (1971-2023)

It is with great sadness that we announce the passing of our colleague, mentor, and friend prof. David Fontijn this Monday, May 1st, 2023. As he shared with us in October 2022, his health had been deteriorating the last couple of years. While his mind was still sharp as ever, his body struggled to keep up. With his passing, our faculty has lost one of its finest. Our hearts are heavy with grief, and we struggle to find the right words to express the depth of our loss.

David was one of the great thinkers in European Prehistory, and his views on Bronze Age depositions have become canonical. He was invited across the world to discuss his ideas and he spearheaded several groundbreaking research projects that have since set the tone and the agenda in this domain. His passion and drive made him a great and creative researcher. Everyone who knew David would instantly recognize the spark in his eyes when he discussed his passion for European Prehistory, particularly the Bronze Age. His passion never left him, and even only a few weeks ago he was still putting the final touches on his book “How the Bronze Age Shaped Europe”.

And it is with this passion that the faculty now loses one of its greatest teachers. Teaching was his calling and he inspired generations of students to think critically about Archaeology, European prehistory, but also their own role in modern society. His skill to inspire entire classrooms of young students to think on why archaeology mattered was a joy to watch. He taught with equal passion

whether out in the field, analyzing the intricacies of soil formation processes, or raising some of the fundamental questions, who we are, where we come from and where we are headed.

But perhaps his greatest quality as a teacher was his ability to elevate others and to encourage them to surpass their own expectations. He was a mentor to many, with his door always open and always ready to lend a helping hand. There are likely few individuals who could listen as attentively as David did; and after a brief pause, he always had a knack for asking precisely the right question. David genuinely cared about the people he worked with and those for whom he was responsible. Many of us will recall leaving his office after an intense discussion clearly seeing the solution to a problem they had attempted to crack for weeks. Although it will be challenging, we hope to carry forward his remarkable legacy.

His passions not only limited themselves to archaeology. David was an avid reader and music enthusiast, and he would often engage in conversations about songs, delving into topics like obscure punk bands from the '80s, a David Bowie or Radiohead song, modern history, or the streets of Berlin. A talented musician he made one of his final public appearances with his band, rocking on stage with his daughter and surrounded by his bandmates, family, and friends. Perhaps in these difficult times we suggest putting on a song that reminds them of David and cherish his passion.

While we remember David as a great researcher and teacher, we cannot forget that he was simply a genuinely kind man. He brought a positive spirit wherever he went, always amicable, supportive, and thoughtful. He was a fantastic colleague, mentor, and friend.

He will be deeply missed.

Announcements

Are you TEA's next photojournalist of the year?

Submit one image (photo or drawing) in portrait* format alongside a max 400-word text and find out!

We archaeologists often find ourselves in strange, beautiful, far-off, and sometimes dangerous places. Whether we work close to our own backyards or in exotic locales, fieldwork is a vital part of the archaeological endeavor.

Continuing the success of last year's photo competition, we are happy to announce that the EAA is sponsoring another photojournalism competition. This year the theme is

OUT OF THE COMFORT ZONE: FIELDWORK IN PERSPECTIVE.

Whether dodging bullets or dodging mosquitos; hopping trains or hopping streams; learning a new language out of necessity or curiosity; making new friends or gaming new enemies; avoiding near-disaster or enjoying the company of new friends; pull on your boots, sharpen your trowel, pack up your bags, and take us with you to one of the wonderful, wacky, or wild (or dreadful!) places that you've been to as an archaeologist!

HOW TO ENTER:

Submissions should be made by email to tea@e-a-a.org by 1 August 2023 at 23:59 CET. Each entry should include a single high-resolution (600 DPI) portrait-style image (.tif or .png) with an accompanying text (max 400 words).

The text should describe the subject matter of the photo, as well as its location and archaeological relevance. Some short time should also be spent on describing why it fits the theme; as such be sure to include information on the location, the contexts, and the circumstances presented in the image. The text should be a .word file, and should also include a thumbnail of the image described. In your email text, please state your full name, institution (if you wish it to be posted) as well as your EAA membership number. Please include 'TEA Photojournalism competition 2024' in the subject line of the email. By submitting an image to the competition, you confirm that you have or have obtained copyright permission, that you provide permission for TEA to print the image in question as a cover, should your entry be among the winners and you also extend permission to the EAA to use the image with accreditation in its promotional materials.

WHAT YOU CAN WIN:

The three winning entries will have their EAA membership fees waived for 2024 and will receive certificates describing them as "TEA Photojournalist of the Year 2024". The images will feature on the winter, spring and summer issues of TEA, and will be announced as TEA's Photojournalists of 2024.

RULES OF THE COMPETITION:

You must be a current EAA Member to enter.

Each Member may submit only one entry, so choose wisely.

You may only submit an image on your own behalf.

The image must be oriented in portrait to potentially fit the cover of a future TEA issue.

You must have copyright permission for the image and you must agree to provide permission to TEA to reprint the image. This includes the possibility of the image being included in a future issue of TEA spotlighting the entries of the competition.

All subject material which answers the competition theme will be considered, though it must also be appropriate to being a cover of TEA.

JUDGING CRITERIA:

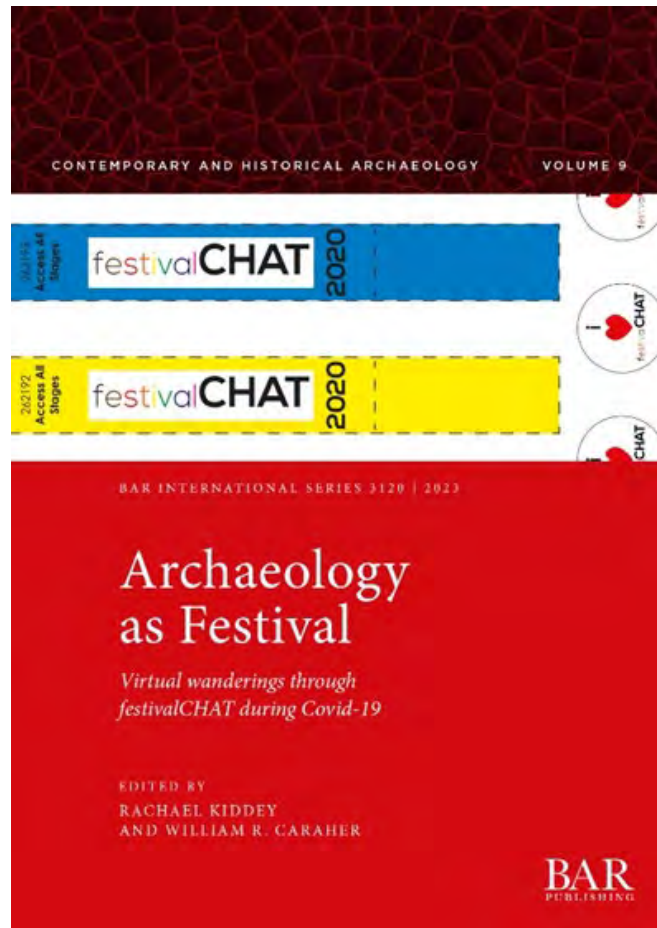
After closing date, all submissions will be evaluated by a panel (including both professional photographers as well as archaeologists). Those short-listed will be notified by end of August that their entry has been selected for the second round of the evaluation process, which will be by popular vote by Members of the EAA. Before the voting begins, shortlisted entries will be spotlighted on EAA's social media channels alongside their texts before the final vote. Winners will be notified by 31 October.

*Please note that images which are not in portrait orientation will not be accepted. If you have an image that you would like to contribute that is square or in landscape format you must crop it to portrait before sending it in to the competition.

New Book Release

[Agropastoralism and Languages Across Eurasia: Expansion, exchange, environment](#)

Edited by Mark Hudson and Martine Robbeets



This volume of collected essays explores questions relating to human dispersal, exchange, and language across the varied environments of Eurasia. Chapters in the book discuss topics as varied as Jōmon plant cultivation, linguistic borrowings by agropastoral groups, the spread of gold and silverwares across the steppes, and customs related to feasting in medieval northern China. This book will be of interest to archaeologists and historical linguists alike, particularly those working on long-term social change across Eurasia.

Paperback | ISBN 9781407360751

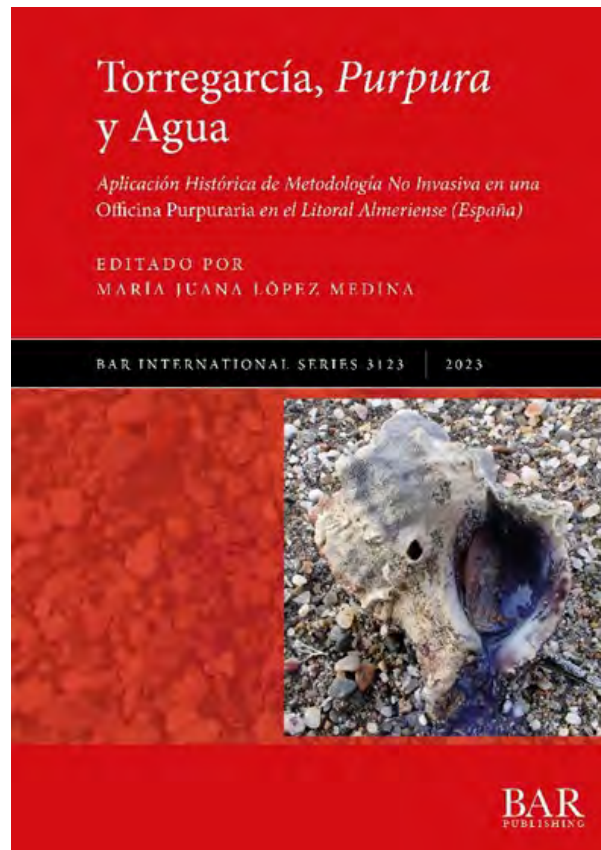
Regular price: £47

[Sign up for a free BAR Membership](#) to get 20% off

New Book Release

[Torregarcía, Purpura y Agua: Aplicación Histórica de Metodología No Invasiva en una Oficina Purpuraria en el Litoral Almeriense \(España\)](#)

Edited by María Juana López Medina



Este libro utiliza una variedad de técnicas no invasivas para revelar la historia de la producción de tinte púrpura en el sitio de Torregarcía (Almería, España). El sitio se identificó anteriormente como una factoría romana de salazones, pero una nueva investigación ha revelado la importancia de la explotación del tinte púrpura como actividad principal del yacimiento, además de proporcionar una mayor comprensión de las diversas estructuras excavadas previamente en el sitio.

This book uses a variety of non-invasive techniques to reveal the history of purple dye production at the site of Torregarcía (Almería, Spain). The site was previously identified as a Roman salting factory, but new research has revealed the importance of the exploitation of purple dye as the main site activity, as well as providing greater understanding of the various structures previously excavated at the site.

Available Open Access: <https://doi.org/10.30861/9781407360478>

Paperback | ISBN 9781407360478

Regular price: £67

[Sign up for a free BAR Membership](#) to get 20% off

Seeking Participants for Research Survey on Applied Geophysics to Assist in Law Enforcement Investigations

Michelle Proulx

Oak Ridge Institute of Science and Education (ORISE), USA



Forensic Scientists conducting a metal detecting survey (left) and a ground penetrating radar survey (right) over a simulated crime scene. Photos taken from “Collection of Forensic Soil Evidence” 2019, <https://youtu.be/o9dWZOj1U5A>.

Call for Participation

The American Federal Bureau of Investigation (FBI) Laboratory is conducting three web-based questionnaires to gather information on the use of metal detectors and geophysical methods (such as GPR and electrical resistivity) to search for hidden or buried targets (clandestine graves, weapons, etc.) in criminal investigations.

The goals of both archaeology and law enforcement may include detecting buried items and could benefit from the application of non-destructive methods for the detection and imaging of subsurface targets. Therefore, the archaeological community may occasionally (or even regularly) partner with law enforcement in their outdoor search efforts. Some non-destructive geophysical technologies that archaeologists and law enforcement personnel could use to detect a buried or obscured target include:

- Metal Detectors (see above left)
- Ground Penetrating Radar (GPR) (see above right)
- Electromagnetic Induction (EMI)
- Magnetometer
- Electrical Resistivity Tomography
- And others

Target Research Participants:

We want to reach out to scientific and professional communities, such as those within archaeology, geology, and geophysics, who are likely to have applied geophysical methods in their respective fields and have applied these methodologies to assist in law enforcement investigations.

Research Objectives:

The intent of these questionnaires is to better understand which geophysical methods are deployed for law enforcement investigations and how effective the methods are under the case specific conditions. Whether the geophysical survey was for a clandestine grave search on the property of a residential home or a buried weapons search out in an open farming field, we are interested to learn how the geophysical survey was conducted, which methodologies were applied and the subsequent outcome(s).

In addition, we are encouraging participants to describe attempts where the geophysical survey may not have been deemed as “successful” in detecting a target in an investigation. These “unsuccessful” attempts could result from: the suspected target not being present at designated survey site, failure of the equipment, large amount of unusable or noisy data, the physical condition of the site and/or the suboptimal survey design for data collection.

If you have used specific geophysical methodologies for a law enforcement investigation, please complete the questionnaire found here:

QUESTIONNAIRE #1: Geophysical Service Providers in Support of Law Enforcement -

<https://govsurvey.us/survey/808748715106959361>

We are also seeking the perspectives of law enforcement end user of geophysical methods. In addition to participation in the survey above, we ask that you forward the two surveys below to your law enforcement clients:

QUESTIONNAIRES #2 and #3 (Law enforcement Personnel ONLY):

- Metal Detectors use in Crime Scene Investigations
<https://govsurvey.us/survey/809910645015576577>
- Law Enforcement use of Geophysical Methods:
<https://govsurvey.us/survey/806500985499025409>

The last day to complete these questionnaires is January 1st, 2024. If you have questions about the questionnaires or the research study in general, reach out to geophysics@fbi.gov.

Bibliography:

UK College of Agriculture, Food and Environment (2019) *Collection of Forensic Soil Evidence*. [2019]. Available from: <https://youtu.be/o9dWZOj1U5A>. (Accessed: 15 June 2023).

Seventh Annual Pitt Rivers Lecture

Professor Amy Bogaard

School of Archaeology, University of Oxford

The science of early farming in Europe



Tuesday 31 October 2023

Free public lecture live in the Fusion Building, Talbot Campus, BH12 5BB, and on-line via Zoom, from 7:00pm. For further information and registration please visit:

<https://www.eventbrite.co.uk/e/seventh-pitt-rivers-lecture-the-science-of-early-farming-in-europe-tickets-648866947507>

Can archaeology reveal the ‘science’ of early farming from the perspective of its practitioners? How can *prehistoric* understandings of agriculture inform our view of wider landscapes and monuments? And in an age of ecological crisis, what principles can we glean from the long-term story of farming across Europe’s varied environments? This lecture will address such questions by drawing on recent research into the nature of early farming in different parts of Europe.



Amy Bogaard’s research focuses on the nature of early farming, its ecology, and its implications. She is currently leading the EXPLO project: Exploring the Dynamics and Causes of Prehistoric Land Use Change in the Cradle of European Farming.

Presented by the Department of Archaeology and Anthropology in association with the Prehistoric Society





Seventh Annual Pitt Rivers Lecture: 2023

The science of early farming in Europe

By Professor Amy Bogaard (University of Oxford)

Tuesday 31 October 2023

7:00pm (Displays and networking from 6:30pm)

This free public lecture will be delivered live in the Fusion Building, Talbot Campus, Bournemouth University, BH12 5BB, and will also be available via Zoom.

For further details, registration, and updates please visit the Eventbrite page at:

<https://www.eventbrite.co.uk/e/seventh-pitt-rivers-lecture-the-science-of-early-farming-in-europe-tickets-648866947507>

Can archaeology reveal the 'science' of early farming from the perspective of its practitioners? How can *prehistoric* understandings of agriculture inform our view of wider landscapes and monuments? And in an age of ecological crisis, what principles can we glean from the long-term story of farming across Europe's varied environments? To address such questions, I will draw upon recent research into the nature of early farming in different parts of Europe. While human aDNA provides increasing detail on 'who' early farmers were in a phylogenetic sense, diverse scientific approaches and evidence are needed to assess 'how' early farming was practised, its evolution in different settings and the communities it shaped. Far from a simple product of finite 'domestication' episodes confined to western Asia, early farming was a dynamic process that changed as it spread, absorbing new species and practices while letting others go. By the time farming reached Britain and Ireland, it was in many ways profoundly different to practices in south-east Europe; equally, farming continued to change in different regional

settings through time. I argue that early farming in Europe offers lessons of creativity, biodiversity and community that are relevant to future food security.

Amy Bogaard says: I am an archaeologist interested in the nature of past farming, its ecology and implications. I came to this by a circuitous route. I studied Classical and Near Eastern Archaeology at Bryn Mawr College (USA), followed by Sheffield's MSc in Environmental Archaeology and Palaeoeconomy. The MSc opened up the rich 'conversation' between the deep past and present of farming. Following several years as a research assistant, I completed a PhD at Sheffield in 2002, on Neolithic-Bronze Age farming in Central Europe. I was lecturer in archaeological science at Nottingham from 2003-7. Since then I've been at Oxford. Current research projects include EXPLO (ERC synergy with Thessaloniki and Bern) and GINI. Further information at: <https://www.arch.ox.ac.uk/people/bogaard>

The lecture is presented by the Department of Archaeology and Anthropology in association with the Prehistoric Society

The annual **Pitt Rivers Lecture** was established in 2017 as part of the celebrations marking 50 years of archaeological and anthropological teaching and research at Bournemouth University and its predecessor institutions. It is organized by staff and students, and presented in association with the Prehistoric Society. The lecture celebrates the achievements of General Pitt Rivers (1827–1900), a distinguished Dorset-based archaeologist and anthropologist whose descendants still live in the area and have close connections with Bournemouth University.

Previous Pitt Rivers Lectures:

2017 - Richard Bradley (University of Reading) "Pitt Rivers as pioneer"

2018 - Alison Sheridan (National Museums Scotland) "Long before Brexit..."

2019 - Ruth Tringham (University of California, Berkeley, USA) "Fire: Friend or fiend?"

2020 - Chris Stringer (Natural History Museum) "The origins of our species"

2021 - Sue Hamilton (UCL Institute of Archaeology) "Rapa Nui: Myths and realities of an iconic past"

2022 – Christopher Evans (University of Cambridge) "Excavation as experiment"

