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Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

- Ιούνιος 2024 -

**The worst form of inequality is to try to make
unequal things equal.**
(Aristotle)

Newsletter of the Hellenic Society of Archaeometry

- June 2024 -

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Kotonski, (Head of Organic Conservation) and Barbara Wills, (Senior Conservator, Organic Materials) **page 53**

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ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS

WORKSHOP: PRACTICAL INTRODUCTION TO MECHANICAL ANALYSIS OF CULTURAL HERITAGE MATERIALS, IMAGE PERMANENCE INSTITUTE, ROCHESTER INSTITUTE OF TECHNOLOGY, ROCHESTER, NY, OCTOBER 15-17, 2024

(3 full days - 9am-5pm each day)

Cost: \$675

Instructors: Marvin Cummings, Jacek Olender, and Emma Richardson

Audience

The target audience is conservation professionals new to mechanical analysis who wish to perform laboratory analysis or conservation professionals working in collaboration with heritage scientists and engineers wishing to equip themselves with a fundamental knowledge to inform discussions.

Workshop Details

This workshop will provide a theoretical and practical understanding of static mechanical analysis and dynamic mechanical analysis, with a view to characterizing the physical properties of heritage materials, and developing appropriate methodologies for conservation and preservation applications. Over the course of three days, participants will be introduced to the fundamental concepts of mechanical analysis and data analysis, and participate in practical laboratory sessions using tensile testers, dynamic mechanical (thermal) analysis, and dynamic mechanical (humidity) analysis. These sessions will be supplemented with case study examples from the field of conservation and preservation, providing tangible examples of how mechanical properties can inform the treatment, storage and display of objects, mechanical test method development, and test limitations. The workshop will be limited to a maximum of 10 attendees. Registration per individual is \$675 and participants are responsible for their own travel, meals, and lodging costs. Registration ends September 15, 2024 or when the workshop is full.

Register online at: [Image Permanence Institute | Workshop: Practical Introduction to Mechanical Analysis of Cultural Heritage Materials](#)

8TH ARCH_RNT SYMPOSIUM, KALAMATA, 3-5 OCTOBER 2024, 2ND CIRCULAR- NEW DEADLINE

Dear colleagues,

We would like to inform you that the 8th ARCH_RNT Symposium will be held in memory of Prof. Nikos Zacharias, in Kalamata, **3-5 October 2024**, under the auspices of the Hellenic Society for Archaeometry.

Please note that the deadline for abstracts submission is extended until **15 June 2024**. Abstracts can be submitted at arch.rnt@gmail.com, using the attached MS Word template.

The Symposium will be held in **hybrid mode**. Oral presentations can be given both in person and online. All posters will be available in a virtual gallery throughout the conference, however it is highly recommended that authors with poster presentations participate in person during the Poster Sessions.

To honour the memory of Prof. Zacharias, and his continuous dedication to the support of New Researchers, one student award will be given to the best project in the fields most closely related to his research. The award winner will be able to present his/her work in an oral presentation, and the registration fees will be waived. Postgraduate students and PhD candidates in the fields of Luminescence Dating and Glass Studies are welcome to apply (please clearly state that you are interested in the student award upon submission of your abstract).

For more information you can consult the attached flyer, email us at arch.rnt@gmail.com or visit the following link: facebook.com/8th.arch.rnt

Kind regards

The Organising Committee

INVITATION TO THE XVII SARX AND VII EBRARQ 2024 CONFERENCES

Dear Colleagues,

Following a hiatus since 2018, we are delighted to announce the return of SARX2024 - the XVII Latin American Conference of Analysis by X-ray Techniques. The event will take place in Rio de Janeiro from November 4th to 6th, 2024 (Monday to Wednesday). Immediately succeeding SARX, we will host the VII Brazilian School of Archaeometry and Sciences Applied to Heritage Conference (EBRARQ) on November 7th and 8th (Thursday and Friday).

The purpose of SARX2024 is to provide an international scientific platform for presenting and advancing the use of X-ray analytical techniques. It aims to foster networking and the exchange of expertise across the globe.

Simultaneously, EBRARQ aims to establish a dynamic discussion forum by bringing together students and experts from diverse fields to explore a broad spectrum of experimental techniques. These techniques are pivotal for understanding, restoring, and conserving cultural heritage assets.

Thus, we kindly invite you to seize this opportunity and take part in these two significant events to be hosted in Brazil. Engage with peers, expand your knowledge, and contribute to the advancements in our field.

For further details and updates, please visit our website: <https://sarxebrarq.com/>

For any contact: sarx.ebrarq2024@gmail.com

We look forward to welcoming you in Rio de Janeiro!

Best regards,

On behalf of the SARX/EBRARQ2024 Organizing Committee.

16TH ICOM-CC WET ORGANIC ARCHAEOLOGICAL MATERIALS CONFERENCE (WOAM), 15TH- 19TH SEPTEMBER, 2025, GÖTEBORG, SWEDEN, CALL FOR PAPERS

It is a great pleasure to announce that the 16th ICOM-CC Wet Organic Archaeological Materials (WOAM) Working Group Interim Meeting will take place on 15th-19th September, 2025 in Göteborg, Sweden. Our host is director Sara Roberts and her team at Studio Västsvensk Konservering and colleagues at Göteborg Universitetet.

The conference is planned as a hybrid-format: both in-person and virtual attendance will be possible. **Presenters are expected to attend the conference in person.**

The Wet Organic Archaeological Materials Working Group (WOAM) exists to:

- Disseminate scientific research in the field of wet organic archaeological materials.
- Promote the application of new materials and technologies for conservation.
- Investigate new tools for analysis and documentation.
- Present relevant case studies in the conservation of wet organic archaeological materials.
- Identify further areas of research.
- Facilitate networking for future collaborative activities.

In the Triennial Programme for the 2024-2026 period, ICOM-CC's Wet Organic Archaeological Materials Working Group (WOAM) has established a particular focus on the following subjects, and papers on these themes are invited:

- The ethics and practicalities of treating waterlogged materials, especially large structures or large assemblages.
- Exploration of different sustainable concepts and methods within our field: for example, comparison of different materials used for impregnation, regeneration/reuse of materials used during treatment, methods used to reduce microbial growth during storage and impregnation of waterlogged organics.
- In-situ preservation of waterlogged organics.
- The documentation and characterisation techniques for recording, analysing and assessing waterlogged organics.
- New treatment techniques and continued review of older techniques, such as Kauramin, PEG, Sugars, Alum etc.
- The treatment of composite materials.
- The treatment of non-wood organics.
- The display and storage of waterlogged (and previously waterlogged) organics.
- The role of sulphur and other contaminants in the deterioration of wood and other organics and ways to mitigate these effects.
- The Working Group welcomes research especially from students and emerging professionals.

Although papers and posters addressing these subjects are most welcome, the list is not exclusive. We encourage all original submissions covering topics relevant to the analysis, treatment, study and care of wet organic archaeological materials for consideration. The Working Group particularly encourages research from students and emerging professionals.

After the conference, papers will be published as post-prints on the ICOM-CC Publications Online Platform and will later be available to buy as print on demand via Lulu (www.lulu.com). All authors will be asked to complete and deliver an Author Copyright Agreement to ICOM-CC, before their paper is processed for publication.

Abstract submissions for Papers

We are using the Coms conference management system to facilitate the submission of abstracts and papers and to make it easier to communicate regarding the reviewing and publication of papers. Please submit abstracts for papers to <https://coms.app/ICOM-CC-WOAM-2025> and follow the steps to create an account. They are due by **8th of June, 2024**.

Abstracts should be a minimum of 250 words and a maximum of 500 words. **The work must be original and not previously published (ie print published, as a poster, as an internal review report, or online eg youtube).** The abstracts must contain the title, author(s) name and contact details as well as the body of the abstract. They should not contain images or graphs.

Key dates:

Call for papers issued on 1st of May 2024

May 5th 2024: Start of abstracts submission.

June 8th 2024: Deadline for abstracts submission.

July 8th 2024: Authors notified of abstract review decision.

October 8th 2024: Deadline for final paper submission.

March 15th 2025: Authors notified of final paper review decision.

Abstract submissions for Posters

Abstracts for posters should not be submitted yet. The Call for posters will be announced 15th September, 2024. Start of submission October 1st. Deadline for final submission of posters 15th November. Notification 1st January.

We look forward to an interesting and stimulating conference.

14TH INTERNATIONAL CONFERENCE ON STRUCTURAL ANALYSIS OF HISTORICAL CONSTRUCTIONS (SAHC 2025), SEPTEMBER 15TH - 17TH, 2025, LAUSANNE, SWITZERLAND

Dear Colleagues,

We are excited to announce that abstract submission for SAHC 2025 is now open! You can access the submission portal [here](#). The deadline for abstract submission is September 15th, 2024.

The 14th International Conference on Structural Analysis of Historical Constructions (SAHC 2025) will take place between September 15th and 17th, 2025, in Lausanne, Switzerland.

For more information regarding the conference topics and special sessions organized by the Scientific Committee, visit the conference website sahc2025.epfl.ch.

Subscribe to our [newsletter](#) or follow us on [LinkedIn](#) to receive updates regarding the conference's planned activities.

We look forward to receiving your abstracts and meeting you in Lausanne!

Kind regards,

Savvas Saloustros & Katrin Beyer

SAHC 2025 Organising Committee

CONFERENCE: "UNEARTHING, UNSEEING", CORNELL UNIVERSITY, NOVEMBER 1-2, 2024

The Abstract Submission Portal is now open for the conference, “Unearthing, Unseeing: Archaeology, Heritage, and Forensics in the Shadows of State Violence”, to be held at Cornell University, November 1-2, 2024. Please submit abstracts here: bit.ly/3V7L3Pf.

The abstract portal will close August 15. Please forward this announcement to your networks.

Further details here: <https://eac.arts.cornell.edu/>

Keynote Lectures by:

Alfredo González-Ruibal
Susan Pollock & Reinhard Bernbeck
Lori Khatchadourian & Adam T. Smith

Sponsors:

Cornell College of Arts & Sciences
The Cornell Institute of Archaeology and Materials Studies
Caucasus Heritage Watch

Abstract: The conference “Unearthing, Unseeing: Archaeology, Heritage, and Forensics in the Shadows of State Violence” will explore the practice of archaeology and heritage studies in contexts haunted by repression, authoritarianism, and genocide. State violence often operates through assaults on the past that seek to erase or obscure the material and intangible traces of unwanted histories. Archaeology and heritage institutions can be implicated in such operations, disciplining the past into conformity with dominant ideologies and “unseeing” the material marks of state violence. Even as archaeology has long been defined by its techniques of unearthing, it is the discipline’s subtle practices of unseeing that often make it an accomplice, witting or unwitting, in efforts to deny, distort, or downplay oppression past or present. Where unearthing brings the past to the surface, unseeing leaves painful legacies of injustice buried, unnoticed, and undocumented. This interdisciplinary gathering seeks to examine the role of archaeology and heritage studies in both enabling and countering the “unseeing” of the past.

We are eager to bring together scholars working in a wide range of contexts – from the Americas to Europe, from all regions of Asia to Africa and beyond – where archaeology has “unearthed” or “unseen” the violence of the authoritarian, colonial, or imperial states. We welcome papers that forthrightly examine the shortcomings of our disciplines as well as contributions that stake out hopeful new directions for research. Can archaeology and allied fields offer platforms for countering the ways in which dominant power structures distort the past, and if so, how can scholars bear witness most effectively? And can archaeology’s new spirit of activism drive real change? How can techniques and technologies aid forensic research in “seeing” what has been erased and the forces

driving erasure? And how can we engage publics in projects of recuperation, accountability, and healing? How can archaeologists use new forms of media to call attention to projects of unseeing? And what are the limits of an archaeology committed to social and political justice?

The conference will delve into the complexities of conducting research in contexts of mass violence and human rights violations, examining the intricate relationships between past traumas and present-day struggles for truth, reconciliation, and justice. By fostering collaboration and dialogue, this conference aims to highlight the critical role that archaeology and heritage studies can play in fostering a deeper understanding of historical injustices and advocating for a more empathetic and inclusive future. Against the tide of rising 21st century autocracy, this conference seeks to promote archaeological solidarity in resisting acts of political violence against the past in the service of repressive politics.

Questions?: unseeing@cornell.edu

Δ΄ ΔΙΕΘΝΗΣ ΕΠΙΣΤΗΜΟΝΙΚΗ ΣΥΝΑΝΤΗΣΗ
«ΤΟ ΑΡΧΑΙΟΛΟΓΙΚΟ ΕΡΓΟ ΣΤΗΝ
ΠΕΛΟΠΟΝΝΗΣΟ» (ΑΕΠΕΛ4) ΚΑΛΑΜΑΤΑ, 3
ΙΑΝΟΥΑΡΙΟΥ 2024 ΠΡΩΤΗ ΕΓΚΥΚΛΙΟΣ
4TH INTERNATIONAL SCIENTIFIC MEETING
“ARCHAEOLOGICAL WORK IN THE
PELOPONNESE” (AWOP4), KALAMATA, 3
JANUARY 2024, FIRST CIRCULAR

Με την παρούσα εγκύκλιο αναγγέλλεται η Δ΄ Διεθνής Επιστημονική Συνάντηση «Το Αρχαιολογικό Έργο στην Πελοπόννησο» (ΑΕΠΕΛ4). Η συνάντηση οργανώνεται από το Τμήμα Ιστορίας, Αρχαιολογίας και Διαχείρισης Πολιτισμικών Αγαθών του Πανεπιστημίου Πελοποννήσου και θα πραγματοποιηθεί στην Καλαμάτα στις 20-23 Νοεμβρίου 2024.

Σκοπός του ΑΕΠΕΛ4 είναι η ενημέρωση σχετικά με την αρχαιολογική έρευνα των τελευταίων ετών στην Πελοπόννησο, τα νησιά του Αργολικού Κόλπου, τα Κύθηρα και τα Αντικύθηρα και η παρουσίαση στους ειδικούς επιστήμονες και στο ευρύτερο κοινό των αποτελεσμάτων του ανασκαφικού και ερευνητικού έργου της τελευταίας τριετίας και συγκεκριμένα:

- ☐ του πρωτογενούς υλικού, όπως αυτό προκύπτει από πρόσφατες ανασκαφές και έρευνες πεδίου
- ☐ των πορισμάτων από πρόσφατες ή τρέχουσες έρευνες και μελέτες σε παλαιότερο ή νεότερο υλικό
- ☐ των έργων ανάδειξης και διαχείρισης αρχαιολογικών συνόλων και χώρων.

Δεκτές γίνονται, μετά από έγκριση της Επιστημονικής Επιτροπής, πρωτότυπες ανακοινώσεις και παρουσιάσεις σε μορφή αναρτημένων ανακοινώσεων (poster), οι οποίες θα δημοσιευτούν ως πλήρη άρθρα στην τελική έκδοση των πρακτικών. Οι ανακοινώσεις θα είναι διάρκειας 15 λεπτών. Επίσημες γλώσσες του ΑΕΠΕΛ4 είναι η ελληνική και η αγγλική. Κάθε ερευνητής έχει δικαίωμα μίας ατομικής συμμετοχής και μιας δεύτερης σε συνεργασία.

Οι ενδιαφερόμενοι παρακαλούνται να δηλώσουν τη συμμετοχή τους μέχρι την 30ή Ιουνίου 2024, επιστρέφοντας το δελτίο συμμετοχής συμπληρωμένο (σε μορφή Word) στην ηλεκτρονική διεύθυνση aepel.awop@gmail.com.

Η Οργανωτική Επιτροπή

With this circular we announce the 4th International Scientific Meeting of the “Archaeological Work in the Peloponnese” (AWOP4). The meeting is organized by the Department of History, Archaeology, and Cultural Resources Management of the University of the Peloponnese and will take place in Kalamata on 20-23 November 2024.

The aim of AWOP4 is to inform specialists and the public on archaeological work undertaken in the Peloponnese, the islands of the Gulf of Argos, Kythera, and Antikythera during the last three years, namely:

- ☐ finds from recent excavations and other fieldwork
- ☐ the results of recent studies of new or old material

- ☐ work relating to the conservation and management of monuments and archaeological sites.

Presentations must be original. Oral presentations are limited to 15 minutes. Posters are also invited and will be published as full papers in the proceedings of AWOP4. All submissions will be reviewed by the Scientific Committee for approval. The official languages of AWOP4 are Greek and English. Participants can submit up to two papers (one on their own and one in collaboration with others).

Interested participants are invited to send a registration form with abstract (completed according to the attached template in Word format) by 30 June 2024 to aepel.awop@gmail.com.

The Organizing Committee

**Δ' ΔΙΕΘΝΗΣ ΕΠΙΣΤΗΜΟΝΙΚΗ ΣΥΝΑΝΤΗΣΗ
«ΤΟ ΑΡΧΑΙΟΛΟΓΙΚΟ ΕΡΓΟ ΣΤΗΝ ΠΕΛΟΠΟΝΝΗΣΟ» (ΑΕΠΕΛ4)
ΚΑΛΑΜΑΤΑ, 20-23 ΝΟΕΜΒΡΙΟΥ 2024**

**4th INTERNATIONAL SCIENTIFIC MEETING
“ARCHAEOLOGICAL WORK IN THE PELOPONNESE” (AWOP4)
KALAMATA, 20-23 NOVEMBER 2024**

ΔΕΛΤΙΟ ΣΥΜΜΕΤΟΧΗΣ / REGISTRATION FORM

Παρακαλούμε όπως αποστείλετε συμπληρωμένο το δελτίο με την περίληψη της ανακοίνωσής σας σε μορφή Word στην ηλεκτρονική διεύθυνση aepel.awop@gmail.com μέχρι την 30ή Ιουνίου 2024 / Please send the completed registration form with abstract in Word format to aepel.awop@gmail.com by 30 June 2024.

Προφορική ανακοίνωση / Oral presentation ☐

Αναρτημένη ανακοίνωση / Poster ☐

Τίτλος ανακοίνωσης / Title of paper:

Όνομα και επώνυμο / Name and surname:

Φορέας / Institution:

Ιδιότητα-θέση / Status-position:

Ηλεκτρονική διεύθυνση / Email:

Διεύθυνση / Address:

Τηλέφωνο / Telephone:

Λέξεις κλειδιά / Keywords:

Περίληψη (400-500 λέξεις), να διατυπώνει με σαφήνεια τον σκοπό, τη μέθοδο της έρευνας ή μελέτης και τα βασικά συμπεράσματα / Abstract (400-500 words), must clearly communicate the paper's purpose, method, and main conclusions:

ELEVENTH MASC WORKSHOP AND MEETING, 16 – 20 SEPTEMBER 2024, WASHINGTON, DC

We are happy to announce that registration is now open for the 11th Workshop and Meeting of the Users' Group for Mass Spectrometry and Chromatography (MaSC) which will take place in Washington, DC from Monday 16th – Friday 20th September 2024.

Workshop, 16-20 September 2024:

Analysis of volatiles from cultural heritage and exhibition and storage materials

Chromatographic and mass spectrometric methods for the characterization of volatile organic compounds have become highly sophisticated and versatile, and are finding increasing use for the study of cultural heritage materials, whether to study the composition of the works of art and historical objects themselves, or to evaluate exhibition and storage materials to ensure their safe use in proximity with valuable artefacts.

A three-day workshop exploring these methods will be held at three venues in the Washington, DC area:

National Gallery of Art – analysis of exhibition and storage materials using direct thermal desorption techniques, including data analysis and discussions of standardization protocols for data collection and data sharing and comparison among cultural heritage institutions

Library of Congress – methodologies for collecting and analysing offgassing directly from cultural heritage materials

National Archives at College Park, Maryland – solid-phase microextraction methodologies for collecting offgassing from book, paper, and other archival materials.

MORE DETAILS WILL BE FORTHCOMING OVER THE NEXT FEW WEEKS – please check mascgroup.org/workshops-meetings/...

Participation in the workshop will be limited due to laboratory space constraints. Those wishing to attend will be requested to submit a detailed CV and short paragraph describing their experience with sampling and analysis of volatiles and how they would benefit from the workshop - see website for details.

Meeting, 19-20 September 2024:

The meeting will be held in the West Building Lecture Hall of the National Gallery of Art and will comprise discussions and presentations on novel applications of chromatographic and mass spectrometric techniques to the study of art and cultural objects. Presentations of studies related to the workshop themes are encouraged, but contributions on a broad range of topics are welcome. We hope to create an informal atmosphere for the exchange of ideas, and discussions of work in progress are encouraged.

Details regarding abstract submission for a paper or poster presentation and registration fees and deadlines can be found on the website

With best wishes from the MaSC committee,

Christopher Maines and Klaas Jan van den Berg
Ester Ferreira, Catherine Higgitt, David Pegg and Ken Sutherland
<http://www.mascgroup.org>

Catherine Higgitt
Principal Scientist
The National Gallery
London
catherine.higgitt@ng-london.org.uk

ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ –
JOB VACANCIES/FELLOWSHIPS

POSTDOC FELLOWSHIP: METALLURGY
AND MATERIALS LAB AT THE UNIVERSITY
OF HAIFA, ISRAEL

The Metallurgy and Materials Lab at the School of Archaeology and Maritime Cultures, University of Haifa is searching for a qualified postdoc student for the 2024-2025 academic year.

The position is required for the study of weights and silver in the EBA–MBA.
For further details and application submission, see:
<https://sites.google.com/humanities.haifa.ac.il/metallurgy-materials-lab/home> or contact
Dr. Tzilla Eshel at: teshel@univ.haifa.ac.il

Tzilla Eshel

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<https://www.researchgate.net/profile/Tzilla-Eshel>
<https://sites.google.com/humanities.haifa.ac.il/metallurgy-materials-lab/home>

TWO POSITIONS OPEN AT UNIVERSITY OF ARIZONA

The University of Arizona is looking for two new team members to join the TIME radiocarbon Laboratory from fall this year. Please pass these links to apply along to anyone who you think might be interested.

Time Lab Radiocarbon Scientist

<https://arizona.csod.com/ux/ats/careersite/4/home/requisition/19559>

Time Lab Research Technologist

<https://arizona.csod.com/ux/ats/careersite/4/home/requisition/19558>

FELLOWSHIP IN SCIENTIFIC RESEARCH **AT THE NATIONAL GALLERY OF IRELAND**

Hi Everyone,

The National Gallery of Ireland (NGI) wishes to recruit a Fellow in Scientific Research on a 2-year fixed-term contract, reporting to the Research Scientist. This Fellowship enables early career postgraduates to conduct conservation and scientific research on artworks in the collection. This Fellowship will enable individuals with a strong foundation in scientific methodologies to apply these techniques to the study of cultural heritage materials and engage with scientists, conservators and curators on collaborative projects.

The Fellow will work on at least one specific research project, which will result in an article for publication, the content and form of which will be decided in consultation with the leading Gallery's Research Scientist and other relevant colleagues. The National Gallery of Ireland will provide access to all relevant resources in the Gallery, such as the scientific laboratory, collection documentation, and conservation facilities.

The Research Scientist Fellow will collaborate closely with and under the supervision of the Research Scientist, engaging in the following key areas:

- Actively participating in scientific research, working alongside the conservation and curatorial teams and colleagues across the Gallery.
- Receiving comprehensive training on the advanced analytical techniques available in-house at the NGI, gaining proficiency in their application.
- Playing a role in the development of research projects, contributing insights and expertise in the selection of appropriate analytical methodologies, as well as conducting thorough documentation and data analysis to ensure reproducibility of research findings.
- Facilitating knowledge transfer by actively participating in workshops and training sessions, fostering a culture of continuous learning within the Conservation department.
- Effectively communicating scientific and technical information to both conservation and scientific communities, as well as disseminating research findings to non-technical audiences.
- Contributing to the scholarly discourse by writing articles for publication, delivering professional talks, and actively participating in the Gallery's public programme.

The successful candidate will have:

- Master of Science (M.Sc.) degree in fields such as Conservation Science, Chemistry, Physics, Biology, or Material Science.
- A strong interest in conservation science.
- Experience in heritage and cultural settings (desirable).
- Research and analytical skills with excellent attention to detail.
- Experience in statistical analysis of data.
- Advanced writing skills.

- Excellent planning skills coupled with an ability to meet deadlines.
- An ability to work on own initiative whilst being part of an effective team.
- Demonstrated commitment to, and knowledge of, issues related to conservation.
- Excellent communication and writing skills in English.
- Excellent IT skills.
- A positive attitude and proactive approach to work with a readiness to learn and develop.
- Dedicated to a positive, inclusive and respectful professional environment.

The deadline to apply is May 28, 2024. Apply here [Candidate Manager –](#)

Natalia Macro
Research Scientist
National Gallery of Ireland
Dublin

ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS
SPECIAL ISSUE ON COLOR DYNAMICS IN
CULTURAL HERITAGE: SCIENTIFIC
PERSPECTIVES AND INSIGHTS

Dear friends/colleagues,

I hope all of you are well.

We are contacting you to let you know that we have launched a special issue on Color Dynamics in Cultural Heritage: Scientific Perspectives and Insights.

Color Culture and Science Journal is a Diamond Open Access, SCOPUS indexed (jcolore.gruppodelcolore.it/ojs/index.php/CCSJ/...)

The deadline for full papers is June 30, 2024, but in case you need a couple of extra weeks please let us know in advance.

We are looking forward to hearing from you and receiving your papers.

Guest Editors:

Dr. Marcello Picollo

Senior Researcher,

Istituto di Fisica Applicata "Nello Carrara" del Consiglio Nazionale delle Ricerche (IFAC-CNR), Via Madonna del piano, 10, 50019 Sesto Fiorentino, FI, Italy

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and

Dr. Julio M. del Hoyo-Meléndez

Head of Laboratory, Laboratory of Analysis and Non-Destructive Investigation of Heritage Objects

The National Museum in Krakow, Al. 3 maja 1, 30-062 Krakow, Poland

jdelhoyo@mnk.pl

INTERNET SITES

PERIPLUS - MAPPING THE PAST

Periplus is a term derived from Greek, signifying circumnavigation, i.e. a voyage around a landmass. Beyond its literal meaning, it also referred to ancient books that provided navigational instructions for sailors. These texts included crucial details such as landmarks, safe harbors, and other maritime insights to aid in seafaring.

The Periplus Project is composed of three distinct but interconnected components:

[Periplus Atlas](#)

[Periplus Logos](#)

[Periplus App](#)

1. The Periplus Atlas: is one of the most detailed interactive digital maps, depicting ancient landscapes based on information from ancient Greek and Latin texts up until Late Antiquity. It serves as a useful research and educational tool for visualizing historical geography.

2. Periplus Logos. This project focuses on meticulously cataloging every geographical mention found in ancient Greek and Latin literature. The ambition is to create an exhaustive gazetteer of ancient geographical terms from these texts. These identified locations are to be marked with geo-tags, seamlessly integrating with the Periplus Atlas. Furthermore, through the utilization of Wikidata IDs, these references will be directly linked to Wikipedia, enriching the contextual understanding of these terms.

3. The Periplus App: This App allows users to interactively engage with ancient texts. Users can add geo-tags to the texts and easily pinpoint locations on the Periplus Atlas. Moreover, it facilitates the automatic generation of HTML pages. These pages feature dynamic and navigable hyperlinks embedded within the ancient texts and their modern translations.

Together, these modules of Periplus aim to enhance our understanding of ancient geography, making it more accessible and interactive for both academic and public exploration.

Please visit the site: <https://periplus.arch.uoa.gr/index.html>

NEES EKΔΟΣΕΙΣ – NEW PUBLICATIONS

ABSOLUTE DATING OF THE EUROPEAN NEOLITHIC USING THE 5259 BC RAPID ^{14}C

EXCURSION,

**BY ANDREJ MACZKOWSKI, CHARLOTTE
PEARSON, JOHN FRANCUZ, TRYFON
GIAGKOULIS, SÖNKE SZIDAT, LUKAS
WACKER, MATTHIAS BOLLIGER, KOSTAS
KOTSAKIS & ALBERT HAFNER**

Nature Communications volume 15, Article number: 4263 (2024)
<https://doi.org/10.1038/s41467-024-48402-1>

Abstract

Abrupt radiocarbon (^{14}C) excursions, or Miyake events, in sequences of radiocarbon measurements from calendar-dated tree-rings provide opportunities to assign absolute calendar dates to undated wood samples from contexts across history and prehistory. Here, we report a tree-ring and ^{14}C -dating study of the Neolithic site of Dispilio, Northern Greece, a waterlogged archaeological site on Lake Kastoria. Findings secure an absolute, calendar-dated time using the 5259 BC Miyake event, with the final ring of the 303-year-long juniper tree-ring chronology dating to 5140 BC. While other sites have been absolutely dated to a calendar year through ^{14}C -signature Miyake events, Dispilio is the first European Neolithic site of these and it provides a fixed, calendar-year anchor point for regional chronologies of the Neolithic.

Please visit the site: <https://www.nature.com/articles/s41467-024-48402-1#citeas>

**FROM HUNTER-GATHERERS TO FOOD
PRODUCERS: NEW DENTAL INSIGHTS INTO
THE NILE VALLEY POPULATION HISTORY
(LATE PALEOLITHIC-NEOLITHIC), BY
NICOLAS MARTIN, ADRIEN THIBEAULT,
LENKA VARADZINOVÁ, STANLEY H.
AMBROSE, DANIEL ANTOINE, PETRA
BRUKNER HAVELKOVÁ, MATTHIEU
HONEGGER, JOEL D. IRISH, PIOTR
OSYPIŃSKI, DONATELLA USAI, NICOLAS
VANDERESSE, LADISLAV VARADZIN
REBECCA J. WHITING, PETR VELEMÍNSKÝ,
ISABELLE CREVECOEUR**

American Journal of Biological Anthropology. 2024;e24948.

<https://doi.org/10.1002/ajpa.24948>

Abstract

Objectives: This study presents biological affinities between the last hunter-fisher-gatherers and first food-producing societies from the Nile Valley. We investigate odontometric and dental tissue proportion changes between these populations from the Middle Nile Valley and acknowledge the biological processes behind them. **Materials and Methods:** Dental remains of 329 individuals from Nubia and Central Sudan that date from the Late Pleistocene to the mid-Holocene are studied. Using 3D imaging techniques, we investigated outer and inner metric aspects of upper central incisors, and first and second upper molars.

Results: Late Paleolithic and Mesolithic foragers display homogeneous crown dimensions, dental tissue proportions, and enamel thickness distribution. This contrasts with Neolithic trends for significant differences from earlier samples on inner and outer aspects. Finally, within the Neolithic sample differences are found between Nubian and Central Sudanese sites.

Discussion: Substantial dental variation appears to have occurred around 6000 BCE in the Nile Valley, coinciding with the emergence of food-producing societies in the region. Archeological and biological records suggest little differences in dietary habits and dental health during this transition. Furthermore, the substantial variations identified here would have happened in an extremely short time, a few centuries at most.

This does not support in situ diet-related adaptation. Rather, we suggest these data are consistent with some level of population discontinuity between the Mesolithic and Neolithic samples considered here. Complex settlement processes could also explain the

differences between Nubia and Central Sudan, and with previous results based on nonmetric traits.

Keywords

crown dimensions, dental tissue proportions, Neolithic transition, population discontinuity, settlement processes

Please visit the site: <https://onlinelibrary.wiley.com/doi/pdf/10.1002/ajpa.24948>

ΑΠΕΙΚΟΝΙΣΤΙΚΕΣ ΤΕΧΝΙΚΕΣ ΣΤΗ
ΜΕΛΕΤΗ ΤΗΣ ΠΟΛΙΤΙΣΤΙΚΗΣ
ΚΛΗΡΟΝΟΜΙΑΣ, ΑΛΕΞΟΠΟΥΛΟΥ ΑΘΗΝΑ
ΓΕΩΡΓΙΑ, ΚΑΜΙΝΑΡΗ ΑΓΑΘΗ ΑΝΘΟΥΛΑ,
ΜΟΥΤΣΑΤΣΟΥ ΆΝΝΑ, ΜΠΑΝΟΥ,
ΠΗΝΕΛΟΠΗ

Περίληψη

Σήμερα, οι απεικονιστικές τεχνικές αποτελούν διεθνώς την αιχμή του δόρατος της μη καταστρεπτικής διαγνωστικής των κινητών και ακίνητων μνημείων της πολιτιστικής κληρονομιάς και συνιστούν ένα πολύτιμο εργαλείο έρευνας στην υπηρεσία των ειδικών επιστημόνων και των επαγγελματιών του χώρου. Σκοπός του βιβλίου είναι η παρουσίαση, με συστηματικό και οργανωμένο τρόπο, της μεθοδολογίας εφαρμογής μιας σειράς «δημοφιλών» απεικονιστικών τεχνικών, η οποία έχει υιοθετηθεί και αξιολογηθεί στην πράξη από τους συγγραφείς κατά τη μελέτη ποικίλων αντικειμένων της πολιτιστικής κληρονομιάς. Ιδιαίτερη έμφαση δίνεται στην κριτική παρουσίαση των απαιτήσεων εφαρμογής, του είδους των πληροφοριών που παρέχουν οι εν λόγω τεχνικές σε διαφορετικά πεδία και στην ερμηνευτική προσέγγιση της εικονιστικής πληροφορίας. Το βιβλίο αποτελεί έναν πρακτικό οδηγό που διερευνά προβλήματα και προτείνει σύγχρονες και αξιόπιστες λύσεις για την αποτελεσματικότερη και αρτιότερη αντιμετώπιση των ποικίλων ζητημάτων που ανακύπτουν κατά τη διαρκή και ολοκληρωμένη διαγνωστική διαδικασία ελέγχου, αξιολόγησης και τεκμηρίωσης των αντικειμένων πολιτιστικής κληρονομιάς. Απευθύνεται σε ειδικούς και μη ειδικούς αναγνώστες, επιστήμονες και επαγγελματίες του χώρου που επιθυμούν να εξοικειωθούν με τις μη καταστρεπτικές απεικονιστικές μεθοδολογίες και ενδιαφέρονται να εμβαθύνουν σε θέματα συντήρησης και προστασίας της πολιτιστικής κληρονομιάς. Το βιβλίο δομείται σε δύο μέρη: το πρώτο μέρος αποτελείται από τρία κεφάλαια, όπου παρουσιάζονται οι βασικές αρχές του μη καταστρεπτικού ελέγχου, αναπτύσσονται οι απαραίτητες θεωρητικές γνώσεις για την κατανόηση της αρχής λειτουργίας των μεθόδων και την ερμηνεία των απεικονίσεων που λαμβάνονται, και επίσης περιγράφονται η μεθοδολογία, η σημασία των προτύπων, η οργανολογία, τα ειδικά χαρακτηριστικά και οι απαιτήσεις κάθε μεθόδου. Το δεύτερο μέρος απαρτίζεται από πέντε κεφάλαια. Παρουσιάζονται οι ιδιαιτερότητες, οι δυνατότητες και οι περιορισμοί των τεχνικών στη μελέτη μιας σειράς τεκμηρίων της πολιτιστικής κληρονομιάς όπως έργα ζωγραφικής σε ύφασμα και ξύλο, αρχαιακό υλικό, βιβλία και έργα τέχνης σε χαρτί, έργα γλυπτικής και κεραμικής, αντικείμενα αρχαιολογικού ενδιαφέροντος, μνημεία και τοιχογραφικά σύνολα. Τέλος, το βιβλίο ολοκληρώνεται με την ενότητα των ερωτήσεων, οι οποίες καθοδηγούν τον αναγνώστη σε έναν συνθετικό και κριτικό τρόπο σκέψης και δίνουν τη δυνατότητα ελέγχου του βαθμού κατανόησης των κεφαλαίων.

Παρακαλώ επισκεφθείτε το σύνδεσμο:

<https://repository.kallipos.gr/handle/11419/11181>

ΕΙΔΗΣΕΙΣ - NEWS RELEASE

ARCHAEOLOGISTS DISCOVERED “TEMPLE OF THE EMPERORS” IN THE AGORA OF THE ANCIENT CITY OF NIKOPOLIS, GREECE

The Greek Ministry of Culture declared that fresh discoveries had been made during archaeological excavations at the ancient Nikopolis Agora in the northern Greek region of Epirus. Recent excavations in the ancient city of Nikopolis have uncovered the building of the Sebasteion (“temple of the emperors”) in the agora, the square that constituted the town’s urban center.

Nicopolis, which literally means “City of Victory” was founded to commemorate the Roman victory in the Battle of Actium (31 BC). Watching the battle from his camp on a hill overlooking the valley, where he would later build his victory monument, was Octavian, who became emperor of Rome a few years later, in 27 BC, and was given the honorific name Augustus. His opponents were Mark Anthony, his main political rival for control of Rome, and Cleopatra VII, the last queen of Egypt. Augustus founded Nicopolis and made it the capital of the region.

According to the ministry, the new findings will provide archaeologists with a better understanding of Roman architecture and city planning. The five-year program includes an archaeological investigation of several buildings whose remains are directly related to and delineate the Agora, as well as a study of the Agora area, which stretches to the west of the Roman Odeon.

Archaeologists excavated exterior spaces as well as the interior of buildings. Most of their 2023 excavation work was concentrated on a square building west of the auditorium.

Among other findings, the archaeologists discovered a section of tiled floor, believed to be part of the square of the Agora, as well as a marble plaque honoring the Roman emperors, with its whole text intact. They also found another marble plaque, which however was only partially preserved.

The first fragment comes from a marble wall inscription, probably from the 2nd century, whose preserved text mentions an unidentified emperor. The second inscribed marble plaque, found embedded in the second phase floor inside the building, preserves its entire text. It is a votive inscription in honor of the emperors (θεοῖς σεβαστοῖς), dedicated on the initiative of a local official (χωράρχης), after the personal funding (ἐκ τῶν ιδίων) of some unspecified act of benevolence.

At least two previously unknown annexes were discovered west and east of the main building. Finally, it was observed that this building is situated along the edge of a natural embankment. This observation is especially significant because it suggests a two-level

structure for the Agora space, similar to known examples from the imperial era of markets with an “upper market” and a “lower market”.

The investigation of the structure itself yielded just as many discoveries. The only way inside the structure was initially revealed to be a massive propylon five steps to the west. Though fragmented, its monumental nature and the caliber of its construction are fully comprehended.

The amount and diversity of architectural elements and sculptures discovered during the works suggests that the exterior facades of the building had particularly impressive architectural decoration as well. Rich orthogonal marbles were used to adorn the exterior facades, with multicolored marble slabs covering some areas.

Photo: Greek Ministry of Culture

The excavated section is in excellent preservation and features geometric decorative motifs with black and white tesserae. Unexpectedly, a second floor sealed by a significant artificial fill made of repurposed architectural elements and pieces of marble slab was found over the mosaic pavement.

The floors that are superimposed verify that there were actually two major construction phases: the first was concerned with the mosaic, and the second was with the construction of the elevated second floor. Particular discoveries and numismatic information suggest that the two periods are from the imperial period, which spans the second and fourth centuries AD.

In conclusion, the sum of the information obtained from the observations on the architecture of the building, the individual movable finds as well as the inscriptional and numismatic evidence, allow us to restore the building as one of the central public buildings of the Agora, which had a long life and operation during the imperial period. Its exact function cannot yet be precisely determined, we are likely dealing with a space dedicated to imperial worship, the Sebasteion (the “temple of the emperors”) of the city.

Please visit the site: <https://arkeonews.net/archaeologists-discovered-temple-of-the-emperors-in-the-agora-of-the-ancient-city-of-nikopolis-greece/> [Go there for pix]

ARCHAEOLOGICAL DISCOVERIES IN NORTHERN IRAQ EVIDENCE THE RISE OF PRIVATE PROPERTY AND THE FIRST CITY- STATES, BY GUILLERMO CARVAJAL

Since 2015, a team of researchers from the Autonomous University of Barcelona (UAB) has been carrying out an ambitious international archaeological research project in the historic region of Northern Mesopotamia, currently known as Iraqi Kurdistan. This area, which has been closed to international archaeological research due to complex geopolitical situations, has recently opened, allowing the study of its rich heritage.

During recent campaigns, researchers have worked at several key sites: two located in the mountainous Zagros region and one in the Tigris River plain. This project is distinguished by its cross-disciplinary and diachronic approach, as each investigated archaeological site corresponds to a specific period and a crucial moment of historical change.

Firstly, in the Gali Chan caves, situated in the rugged landscape of the Zagros mountains, temporary camps of the last hunter-gatherers dating back to around 9000 BC have been identified. The remains found indicate a nomadic lifestyle, with spaces dedicated to hunting and flint tool preparation, just before the adoption of agriculture and livestock farming.

Additionally, in the same mountainous Zagros region, the project has been excavating the site of Banahilk, a village of farmers and herders from the Halaf period (approximately 6000-5500 BC). This settlement, the easternmost known of its era, has revealed several rectangular houses and earth architecture, along with various household utensils.

Exogenous materials, such as obsidian pendants and stone vessels, indicate connections with distribution networks in Anatolia and Iran. The study of agricultural and livestock evidence demonstrates the complexity of peasant life and the rise of private property.

In the Tigris River plain, in northern Mesopotamia, the Gird Laskhir site has been excavated. This settlement, covering about 4 hectares and 14 meters in height, is considered small compared to ancient large cities, but it is significant for having been continuously occupied during the Chalcolithic and early and middle Bronze Age periods (c. 3500-2000/1900 BC).

The found dwellings show advanced architectural techniques, with complex multi-cellular constructions including spaces for cooking, preparation, and food consumption. Analyses reveal an abundant consumption of cereals and legumes, as well as the exploitation of domestic animals, especially sheep and cattle.

In the 2023 and 2024 campaigns, burials with extremely rich furniture have been discovered in Laskhir, evidencing the city's participation in product exchange networks with regions to the south, east, and west. The exchanged goods included jewelry and semi-precious stones, as well as construction materials. Among the most notable findings

is a monumental tomb with an exceptional concentration of 20 ceramic vessels and other luxury objects.

Last Saturday, May 25, the fieldwork carried out between April and May 2024 concluded. Now, researchers will focus on laboratory analyses to deepen their historical knowledge of one of the most dynamic regions during prehistory and the early antiquity.

This UAB archaeological project, unique in this region of the world, is developed in collaboration with local institutions at both research and academic levels.

Coordinated by Professor Miquel Molist and Professor Anna Bach from the UAB Department of Prehistory, the project includes the participation of researchers from the Mediterranean and Near Eastern Archaeological Research Group (GRAMPO), the University of Oxford, and Salahaddin University in Erbil.

Additionally, it receives support from the National Archaeological Museum of Erbil, the Archaeology Museum of Catalonia, and funding from the Ministry of Culture, the Ministry of Science, Innovation and Universities, and the Palarq Foundation.

Please visit the site: <https://www.labrujulaverde.com/en/2024/05/archaeological-discoveries-in-northern-iraq-evidence-the-rise-of-private-property-and-the-first-city-states/> [Go there for pix]

DIGITIZING CULTURAL HERITAGE: CHALLENGES, OPPORTUNITIES AND BEST PRACTICES, BY PETER HERDRICH

All around the world, cultural heritage is under threat: from conflict to climate change to urban expansion, the challenges facing heritage sites across the globe are numerous, complex, and require increasingly urgent action.

While violent conflicts pose the most immediate and critical threat to heritage sites and assets, slow-burning threats like climate change continue to simmer in the background, posing serious existential, long-term risks. For example, a study conducted in 2022 found that, of 244 UNESCO cultural and heritage sites surveyed across the Mediterranean region, the majority are already vulnerable to the threats of man-made climate change and extreme events—and using the Intergovernmental Panel on Climate Change’s worst-case scenario for future CO2 emissions, 35 of these sites would fall under the ‘high hazard’ category, while another 12 would fall under the “extreme hazard” category. Today, preservationists worldwide are increasingly looking at digitization as one viable solution for protecting heritage under threat. Both tangible and intangible heritage artifacts—from physical relics to oral histories—are now being captured and preserved via diverse digital tools and techniques. In addition to supporting the resilience of cultural and historical heritage, digitization can help make heritage sites and artifacts more accessible to a wider audience, ultimately enhancing the interest, activism, and political will necessary to gain greater investments in heritage preservation. They also serve as provenance records in case of theft, significantly increasing the odds of repatriation if the object is recovered.

But as practitioners, we understand that not all digitization efforts and methodologies are created equal, and appreciating the challenges, opportunities, and best practices associated with digitization can help heritage workers, community members, and other experts navigate the best approach for digital preservation in their specific contexts or circumstances.

The Challenges and Opportunities of Digitizing Heritage

The practice of digitization has opened the doors to endless opportunities and possibilities in the preservation and dissemination of cultural heritage. It burst into the public consciousness when experts virtually reconstructed destroyed sites like Palmyra, in Syria, and the Bamiyan Buddhas, in Afghanistan. Working recently at the Bardo Museum in Algiers, our Antiquities Coalition team, collaborating with partners at the Algerian Ministry of Culture and Arts, the Egyptian Heritage Rescue Foundation, and the U.S. Embassy in Algiers, taught 3D photogrammetry and trained Bardo staff to create 3D models from their collection. Digitization is also allowing displaced and diasporic communities to reconnect with their heritage and identity. A great example of this was provided at last year’s AIUla World Archaeology Summit, during a session entitled, Saving Archaeology One TikTok at a Time: panelist Sparsh Ahuja spoke about his experience working with survivors of the India-Pakistan partition, creating digital

experiences that allowed these survivors to take virtual tours of their ancestral homes—while also allowing younger generations to connect with their heritage.

There are many successful examples of heritage digitization from around the world. But the process of digitization is not without its challenges: for example, just as with physical preservation efforts, not all heritage assets can be digitized, and practitioners and community members must still make decisions about what assets to prioritize. Furthermore, when considering the sustainability of digital records, it's important to remember that digitization does leave a carbon footprint, and the potential environmental impact of these efforts should be fully and thoroughly considered.

The greatest challenge, however, comes with efforts to scale up these initiatives. The actual process of scalability, of course, is not the issue: the funding is. And gaining funding requires gaining awareness and buy-in from diverse stakeholders, which means convincing these stakeholders of the importance of digitizing heritage.

A cost-benefit analysis of digitization can clearly demonstrate the immense value and opportunity associated with heritage digitization and the benefit of digitizing at scale. For example, the visionary Hidden Collections Africa program seeks to digitize at-risk collections across the African continent. The program was initiated by Dr. Buhle Mbambo-Thata, Librarian of the National University of Lesotho, who has partnered with the Council on Library and Information Resources to scale up and address the problem. “Africa needs digital environments, infrastructures, and digital skills to engage with the creation of digital content from Africa,” she explains. “Hidden Collections Africa is an important opportunity to work toward digital equity, so that the voices in digital spaces represent all of humanity.” If this project can successfully reach all 58 of the countries and territories that make up the continent of Africa — which faces some of the gravest threats from climate change — it would easily justify a budget in the scores of millions of dollars.

For those seeking funding and support for heritage preservation endeavors, there are, thankfully, a growing number of opportunities available. Among the most notable is the British Library's Endangered Archives Programme, which seeks to preserve cultural heritage and make it available to as wide an audience as possible. The program provides grants to applicants around the world who are working to digitize and document diverse archives, from manuscripts, books, and periodicals to photographs and audio recordings. The program has helped digitize more than 13 million images and 35,000 soundtracks since 2004. And, critically, they make these records accessible to the public on their website, providing a one-of-a-kind resource to global audiences interested in their content.

But even with proper funding, those of us engaged in heritage digitization are quickly discovering that the success of these efforts hinges heavily on the process and practices being employed.

Heritage Digitization: Best Practices and Approaches

Of all the lessons being gleaned from heritage digitization, perhaps the most important is this: these efforts are for naught without the engagement and buy-in of local communities. We have learned that we must approach digitization with humility, and

with the express commitment that community members make the ultimate determination about what is worth digitizing and how it is presented.

This means that much of the effort being undertaken by heritage teams is focused on training and empowering community members, so that they can take a lead role in the digitization process. ASOR's Cultural Heritage Initiatives program models this approach in its Digitizing Manuscripts of the Trans-Saharan Trade project, working in Libya with the Ghadames Society for Heritage and Manuscripts. In neighboring Algeria, our team has worked with multiple local museums, training staff and community members on digitization practices—and ultimately letting them guide and further these efforts. In Northern Iraq, we are now in our third year of a USAID-funded project with the Assyrian and Yazidi religious minority communities of video documentation and digitization of both tangible and intangible heritage. Similarly, the Abraham Path Initiative also uses video to document intangible cultural heritage practice, including the embroidery tradition of the Bakhdeda and Yezidi religious practice, in Kurdistan.

Engaging local community members can also add rich insights to our understanding of heritage assets. The Courtauld Institute of Art in London, for example, recently digitized the collection of photographer Anthony Kersting, whose works have captured countless sites in Norway and elsewhere across the globe. Previously only accessible to the college's students, these archives were opened up to the public, and volunteers from local communities were engaged to help digitally tag sites and features in the photographs—providing new layers of knowledge and insight about the images.

Around the world, examples like these are providing successful frameworks for responsible, sustainable digital heritage preservation and demonstrating the key tenet of these efforts: that they should ultimately work in service of local partners and communities.

But a ground-up approach also implies that work must continue beyond the communities themselves—because to guarantee the survival and persistence of these efforts, it is vital that the value of cultural heritage digitization be enshrined in legal mandates, policies, and frameworks.

How International Policies and Frameworks are Providing a Clearer Path Forward

The United Nations has played an important role in creating a framework for digitization. UN Security Council Resolution 2347 from 2017 expressly calls for Member States to improve “cultural heritage’s and properties’ local and national inventory lists, including through digitalized information when possible, and making them easily accessible to relevant authorities and agencies,” as a way to prevent and counter the trafficking of cultural property.

In 2020, UNESCO brought together an international array of experts and practitioners to analyze the policy gaps and potential solutions in digital heritage preservation. In a report summarizing the outcomes of the event, UNESCO's Deputy Director-General Xing Qu underscored the importance of policy in heritage digitization: “It is critical that we implement appropriate policy interventions, nationally and institutionally. Only in this way will we ensure that natural and man-made risks threatening our documentary heritage are effectively managed.” Building up relevant legal frameworks — whether at

the local, national, or international level — can enhance the political will to fund and implement heritage digitization initiatives, and can safeguard their resilience, continuity, and sustainability.

Thankfully, there tends to be near-universal agreement about the importance of digitization, and policymakers worldwide can generally build consensus on the value of digital heritage preservation. In fact, the process of establishing policy frameworks around digitization can play a clever and unexpected role in improving international relations. Today, heritage experts have begun to promote the idea of “Digitization Diplomacy,” which uses heritage digitization as a launchpad for deepening ties between communities and nations, because of the benefits that all parties derive from these projects. And at a time when international conflicts are putting immense and immediate pressure on cultural heritage assets around the world, this kind of diplomatic stepping-stone has never been more vital.

Peter Herdrich has directed tangible and intangible cultural heritage preservation and digital infrastructure projects in Algeria, Egypt, Iraq, and Yemen and is Co-Founder of the Antiquities Coalition. pherdrich@culturalcapital.net

Please visit the site: <https://www.asor.org/anetoday/2024/05/digitizing-cultural-heritage> [Go there for pix and format]

CAN ARCHAEOLOGISTS LOCATE POMPEII'S SURVIVORS?

BY SARAH E. BOND

The second episode of Pompeii: The New Dig follows the search for those who escaped Mount Vesuvius's lethal eruption.

Can we identify the survivors of Mount Vesuvius's devastating volcanic eruption in 79 CE? The second episode of the three-part docuseries Pompeii: The New Dig, which aired last night, May 22, on PBS, is aptly titled "Escape" and investigates this very question.

The latest hour-long chapter in the saga surrounding the new excavation at the ancient city's archaeological site turns its gaze to those who escaped the noxious gasses, ash, rocks, and volcanic material that spewed from Vesuvius. Pompeii had as many as 30,000 residents at the time, in addition to many domestic animals and livestock. But what percentage of these people were actually able to flee the eruption?

The episode opens near Pompeii at the ancient port of Misenum. The narrator recounts details about the naturalist and commander of the Roman fleet, Pliny the Elder, whose sister alerted him to Vesuvius's eruption while he lounged in his villa in nearby Bacoli. Underwater archaeologist Michele Stefanile describes the first hours of the eruption's blast, as noted in letters by Pliny the Younger, the Elder's nephew. While discussing these crucial early moments, volcanologist Christopher Jackson notes that within the span of an hour and a half, the plume stretched several miles high into the air, according to modern reconstructions. It was visible to many communities in and around the Bay of Naples, and likely an immediate signal that it might be time to flee to safety.

Only around 1,200 Pompeian bodies have been recovered to date. What, if anything, can this absence of evidence tell archaeologists about those who escaped the eruption? Enter ancient historian Steven Tuck of Miami University in Ohio, who has been working on identifying the refugees of the city based on surviving artifacts and objects for years. As Tuck explains, the distinct dearth of remains of carts and horses in a city once full of such transportation points to its residents' swift evacuation. Using everything from garum vessels made for fresh mackerel sauce labeled by a major seller to inscribed epitaphs of late family members, the episode follows Tuck and art historian Ann C. Pizzorusso on a mission to track down written evidence of the families who fled Pompeii and were forced to relocate.

Meanwhile, back at the ancient bakery featured in the first episode, the Italian excavators continue to piece together more of the city block in the wealthy district that their colleagues previously explored. After tracing the source of running water and drains in the bakery, archaeologist and historian Miko Flohr explores whether the structure next door was a laundering facility known as a fullery. As he explains on-site, owning large laundry facilities opened the doors to the upper echelons of society in the city's "sharply unequal" business community. The two stories interwoven in the episode — one about wealthy businesspeople living in the city and another about identifying the mass of

people who fled — provide a striking picture of daily life and its obliteration by the sudden volcanic eruption.

Restorer Emanuela Faenza carefully removing a final layer of ash from a fresco depicting a scene related to the Greek myth of Achilles, painted onto the wall of what was likely a bakery.

The inscriptions found by Tuck and Pizzorusso across Pompeii and the surrounding area, from inscribed millstones to epitaphs, allow the families, businesses, and survivors of Vesuvius's eruption to come into focus once again. Throughout the episode, we see the archaeologists translate these tiny texts before examining ruts on the street or scanning a repurposed water spout for further clues, acting as careful detectives restoring an ancient community. Ahead of the series finale next week, "Escape" is an important reminder of the scientific nature of such archaeological excavation and the expertise it requires. Rather than tuning in to hear pseudo-academics discuss aliens, mysteries of the deep, or Atlantis, we should perhaps invest time into creating more shows that illuminate how both evidence and a lack thereof can teach us about the past.

Please visit the site: <https://hyperallergic.com/917685/can-archaeologists-locate-pompeii-survivors/> [Go there for pix]

JEZREEL VALLEY GRAVES CAST LIGHT ON WANING CANAANITE CITIES, WAXING ISRAELITE MONARCHY, BY GAVRIEL FISKE

Beeswax burial ritual at Horvat Tevet site reflects lingering influence during transition from Egyptian rule 3,000 years ago, which also shaped Israelite economics and agriculture

The latest excavations at Horvat Tevet, an archaeological site just north of Afula in the Jezreel Valley, have revealed new insights into the final moments Canaanite city-states ruled the Jezreel Valley, just before a new territorial polity — the kingdom of Israel — was developed in the region.

Researchers discovered multiple graves dating from the early Iron Age, roughly the 11th to 10th centuries BCE. These graves, which hold the remains of at least 25 individuals, offer new insights into the burial practices of the Canaanite agricultural community, including the various uses of beeswax during funeral rites, said Dr. Omer Sergi, a senior lecturer at Tel Aviv University's Archaeology department.

“The graves that we excavated in Horvat Tevet showed that we are dealing with a community that accumulated minimal wealth. They were farmers, probably cultivating the nearby fields. We also discovered that all the burial customs were very local,” Sergi told The Times of Israel by phone.

Organic residue analysis on more than a dozen different kinds of vessels found in the various graves, placed there as burial offerings or used during funeral rituals, showed “heated beeswax was part of their funeral rites,” Sergi said.

Sergi is one of the authors of “The Early Iron-Age Cemetery at Horvat Tevet: Life and Death in a Rural Community in the Jezreel Valley,” a paper explaining the new finds, which was published in the April edition of The American Journal of Archaeology. Other authors include Jordan Weitzel, a PhD candidate at Berkeley who led the research on the gravesites while an MA student at TAU under the supervision of Sergi, and Dr. Keren Covello-Paran, a senior researcher and archaeologist at the Israel Antiquities Authority.

“The burning of beeswax would have allowed the release of pleasant aromas during the funeral ceremony, an act that would have created a positive memory of the event and also served as a light source,” the authors state in the paper, while noting that beeswax, also used for preservation, and was a part of Egyptian mummification rituals.

Even though they weren't able to mummify the dead, the Horvat Tevet villagers could have symbolically used the beeswax “by pouring the beeswax from an open vessel onto the body,” given “the influence of Egyptian rule in the Late Bronze Age, and other Levantine evidence for attempted embalming procedures,” the authors explain.

The oldest evidence of beekeeping in the ancient Middle East was discovered at Tel Rehov, an important Bronze and Iron Age site in the nearby Beit Shean Valley, Sergi noted.

“We have more and more information that beekeeping, and bee products like honey and wax, was a strong component of the economy [in this region] during the Bronze and Iron Ages.”

Along with various bones and vessels with beeswax residue, the graves revealed remnants of linen, likely used to wrap the bodies, and in one case small metal artifacts, including four bronze ankle bangles. Horvat Tevet during this period, according to the scholars, appears to have been a fairly isolated rural community that traded only occasionally with nearby urban settlements.

The Horvat Tevet graveyard predates a large public building erected at the site in the 9th century BCE, likely a multi-use administrative center or palace constructed when the settlement became a royal estate during the early Israelite monarchy. This building was the subject of a separate paper authored by Sergi and other scholars published earlier this year in the peer-reviewed journal *Levant*.

By this time, “Horvat Tevet was a place that was responsible for the production of grain, cereals, meat, secondary products like wool, milk and probably olive oil. All of this was produced in Horvat Tevet, collected there, and then shipped to other centers,” Sergi said.

He noted that the economics of the region remained essentially the same during the period of Egyptian rule over the valley (roughly the 14th through 12th centuries BCE) and after the area came under the sway of the early Israelite kingdom (starting in the 9th century BCE), despite the centuries-long gap between “the withdrawal of Egypt and the advent of the Israelite monarchy.”

The Horvat Tevet graves under discussion here date from this interregnum between rulers. From their research in Horvat Tevet and surrounding settlements of the period, and especially at Tel Rehov, which is mentioned in Egyptian records, “we argue that knowledge and ruling practices from Egypt were maintained and transferred to early monarchic Israel” after this centuries-long power vacuum, Sergei said.

“Early monarchic Israel had a lot in common with the former Egyptian system,” he said, much like the laws of modern Israel were initially based on laws from the British Mandate and Ottoman periods.

“It shows that early monarchic Israel was not only a process that began in the Samaria highlands, but also was involved in the Jezreel Valley.” The archaeologist said this is a “very important” idea that expands what had previously been thought about the development of early Israel.

Bronze angle bracelets discovered in a 3,000-year-old grave at Horvat Tevet, in the Jezreel Valley in northern Israel. (Omer Sergi)

The Horvat Tevet site, the subject of multiple archaeological digs, continued as an agricultural village in the centuries after the Israelite period and was inhabited at least until the advent of medieval Mamluk rule in the 13th century CE.

Despite the layers of history, the recent research on the Iron Age Canaanite graves was only undertaken after they were discovered as a byproduct of construction work, and the site has been reburied, a casualty of a new route for Road 65 that loops around Afula.

“It’s already built over, and people already drive on the road above Horvat Tevet,” Sergi lamented.

Please visit the site: <https://www.timesofisrael.com/jezreel-valley-graves-cast-light-on-waning-canaanite-cities-waxing-israelite-monarchy/>

ANCIENT GOLD RING, 2,300 YEARS OLD, DISCOVERED IN CITY OF DAVID, BY JUDY SIEGEL-ITZKOVICH

“This is an unusual and deeply moving find, not one found every day,” the IAA stated in their announcement.

Archaeologists in Jerusalem’s City of David were recently amazed and moved to uncover a rare, small gold ring set with a precious stone – apparently made for and worn by a little boy or girl who lived there during the Hellenistic period some 2,300 years ago.

The excavations were carried out jointly by the Israel Antiquities Authority (IAA) and Tel Aviv University (TAU) as part of the Jerusalem Walls National Park project, with the support of the Elad Foundation.

“It is an unusual and deeply moving find; not one that we discover every day,” the archaeological team said. The red precious stone was apparently a garnet, and the gold is a very refined material that was very well-preserved. Since its last use over two millennia ago, the ring hasn’t accumulated rust or suffered any other weathering of time.

An exciting discovery

This special ring was recently discovered by Tehiya Gangate, a City of David excavation team member. While she was sifting earth through a screen, she suddenly saw something glitter. “I immediately yelled, ‘I found a ring, I found a ring!’ Within seconds, everyone gathered around me, and there was great excitement. This is an emotionally moving find. I always wanted to find gold jewelry, and I am very happy this dream came true – literally a week before I went on maternity leave,” she said.

IAA excavation directors Dr. Yiftah Shalev and Riki Zalut Har-tov said, “The ring is very small. It might fit a woman’s pinkie or a young girl’s or boy’s finger.”

Dr. Marion Zindel added that the ring was created by hammering thin pre-cut gold leaves on a metal ring base. Stylistically, it reflects the common fashion of the Persian and Early Hellenistic periods, dating from the late Fourth to early Third-century BCE and onwards. In that period, people began to prefer gold with set stones rather than decorated gold.

TAU Prof. Yuval Gadot and excavator Efrat Bocher explained that the recently found gold ring joins other ornaments of the early Hellenistic period found in the City of David excavations, including a horned-animal earring and a decorated gold bead.

Gold jewelry was well-known in the Hellenistic world, from Alexander the Great’s reign onward. His conquests helped spread and transport luxury goods and products. Often jewelry decorations were inspired by mythological figures or significant symbolic events.

The Givati parking lot excavation finds are beginning to paint a new picture of the nature and stature of Jerusalem’s inhabitants in the Early Hellenistic period. In the past,

researchers found only a few structures and finds from this era so most scholars assumed that Jerusalem was then a small town limited to the top of the southeastern slope (the City of David), and with relatively very few resources. However, these new findings suggest a different story, Gadot and Bocher added.

They revealed that the structures being unearthed now consist of an entire neighborhood.

“This attests to both domestic and public buildings and shows that the city extended from the hilltop westward. The character of the buildings – and now the gold finds and other discoveries – display the city’s healthy economy and even its elite status. It certainly seems that the city’s residents were open to the widespread Hellenistic style and influences prevalent also in the eastern Mediterranean Basin,” they continued.

IAA director Eli Escuzido concluded that “the excavation in ancient Jerusalem reveals invaluable information to us about our past. In honor of Jerusalem Day, we are inviting the public to attend, free of charge, an evening dedicated to fascinating discoveries in Jerusalem. Details can be found on the Israel Antiquities Authority website.”

The ring will be put on public view for the first time at the Jerusalem Day conference called, Jerusalem Mysteries – the Archaeology of Jerusalem. The conference will be held on June 5 in the IAA’s Jay and Jeanie Schottenstein National Campus for the Archaeology of Israel near the Israel Museum.

Please visit the site: <https://www.jpost.com/archaeology/article-803824> [Go there for pix]

ARCHAEOLOGISTS IDENTIFY THE ORIGINAL SARCOPHAGUS OF RAMESSES II

Archaeologists from Sorbonne University have identified the original sarcophagus of Ramesses II, otherwise known as Ramesses the Great.

Ramesses II was the third pharaoh of the 19th Dynasty during the New Kingdom period. His reign is often regarded as the most celebrated in Egypt's history, marked by several major military campaigns and numerous monument construction projects.

Based on supporting historical accounts, most Egyptologists suggest that Ramesses II assumed the throne in 1279 BC and reigned until his death at the age of around 90 in 1212 or 1213 BC.

His remains were interred in a tomb complex (designated KV7) in the Valley of the Kings, located opposite the tomb of his sons (KV5), and near the tomb (KV8) of his son and successor, Merenptah.

During the reign of Ramesses III during the 20th Dynasty, the tomb of Ramesses II was looted by grave robbers. Ancient texts record that priests moved his remains to the tomb of Queen Ahmose Inhapy, and then to the tomb of the high priest Pinedjem II.

His final resting place was a tomb (designated TT320), located next to Deir el-Bahari, in the Theban Necropolis opposite Luxor. The tomb is a Royal Cache containing the mummified remains of more than 50 kings, queens, and other royal family members of the New Kingdom period.

The mummy of Ramesses II was discovered in TT320 during excavations in 1881. He was found placed in a simple wooden coffin, suggesting that this was meant as a temporary measure until a more permanent resting place could be determined.

A new study, published in the *Revue d'Égyptologie*, suggests that a fragment of a sarcophagus discovered in 2009 at Abydos was part of the original sarcophagus of Ramesses II.

The sarcophagus fragment was found in a Coptic monastery and has recently been re-examined by Egyptologist Frédéric Payraudeau from Sorbonne University.

According to the study author, the decoration and texts on the sarcophagus fragment indicate that it was first used by Ramesses II (evidenced by the cartouche of Ramesses II), and later reused by a high priest of the 21st Dynasty, Menkheperre (around 1000 BC) who likely had the sarcophagus transported to Abydos after KV7 was looted.

Sources : cnrs | Le sarcophage de Ramsès II réemployé à Abydos – Published in the *Revue d'Égyptologie* 73.

<https://poj.peeters-leuven.be/content.php?url=article&id=3292985>

Please visit the site: https://www.heritagedaily.com/2024/05/archaeologists-identify-the-original-sarcophagus-of-ramesses-ii/152015#google_vignette [Go there for pix]

HORSE REMAINS SHOW PAGAN- CHRISTIAN TRADE NETWORKS SUPPLIED HORSES FROM OVERSEAS FOR THE LAST HORSE SACRIFICES IN EUROPE, BY CARDIFF UNIVERSITY

Horses crossed the Baltic Sea in ships during the Late Viking Age and were sacrificed for funeral rituals, according to research from Cardiff University.

Published in the journal *Science Advances*, studies on the remains of horses found at ancient burial sites in Russia and Lithuania show that they were brought overseas from Scandinavia utilizing expansive trade networks connecting the Viking world with the Byzantine and Arab Empires.

Up to now, researchers had believed sacrificial horses were always locally sourced stallions. But these results reveal horses from modern Sweden or Finland traveled up to 1,500 km across the Baltic Sea. The findings also show that the sex of the horse was not necessarily a factor in them being chosen for sacrifice, with genetic analysis showing one in three were mares.

Dr. Katherine French, formerly of Cardiff University's School of History, Archaeology and Religion, now based at Washington State University, explains the aims of the project. Credit: Cardiff University

A scientific technique called strontium isotope analysis was used on horse teeth from 74 animals to identify where they had originated. Soil, water and plants have a chemical makeup reflecting their underlying geology. The chemical signature is absorbed by animals on consumption and remains locked in the hard enamel of their teeth, allowing archaeologists to trace their life journeys hundreds of years later.

Horse sacrifices were highly visible and symbolic public rites across pagan prehistoric Europe, persisting the latest among the Baltic tribes, up to the 14th century AD. Offering pits might include multiple horses, single complete horses, or partial animals. In many Baltic cemeteries, horses were buried separately from humans, but there are numerous examples of horses with overlain human cremations.

Lead author Dr. Katherine French, formerly of Cardiff University's School of History, Archaeology and Religion, now based at Washington State University, said, "This research dismantles previous theories that locally-procured stallions were exclusively selected for sacrifice. Given the unexpected prevalence of mares, we believe the prestige of the animal, coming from afar, was a more important factor in why they were chosen for this rite.

"Viking Age trade routes stretched from modern Iceland, Britain, and Ireland in the West all the way to the Byzantine and Arab Empires in the East. The presence of a trader's

weight in one horse grave points to the key role of horses in these vibrant trade networks."

Co-author Dr. Richard Madgwick, also based at Cardiff University's School of History, Archaeology and Religion, said, "Pagan Baltic tribes were clearly sourcing horses overseas from their Christian neighbors while simultaneously resisting converting to their religion. This revised understanding of horse sacrifice highlights the dynamic, complex relationship between Pagan and Christian communities at that time."

More information: Katherine French et al, Biomolecular evidence reveals mares and long-distance imported horses sacrificed by the last pagans in temperate Europe, Science Advances (2024). DOI: 10.1126/sciadv.ado3529.
<https://www.science.org/doi/10.1126/sciadv.ado3529>

Journal information: Science Advances
Provided by Cardiff University

Please visit the site: <https://phys.org/news/2024-05-horse-pagan-christian-networks-horses.html> [Go there for link to full research article]

RADAR DETECTS LONG-LOST RIVER IN EGYPT, POSSIBLY SOLVING ANCIENT PYRAMID MYSTERY

Scientists have discovered a long-buried branch of the Nile river that once flowed alongside more than 30 pyramids in Egypt, potentially solving the mystery of how ancient Egyptians transported the massive stone blocks to build the famous monuments.

The 40-mile-long river branch, which ran by the iconic Giza pyramid complex among other wonders, was hidden under desert and farmland for millennia, according to a study revealing the find on Thursday.

The existence of the river would explain why the 31 pyramids were built in a chain along a now inhospitable desert strip in the Nile Valley between 4,700 and 3,700 years ago.

The strip near the ancient Egyptian capital of Memphis includes the Great Pyramid of Giza -- the only surviving structure of the seven wonders of the ancient world -- as well as the Khafre, Cheops and Mykerinos pyramids.

Archaeologists had long thought that ancient Egyptians must have used a nearby waterway to move the giant materials used to build the pyramids.

"But nobody was certain of the location, the shape, the size or proximity of this mega waterway to the actual pyramids site," lead study author Eman Ghoneim of the University of North Carolina Wilmington in the United States told AFP.

The international team of researchers used radar satellite imagery to map the river branch, which they called Ahramat -- "pyramids" in Arabic.

Radar gave them the "unique ability to penetrate the sand surface and produce images of hidden features including buried rivers and ancient structures," Ghoneim said.

Surveys in the field and cores of sediment from the site confirmed the presence of the river, according to the study in the journal *Communications Earth & Environment*.

The once mighty river was increasingly covered in sand, potentially starting during a major drought around 4,200 years ago, the scientists suggested.

"Easier to float down the river"

The Giza pyramids stood on a plateau roughly a kilometer from the banks of the river.

Many of the pyramids had a "ceremonial raised walkway" which ran alongside the river before ending at the Valley Temples which served as harbors, Ghoneim said.

This indicates that the river played "a key role in the transportation of the enormous building materials and workmen needed for the pyramid's construction," she added.

Exactly how ancient Egyptians managed to build such huge and long-standing structures has been one of history's great mysteries.

These heavy materials, most of which were from the south, "would have been much easier to float down the river" than transport over land, study co-author Suzanne Onstine of the University of Memphis told AFP.

The banks of the rivers could have been where the funeral entourages of pharaohs were received before their bodies were moved to their "final burial place within the pyramid," she suggested.

The river may also indicate why the pyramids were built in different spots.

"The water's course and its volume changed over time, so fourth dynasty kings had to make different choices than 12th dynasty kings," she said.

"The discovery reminded me about the intimate connection between geography, climate, environment and human behavior."

The study comes on the heels of recent research projects focusing on the iconic pyramids.

Earlier this year, archaeologists launched a massive project to restore the smallest of Giza's three famous pyramids to what they believe it looked like when it was built more than 4,000 years ago. An Egyptian-Japanese archaeological mission announced the project to put back in place hundreds of granite blocks that used to form the outer casing of the pyramid of King Menkaure.

Some archeologists, however, including a former head of Egypt's antiquities ministry, aren't on board with the project, and expressed concern as the digging got underway. Dr. Mohamed Abd El-Maqsoud, former Director of the Egyptian Antiquities Sector and a former senior official in Egypt's antiquities ministry, told CBS News that before the granite blocks are moved, they should first be studied extensively to verify that they were all even part of the structure to begin with.

Last year, a team of archaeologists and other scientists in Egypt used cutting-edge technology that relies on rays of radiation from space to get a clear picture of a 30-foot-long corridor inside the Great Pyramid of Giza, which remains hidden behind a main entrance to the ancient structure.

Please visit the site: <https://www.cbsnews.com/news/pyramid-mystery-long-lost-river-discovered-egypt/>

RADIOCARBON DATING SHOWS THAT THE ROMAN SETTLEMENT OF KARANIS SURVIVED IN EGYPT UNTIL THE ARAB CONQUEST IN THE 7TH CENTURY AD, BY LEMAN ALTUNTAŞ

New research results are rewriting the history of Karanis, an ancient Greco-Roman agricultural settlement in the Fayum oasis in Egypt. The study's findings contradict the conventional wisdom that the location was abandoned in the middle of the fifth century and indicate that this location may have been inhabited until the middle of the seventh century AD.

These dates round out the intricate picture of population swings and the renovation and repurposing of Karanis' architectural legacy. This finding suggests that the settlement remained still active during a time of significant political and environmental changes in the region and beyond.

Founded in the Fayum region of Egypt circa 250 BC, Karanis was home to a farming community with a varied populace and an intricate material culture that persisted for hundreds of years. Karanis, which was eventually abandoned and partially covered by the encroaching desert, turned out to be an extraordinarily rich archaeological site, yielding tens of thousands of artifacts and papyrus texts that provide a wealth of information about daily life in the Roman Egyptian town.

Thanks to the radiocarbon dating of thirteen samples of plant remains taken from the settlement's structures, the chronology of Karanis was reexamined. The crops' age was determined with the assistance of the 14CHRONO Centre at Queen's University Belfast, which carried out the dating. These findings suggest that the site was occupied for a longer period of time than previously believed.

The chronological framework for the site was established by the first excavators through papyrological and numismatic evidence. Based on papyri and coins from the first excavations conducted between 1924 and 1935, as well as the materials' scarcity after approximately 460 AD, researchers came to the conclusion that Karanis was abandoned at that time. This implies that events such as the Antonine Plague (AD 165–180) and the ensuing economic downturn caused the settlement to be abandoned.

The research indicates that while there may have been depopulation in certain parts of the settlement by the middle of the 5th century, there were still inhabited areas up until the 7th century, which coincided with the Islamic conquest of Egypt. This result defies earlier inferences that suggested an early decline based on papyri and coins.

The settlement appears to have changed gradually over time, with buildings being renovated and repurposed. It is known that there were notable variations in the climate and Nile levels during this time, and that Byzantine and Arab conquests also altered the political landscape. These dynamics may have allowed some areas of Karanis to remain

active while abandoning others, thereby influencing the survival and transformation of the region.

(Top row) House C51, Room B before (left) and after (right) excavation of its abandonment fill; the sand layer is visible under the second-floor collapse; bottom left) plans and sections of the house in its original configuration; bottom right) section showing the second floor as House B227 and the sand layer in Room C51B. Credit: Laura Motta et al. / Antiquity

The settlement was continuously inhabited beginning in the sixth century, and it seems to have endured in some capacity at least until the Islamic conquest in the seventh century AD, according to the researchers. With the available data and without a deeper understanding of its shifting urban fabric, it is challenging to determine how much of its prosperity it retained.

However, researchers do concede, though, that it is also unclear how and when Karanis was ultimately abandoned; the lack of coins and papyri does not necessarily mean that there was no population there.

Antiquity

doi:10.15184/aqy.2024.69

Please visit the site: <https://arkeonews.net/radiocarbon-dating-shows-that-the-roman-settlement-of-karanis-survived-in-egypt-until-the-arab-conquest-in-the-7th-century-ad/> [Go there for pix]

EVIDENCE OF SURGICAL TUMOR REMOVAL IN ANCIENT EGYPTIAN SKULL IS ‘MILESTONE IN THE HISTORY OF MEDICINE’, BY MINDY WEISBERGER

Cancer is often regarded as a disease of the modern age. However, medical texts from ancient Egypt indicate that healers of the time were aware of the condition. Now, new evidence from a skull more than 4,000 years old has revealed that ancient Egyptian physicians may have tried to treat certain cancers with surgery.

The skull belonged to a man who was about 30 to 35 years old when he died, and it resides in the Duckworth Laboratory collection at the University of Cambridge in the United Kingdom. Since the mid-19th century, scientists have studied the skull's scarred surface, including multiple lesions thought to represent bone damage from malignant tumors. Archaeologists regard the skull, labeled 236 in the collection, as one of the oldest examples of malignancy in the ancient world, dating back to between 2686 BC and 2345 BC.

But when researchers recently peered more closely at the tumor scars with a digital microscope and micro-computed tomography (CT) scans, they detected signs of cut marks around the tumors, suggesting that sharp metal instruments had been used to remove the growths. The scientists reported the findings Wednesday in the journal *Frontiers in Medicine*.

“It was the very first time that humanity was dealing surgically with what we nowadays call cancer,” said senior study author Dr. Edgard Camarós, a professor in the department of history at the University of Santiago de Compostela in Coruña, Spain.

However, it's unknown whether the healers tried to remove the tumors while the patient was still alive, or if the tumors were removed after death, for analysis, Camarós told CNN.

“If those cut marks were done with that person alive, we're talking about some kind of treatment directly related to the cancer,” he said. But if the cut marks were made posthumously, “it means that this is a medical autopsy exploration in relation to that cancer.”

Either way, “it's amazing to think that they performed a surgical intervention,” Camarós added. “But we cannot actually distinguish between a treatment and an autopsy.”

Medical ‘knowledge and mastery’

Medicine in ancient Egypt, documented extensively in medical texts such as the Ebers Papyrus and the Kahun Papyrus, was unquestionably sophisticated, and the new findings offer important, direct evidence of this knowledge, said Dr. Ibrahem Badr, an associate professor in the department of restoration and conservation of antiquities at Misr University for Science and Technology in Giza, Egypt.

“We can see that ancient Egyptian medicine was not solely based on herbal remedies like medicine in other ancient civilizations,” said Badr, who was not involved in the new research. “It directly relied on surgical practices.”

But while this evidence from antiquity was well studied during the 19th and 20th centuries, 21st century technologies, such as those used in the new study, are revealing previously unknown details about ancient Egypt’s medical arts, Badr added.

“The research provides a new and solid direction for reevaluating the history of medicine and pathology among ancient Egyptians,” he said. The study authors’ methods “transition their results from the realm of uncertainty and archaeological possibilities to the realm of scientific and medical certainty.”

The scientists also found cancer lesions in a second skull from the Duckworth collection. Labeled E270 and dating from 664 BC to 343 BC, it belonged to an adult woman who was at least 50 years old. The team identified three lesions on the specimen where malignant tumors had damaged the bone.

Unlike skull 236, E270 showed no signs of surgery related to the disease. But the woman’s skull did contain long-healed fractures, showing the success of prior medical intervention for head injuries.

“That person survived many years after that trauma,” Camarós said.

Writing cancer’s ‘biography’

The analysis of both skulls “is a remarkable piece of research that provides new and clear scientific evidence about the field of pathology and the development of medicine among the ancient Egyptians,” Badr said.

Badr, who collaborates with scientists from Europe and the United States to study atherosclerosis (plaque buildup in arterial walls) in ancient Egyptian mummies, explained that his work follows the same scientific direction as the skull investigation. By conducting detailed examinations of mummies using 21st century technologies such as CT scans and DNA sequencing, Badr and his colleagues hope to further illuminate the extent of medical knowledge in Egyptian antiquity.

“There is an urgent need to reevaluate the history of Egyptian medicine using these scientific methodologies,” Badr said.

d. “By utilizing these modern techniques, we will be able to study and gain a more comprehensive and precise understanding of medicine in ancient Egypt.”

The new findings also help to complete a portion of cancer’s “obscure biography” by adding a chapter that was written thousands of years ago, Camarós added.

“The more we look into our past, the more we know that cancer was much more prevalent, much more present than we thought,” he said.

A medical milestone

Ancient Egyptians' perception of cancer centered around the visible tumors that the disease produced. The earliest recorded observation of cancer is in an ancient Egyptian medical text known as the Edwin Smith Surgical Papyrus, which dates back to around 3000 BC to 2500 BC. This text contains 48 case studies covering diverse ailments, including one description of breast cancer.

While healers in ancient Egypt may have been aware of cancer, treating it was another story. Most of the medical cases in the Edwin Smith papyrus included mention of medicines or strategies for healing. But there was none for the breast cancer patient's tumors, Camarós said.

"It specifically says there's no treatment," he said. "They realized this was a frontier when it came to their medical knowledge."

However, the incisions around the skull tumors suggest that healers in ancient Egypt were trying to change that, surgically removing the tumors to either heal the patient, or to examine the tumors more closely.

"We have these two possibilities: in a way that they tried to treat it, or in a way that they tried to medically understand it, in terms of probably treating it in the future," Camarós said. "I think that's a milestone in the history of medicine."

Mindy Weisberger is a science writer and media producer whose work has appeared in Live Science, Scientific American and How It Works magazine.

Please visit the site: <https://edition.cnn.com/2024/05/29/world/ancient-egyptian-skull-cancer-treatment-scn/index.html> [Go there for pix]

CONSERVATORS VERENA KOTONSKI AND BARBARA WILLS TOOK ON THE CHALLENGE OF CONSERVING A UNIQUE 2,300-YEAR-OLD ANCIENT EGYPTIAN COFFIN, BY VERENA KOTONSKI, (HEAD OF ORGANIC CONSERVATION) AND BARBARA WILLS, (SENIOR CONSERVATOR, ORGANIC MATERIALS)

Over four years later, having used a host of techniques both ancient and new, the Aswan cartonnage coffin has now recovered its original shape and striking appearance.

Introduction

In ancient Egypt, coffins were made from a range of materials: wood, stone and even basketry. Some, however, were made of cartonnage – a remarkable, cardboard-like laminated material. Layers of textiles or papyrus, were stuck together with glue, wrapped over a human-shaped mould (called a 'former'), almost like ancient Egyptian papier mâché. A smooth gesso was applied to the surface which was then perfect for painting and gilding.

In 2018 the Museum acquired a remarkable cartonnage coffin. The coffin originally came from near Aswan in the Nile valley and dated to the Ptolemaic period (305–30 BC). It consists of a lid and a base and had once enclosed the mummy of an ancient Egyptian man. This cartonnage is unusual for several reasons, including the fact that it's a rare example of a traditionally Egyptian coffin from ancient Egypt's final period of Greek rule. Its excavation in 1907 and provenance are also very well documented, so there were good archaeological reasons to restore it to its former glory and put it on display. You can learn more about the coffin's history in this story.

Damaged and fragile

The past 2,000 or so years had, however, left their mark and it was in serious need of care and attention. Only on arrival at the Museum could we see the full extent of the damage. On the base, for example, the paint layer looked reasonably intact on the outside, however a modern piece of textile stuck to its interior disguised evidence of a severe insect attack. After the textile was removed, we saw that much original cartonnage had been lost and the overall structure was severely weakened. Then we discovered that many of the textile layers on both top and base were extremely degraded and brittle, in worse condition than anything we had ever encountered.

Although cartonnage is strong and lightweight it can break, become distorted, deformed and dented. It can also delaminate – come apart in layers – especially in damp conditions. In fact, exposure to damp had softened the cartonnage so much that over time it slumped

under its own weight: the face had collapsed and there was a large fold in the middle of the lid. It no longer looked like a three-dimensional container that had once enclosed a mummy.

We were daunted, but excited: could we succeed in bringing it back, regaining its original shape? Little did we know that it would take three conservators over four years, and be one of the most challenging projects of our careers. We needed to use all our ingenuity, technical skill and perseverance. Often, we had to think on our feet, adapting existing methods and, where necessary, developing new ones. Happily, we could draw on the knowledge and experience of our colleagues in Conservation to discuss ideas and approaches.

What to do first? To remove distortions, several procedures were necessary and many of them had to be carried out simultaneously. We also had to make temporary support structures to aid reshaping as well as prepare a permanent support for the cartonnage to rest on after treatment.

Getting supports in place

To facilitate treatment, we needed to turn the lid and the base over from time to time to access both sides of the coffin. However, any movement would put strain on weak areas (such as tears and flaking paint) unless we provided a rigid support structure. We needed supports that could be adapted throughout the treatment, accommodate any changes to the shape – and allow us to access both the interior and exterior surfaces. Two different supporting frames were constructed, one following the internal shape of the lid and the other the external. Both included a number of adjustable cardboard arches, so that a single arch could be removed to enable access to a particular area for treatment as necessary. The internal frame was used in the early stages of reshaping the lid: this was fitted with metal hinges so that the width of the arches could be reduced, while the height was increased – as the cartonnage's shape was slowly restored.

Working out how to turn over the lid (given the size and fragility of the cartonnage coffin) made us think hard! This is where the external frame came into play. We built a wooden frame around the lid and connected the lid to the frame via two sets of padded cardboard arches, one set supporting the lid from underneath, the other set placed on top. Once the lid was securely sandwiched between the arches, the whole could be turned upside down. Both contraptions proved invaluable to facilitate the reshaping but also the mending of the many tears and weak areas.

Taking shape

Although humidity was a culprit in damaging the cartonnage, it could also help us to reverse the deformations – but this time in a very controlled manner. We created an enclosure around the cartonnage coffin using polythene sheeting and incrementally raised the relative humidity from 50% to 70–75% over the course of several months. The cartonnage became sufficiently supple for us to begin unfolding the creases, gently pushing and pulling it into shape. We succeeded in opening out the fold in the centre of the lid (a major milestone!) and the cartonnage slowly regained its original shape.

To mend tears and fill areas of loss, we used sheets of kozo (Japanese tissue paper, made from the bark of the mulberry tree) and Klucel G, a cellulose-based adhesive. In selected areas we decided to fill gaps and holes to restore strength to that area. To make these fills visually blend in, we pressed a piece of cloth into the surface of the paper pulp fill to imprint the textile weave.

Although the images in the excavation report provided some hints of the cartonnage's original shape, the most valuable clues came from the object itself. By mending the numerous tears, the structure started to slowly reveal itself, like a three-dimensional puzzle coming together. It was thrilling to watch it taking form before our eyes.

Reshaping and mending would not have been so successful without the many different methods we used to apply pressure or gently pull the two structures into shape. Shimbari struts made of high-density foam (an adaptation of a Japanese clamping technique) were great when we needed to apply pressure in a specific area from multiple angles. Our homemade wooden clamps also helped to carefully pull the lid into shape. Rare earth circular magnets (some of the strongest magnets available) were invaluable when used as clamps, applied in pairs to the interior and exterior to hold the repair in place until dry. Using these and other clamping techniques, we were able to carry out the many repairs hidden between the textile layers.

Making the final support

Having spent all this effort – for a time, it felt infinite – in reshaping and repairing the cartonnage, we were aware that this success would be short-lived without an adequate long-term support for the lid and base. We explored a range of options, including manufacturing a support based on 3D-scanning technology but eventually settled on what we call a 'Buckram mount', an old-fashioned technique that creates a lightweight but supportive shell. First, the formers were made for the lid and base. Over these, linen strips soaked with wheat starch were pasted on in layers. Once dry, these rigid shells were covered with layers of soft, conservation-grade padding and fabrics. What struck us was that this technique was very similar to the construction method of the cartonnage coffin itself, and offered interesting insights into the challenges the ancient Egyptians must have faced. For example, the linen layers shrank and warped considerably during drying, something we had to take into account as our aim was to create supports that were as close to the cartonnage's original shape as possible.

It was an emotional moment, and the culmination of hundreds of hours of hard work, when we were finally able to place the conserved lid and base onto their new supports, ready for display. All involved would agree that it had been a momentous journey and a fantastic team effort. It was hugely rewarding to transform the cartonnage coffin to a close representation of how it would have originally looked.

Acknowledgments

You can see the cartonnage in Egyptian death and afterlife: mummies (Room 62), The Roxie Walker Galleries, in case number 26.

If you would like to find out about the conservation of this cartonnage in more detail (we couldn't fit it all into this blog!), please head to our YouTube channel where you can find

the film documenting this journey(Opens in new window). You can also learn more about the history and provenance of the cartonnage in this story.

We would like to extend our heartfelt gratitude to conservator Helene Delaunay who contributed significantly to complete the conservation of the base, and to Dr John Taylor, for sharing his knowledge of ancient Egyptian funerary practices. We are most grateful to all our colleagues in Organics and Paper Conservation for giving us a helping hand whenever needed, with a particular thank you to senior textile conservator Monique Pullan. We also would like to thank producer Roux Malherbe who so skilfully captured this epic conservation story on film. We are grateful too for the generous support of the John S. Cohen Foundation who funded the conservation and video documentation of this project.

Please visit the site: <https://www.britishmuseum.org/blog/3d-puzzle-conserving-aswan-cartonnage> [Go there for nice pix and better format]

‘SECOND RENAISSANCE’: TECH UNCOVERS ANCIENT SCROLL SECRETS OF PLATO AND CO, BY IAN SAMPLE

Researchers and Silicon Valley are using tools powered by AI to read what had long been thought unreadable

More than 2,000 years after Plato died, the towering figure of classical antiquity and founder of the Academy, regarded by many as the first university in the west, can still make front-page news.

Researchers this week claimed to have found the final resting place of the Greek philosopher, a patch in the garden of his Athens Academy, after scanning an ancient papyrus scroll recovered from the library of a Herculaneum villa that was buried when Mount Vesuvius erupted in AD79.

The project belongs to a new wave of efforts that seek to read, restore and translate ancient and even lost languages with cutting-edge technologies. Armed with modern tools, many powered by artificial intelligence, scholars are starting to read what had long been considered unreadable.

“It’s going to have a huge impact,” said Dr Kilian Fleischer, a papyrologist who worked on The History of the Academy, the scroll that revealed details of Plato’s life. “There will be scrolls that will be read with these new techniques that contribute to our knowledge of antiquity, and to our knowledge of literature in general. This might be a second renaissance.”

The History of the Academy, written by the epicurean philosopher Philodemus from the first century, has been studied for many years and modern editions exist. The researchers’ goal was to produce a more comprehensive edition. It’s no easy task when the scroll is in pieces from being unrolled and the papyrus as black as the ink written on it. Substantial portions of text are faded, missing or illegible.

Prof Graziano Ranocchia, project leader at the University of Pisa, used hyperspectral imaging to illuminate the scroll fragments with broadband infrared light. The images reveal letters that are invisible to the naked eye, giving scholars crucial clues as to the missing words. Fleischer likens it to completing a crossword or the game hangman: sometimes it takes only a single letter to be confident of the answer.

“It’s a wonderful feeling, this moment of reading something new and knowing this was information other researchers have wanted for decades or centuries,” Fleischer said. “We are travelling back and seeing text which hasn’t been read for 2,000 years.”

Armed with the scans, the team reconstructed 20% to 30% more of the text, with the additional words slotted into place amounting to 1,000 extra letters. The words for “buried” and “garden” do not appear in the scroll itself – they are conjectured from other characters and context.

Seeing the manuscript emerge was “a marvel”, Ranocchia said. A passage at the end of the scroll was particularly exciting, he added. Philodemus mentions one or possibly two as yet unknown books on the Megarians and the Cynics. “That’s very important for us,” he said. The books may be among the hundreds of charred and unopened scrolls in the National Library in Naples, he said, or perhaps even still buried at the doomed villa.

For many scholars, the prospect of reading the unopened Herculaneum scrolls is profoundly exciting. Carbonised in the blast that overwhelmed Herculaneum, the scrolls are too fragile to physically unroll. But researchers led by Brent Seales, a computer scientist at the University of Kentucky, showed there is no need. The team developed techniques to virtually unwrap CT scans of the scrolls, and trained machine learning algorithms to detect ink on the warped, blackened pages, often by spotting subtle changes in the patterns of the papyrus fibres.

The work led to the Vesuvius Challenge, a competition backed by Silicon Valley entrepreneurs, with lucrative prizes for the team that deciphered the most text from scans of scroll fragments. In February, three computer-savvy students shared the \$700,000 (£557,000) grand prize after reading hundreds of Greek words across 15 columns of the scroll. Dr Federica Nicolardi, a papyrologist at the University of Naples Federico II, is studying one of the columns, in which Philodemus discusses how perception begets knowledge when images “bump into our sensory organs”.

The contents of the remaining scrolls are up for debate. Some may be Latin texts. There could be poems by Sappho, Mark Antony’s treatise on drunkenness, perhaps early writings on the Judeo-Christian tradition. Some of the scrolls are stuck together, which could shed light on how ancient libraries were organised.

Nat Friedman, a founding sponsor of the challenge, has announced a further set of prizes to spur researchers on to read 90% of a scroll by the end of this year. A major bottleneck is the tedious process of “segmentation”, which involves manually tracing layers of the digital scroll so the text-reading algorithm doesn’t confuse one warped layer with another. Work is under way to automate the process, which Friedman says will be a massive breakthrough. “That should unlock gobs and gobs of text,” he said. In anticipation, Friedman has booked nearly two weeks of beam time on the Diamond Light Source in Oxfordshire to scan potentially dozens more Herculaneum scrolls.

The new wave of technologies will shed light on more than the Herculaneum scrolls. The same approach could read papyrus wrapped around Egyptian mummies, with sheets that range from letters to laundry lists. There are boxes of the stuff in the back rooms of museums.

Dr Thea Sommerschildt, a historian and epigrapher at the University of Nottingham, and her colleagues recently surveyed how machine learning is being applied to ancient languages. The tools, they concluded, are reshaping the field in much the same way as the microscope and telescope transformed science.

Sommerschildt and Yannis Assael at Google DeepMind are co-leads on a project called Ithaca, a Transformer-based architecture, the current state of the art in AI. It is available to all and can predict missing characters in ancient Greek inscriptions and propose times

and places where they may have been produced. The tool, which is used hundreds of times a week, promises to shed fresh light on the ancient world. Inscriptions in stone, ceramics and metals preserve writing from around the globe and from a cross-section of society, including women and enslaved people, not just emperors and the elite. “They give us information about thought, language, society and politics of the ancient world at large,” said Sommerschild.

So far, the best results have come from multi-disciplinary teams with computer engineers working alongside scholars. Such mixed teams were vital, said Sommerschild, as were efforts to build clean and well-curated datasets that cover not only ancient Greek and other popular languages, but writings from around the world. “If we have that kind of interaction then we will earn the trust and interest and engagement of computer scientists, the general public and the scholarly communities,” she added.

Please visit the site: <https://www.theguardian.com/books/article/2024/may/03/how-scholars-armed-with-cutting-edge-technology-are-unfurling-secrets-of-ancient-scrolls>

LUMP OF TYRIAN PURPLE UNCOVERED AT CARLISLE EXCAVATION

Archaeologists from the Uncovering Roman Carlisle project have discovered a rare lump of Tyrian purple at the grounds of the Carlisle Cricket Club in Carlisle, England.

The project is a community supported excavation by Wardell Armstrong, focusing on uncovering a Roman bath house found in 2017.

The bath house is located near the Roman fort of Uxelodunum (meaning “high fort”), also known as Petriana, in the Carlisle district of Stanwix.

Uxelodunum was constructed to control the territories west of present-day Carlisle and an important crossing on the River Eden. The fort was garrisoned by the Ala Petriana, a 1,000-strong cavalry unit, whose members were all granted Roman citizenship for valour on the field.

Previous excavations at the bath house have discovered colossal sandstone heads depicting Roman gods, in addition to engraved gems known as intaglios, figurines, animal bones, and imperial-stamped tiles.

During the latest season of excavations, archaeologists found a mysterious lump of a soft purple substance. The substance was tested by researchers from Newcastle University, revealing that it contained levels of Bromine and beeswax.

According to the researchers, the substance is Tyrian purple, a coloured dye associated with the Imperial Court in the Roman Empire. Tyrian purple is secreted by several species of predatory sea snails in the family Muricidae, rock snails originally known by the name Murex.

Frank Giecco, Technical Director at Wardell Armstrong, said: “For millennia, Tyrian Purple was the world’s most expensive and sought after colour. It’s presence in Carlisle combined with other evidence from the excavation all strengthens the hypothesis that the building was in some way associated with the Imperial Court of the Emperor Septimius Severus which was located in York and possibly relates to an Imperial visit to Carlisle.”

“It’s the only example we know of in Northern Europe – possibly the only example of a solid sample of the pigment in the form of unused paint pigment anywhere in the Roman Empire. Examples have been found of it in wall paintings (like in Pompeii) and some high status painted coffins from the Roman province of Egypt,” said Giecco.

Please visit the site: <https://www.heritagedaily.com/2024/05/lump-of-tyrian-purple-uncovered-at-carlisle-excavation/151836>