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- Οκτώβριος 2021 -

Pleasure in the job puts perfection in the work.
(Aristotle)

Newsletter of the Hellenic Society of Archaeometry

- October 2021 -

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ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS

28TH EUROPEAN ASSOCIATION OF ARCHAEOLOGISTS (EAA) ANNUAL MEETING, 31 AUGUST - 3 SEPTEMBER 2022, BUDAPEST, HUNGARY

The 27th EAA Annual Meeting just ended less than a week ago, and it is time already to prepare for the 28th EAA Annual Meeting, to be held in Budapest, Hungary, 31 August - 3 September 2022. It is our pleasure to inform you that the call for session submissions is now open until Thursday 11 November 2021, 23:59 CET.

Proposing a session can only be done via online submission form available at <https://submissions.e-a-a.org/ea2022/>. Current and past EAA Members can log in using their EAA credentials (EAA ID, username, password). For assistance with retrieving credentials, please contact the EAA Secretariat at helpdesk@e-a-a.org. Please make sure that all personal information is up-to-date before submitting your proposal.

Please do not create a new account in case you had one in the past!

New members need to sign up for EAA account first at www.e-a-a.org.

You will find your EAA ID in your profile (under Membership > My EAA Membership, when signed in at www.e-a-a.org).

As session organiser, you can either pay your EAA membership fees upon signing up or at any time before 16 December 2021 when registering and paying for the Annual Meeting. Please note that eventually all Annual Meeting delegates must be current EAA Members (paid-up for 2022) and pay the Annual Meeting registration fee.

Each session has to be organised by at least two people from two different countries. The person who is submitting the session is considered the first - main session organiser, and will be the main contact for all practicalities. One person may take part in two sessions, but only in one as a main organiser. Maximum number of session organisers is five, incl. main organiser. No exceptions are possible.

Detailed guidelines for session organisers are available here.

Please note: EAA 2022 Annual Meeting has (A) Regular sessions, and (B) Other sessions. Regular sessions include both papers and posters, oral presentations are usually 15 minutes long. All other sessions have a special format, the format of contributions is determined by the session organisers. Other sessions can either consist of (pre-circulated) papers, a keynote paper followed by other papers and discussion, pecha kucha presentations (six slides in 6 minutes), posters exclusively, contributions to a discussion session, etc.

Roundtables do not receive paper submissions, only provide list of discussants before end of Call for papers. Please note that all participants in the sessions will have to be current EAA Members and pay Annual Meeting registration fee to be able to attend the session.

The call for sessions will close on Thursday 11 November 2021, 23:59 CET. After the deadline, the Scientific Committee will evaluate all session proposals and decide whether the session is accepted, rejected, recommended for revision or suggested for merger with another similarly themed session. Following the evaluation by the Scientific Committee, the EAA Secretariat opens all approved sessions (that fulfil also all formal criteria - payment of EAA membership and Annual Meeting registration fee before Monday 16 December 2021 by at least two organisers from at least two different countries) for the abstract submission of oral or poster presentations on Monday 20 December 2021. Please note that eventually all session organisers, as well as all participants of the Annual Meeting, have to settle both fees.

European Association of Archaeologists (EAA), Letenska 4, 118 01 PRAHA 1, EU, Czech Republic

Please visit the site: <https://www.e-a-a.org/EAA2022>

6TH INTERNATIONAL CONFERENCE ON
ENVIRONMENTAL
RADIOACTIVITY, ENVIRA
2021: FUKUSHIMA ACCIDENT - 10 YEARS OF
ENVIRONMENTAL INVESTIGATIONS, AND
NEW CHALLENGES IN ENVIRONMENTAL
RADIOACTIVITY STUDIES, DECEMBER
6TH TO 10TH, 2021, 1ST ANNOUNCEMENT

Dear Colleagues,

We are glad to invite you to attend the [6th International Conference on Environmental Radioactivity, ENVIRA 2021](#): Fukushima Accident - 10 years of Environmental Investigations, and New Challenges in Environmental Radioactivity Studies which will take place on-line, from December 6th to 10th, 2021.

The **ENVIRA 2021** conference will assemble people from different scientific fields, from Europe and the rest of the world, dealing with similar issues. Invited plenary keynote talks by leading experts and world renowned scientists, a big variety of special sessions, panel discussions aligned with the most pressing issues in the field of Environmental Radioactivity, as well as informative technical sessions, poster sessions, and social functions will be organized during the Conference.

We cordially invite you to participate at the ENVIRA2021 online Conference.

Important Dates:

Abstract (1 page of plain text) submission deadline: **October 25, 2021**

Deadline for the notification of accepted abstracts: **November 7, 2021**

On-line publishing of Book of Abstracts: **December 6, 2021**

Deadline for paper submission in Special Issue of Journal of Environmental Radioactivity (preliminary): **February 27, 2022**

Deadline for conference fee (150€) payment: **November 22, 2021**

On behalf of the Organizing Committee

Alexandra Ioannidou

Pavel P. Povinec

3RD INTERNATIONAL CONGRESS ON ARCHAEOLOGICAL SCIENCES IN THE EASTERN MEDITERRANEAN AND THE MIDDLE EAST, 14-18 MARCH, 2022, NICOSIA, CYPRUS, 2ND CIRCULAR

Dear colleagues,

We really hope this email finds you well.

We are planning to host the third International Congress for Archaeological Sciences in the Eastern Mediterranean and the Middle East (ICAS-EMME 3) with physical attendance at the Cyprus Institute from 14 to 18 March 2022, co-organised by STARC, CAARI (Cyprus American Archaeological Research Institute) and the ARU (Archaeological Research Unit, University of Cyprus).

We are now accepting abstracts (**deadline 15th of November 2021**) for the congress following the guidelines that can be found at <https://icasemme.cyi.ac.cy/registration/abstracts-information>

Sessions within the congress will include the following:

- **An Environmental History of ancient Cyprus: landscapes, plants and animals through time**
Session chairs: Dr Evi Margaritis, Dr Angelos Hadjikoumis and Prof. Paul Halstead
- **Mediterranean palaeomobility: written sources, material networks and skeletal data**
Session chairs: Dr Efthymia Nikita and Prof. Cyprian Broodbank
- **Copper metallurgy in the EMME**
Session chairs: Prof. Thilo Rehren, Dr Myrto Georgakopoulou and Prof. Vasiliki Kassianidou
- **Scientific Analysis of Ancient Glass in the EMME region**
Session chairs: Dr Artemios Oikonomou and Dr Daniela Rosenow
- **Interdisciplinary ceramic studies as proxies for approaching Eastern Mediterranean societies of the 2nd and 1st millennia BC**
Session chairs: Dr Maria Dikomitou-Eliadou, Dr Anna Georgiadou and Dr Artemis Georgiou
- **Potting traditions of medieval and post-medieval Eastern Mediterranean**
Session chairs: Dr Jelena Živković, Dr Athanasios Vionis and Dr Maria Dikomitou-Eliadou
- **Art Characterization**
Session chairs: Dr Nikolas Bakirtzis, Dr Svetlana Gasanova
- **Digital documentation of heritage and the participation of local communities**
Session chairs: Dr Sorin Hermon, Dr Mia Trentin and Dr Anna Foka
- **Multimodal Digital Heritage Preservation in the EMME Region**
Session chairs: Dr Dante Abate and Dr Roberto Pierdicca
- **Modelling Settlement Transformations in the EMME region**

Session chairs: Dr George Artopoulos, Dr Katherine Crawford and Dr Iza Romanowska

- **Graduate Research in Archaeological Sciences in the EMME region**

Session chairs: Meghna Desai, Carly Henkel, Anna Karligkoti, Mahmoud Mardini, Mehmetcan Soyluoglu, Kyriaki Tsirtsi, Chryssa Vergidou and Dr Lindy Crewe

In addition to the above thematic sessions, two round tables will be organized:

- **Moving and Mixing: Mobility, Theory and Provenance (round table)**

Session chairs: Dr Efthymia Nikita and Prof. Thilo Rehren

and

- **Challenges and opportunities in Graduate Research in EMME region (round table)**

Session chairs: Meghna Desai, Carly Henkel, Anna Karligkoti, Mahmoud Mardini, Mehmetcan Soyluoglu, Kyriaki Tsirtsi, Chryssa Vergidou and Dr Lindy Crewe

As with ICAS-EMME 2, we plan to publish the proceedings as a Special Issue in a renowned academic peer reviewed journal (<https://icasemme.cyi.ac.cy/proceedings-icasemme2>).

Further information regarding the registration, the important dates, travel and accommodation can be found on the congress website www.icasemme.cyi.ac.cy
Do not hesitate contacting us for any clarifications.

On behalf of the Organising Committee
Artemios Oikonomou, Co-chair ICAS-EMME 3

5TH INTERNATIONAL CONFERENCE ON INNOVATION IN ART RESEARCH AND TECHNOLOGY (INART 2022), PARIS, 28 JUNE - 1ST JULY, 2022

Dear Colleagues,

Following the postponement of the inArt 2020 conference, we are pleased to announce that the 5th International Conference on Innovation in Art Research and Technology (inArt 2022) will be held in Paris from **Tuesday 28 June to Friday 1st July 2022**.

Previously inArt conferences took place in Evora - Portugal in 2013, in Ghent - Belgium in 2016 and in Parma - Italy in 2018, and for this new edition we aim to organise a convivial in-person conference.

The conference inArt 2022 aims to gather professionals from all the disciplines concerned by the study and the preservation of cultural heritage materials: chemists, physicists, geologists, biologists, conservation scientists, conservators, historians, archaeologists, etc. Ancient materials require interdisciplinary approaches and the development of specific analytical methodologies due to their complexity and heterogeneity, the need for non-invasive analyses and limited sampling, or to simulate alteration processes. The conference wish to stimulate discussions between the participants around three main topics related to the scientific analysis of ancient artefacts: knowledge of the manufacturing techniques; understanding of degradation processes with the use of innovative conservation strategies; and the development of new methodologies and data treatments.

Important dates:

- **Abstract Submission (4000 characters): December 17, 2022.**
- Notification of abstract acceptance: early March, 2022.
- Registration: January 15 2022 - April 30, 2022.
- Conference: June 28th - July 1st 2022.

Further information for sessions, abstract submission, conference fees, online registration procedures, social events are available on the new conference website:

<https://inart2022.sciencesconf.org/>

Looking forward to your abstract submission and to seeing you in June 2022 in Paris,

The organising committee

Ludovic BELLOT-GURLET, Anne-Solenn LE HÔ, Delphine NEFF, Laurianne ROBINET, Aurélie TOURNIÉ

Contact: inart2022@sciensesconf.org

ATHENS AND ATTICA IN THE EARLY IRON AGE AND THE ARCHAIC PERIOD, INTERNATIONAL CONFERENCE, ATHENS, 8–10 DECEMBER, 2022, CALL FOR PAPERS

Although Attica stands out as the best-documented region of the Greek World, the earlier phases of its history and development are less well-represented in the archaeological record. As a result, our knowledge of early Athens and Attica remains highly fragmented.

Rescue excavations had mostly followed Athens' dramatic urban expansion in the 20th century. However, starting in the 1990s, the Greek Archaeological Service has explored other regions of Attica, as part of the major works related to the 2004 Olympic Games and other large infrastructure projects. These rescue excavations have changed our knowledge of the ancient landscape and the occupational history of Attica dramatically. At the same time, excavation and survey projects conducted by other institutions (the Archaeological Society at Athens, the University of Athens, and various foreign Archaeological Schools), as well as a re-examination of old material, have broadened our understanding of long-term developments, topography, the exploitation of natural resources, and social complexity.

Building upon the recent publication of the colloquium “Athens and Attica in Prehistory”^{*} this conference is devoted to the archaeology of Early Iron Age and Archaic period in Athens and Attica, focusing on the publication of the latest discoveries. The primary goal of the conference is to provide a new archaeological synthesis for the first half of the first millennium (down to 480 BC), including an up-to-date gazetteer of sites and distribution maps.

We invite researchers to focus on new finds and contextualize them by adopting a regional and microregional perspective (e.g. the Mesogeia, Marathon, Athens or Eleusis plains, the Laurion region, Vari, etc.). We welcome presentations of excavations and surveys, as well as specialized studies and re-examination of old material focusing on the following topics:

- the nature of the ancient economy and the role of metallurgy
- land use and settlement patterns
- contacts with other areas in mainland Greece, the Aegean, and beyond
- funerary architecture and burial practices
- cult practices
- social and cultural complexity

Studies in archaeological science and geoarchaeology are also welcome, provided that they are richly documented and well-embedded in a broader archaeological context.

Please note that, due to the magnitude of the topic and the volume of new archaeological finds, only papers dealing primarily with archaeological data will be accepted.

Papers will be 15 minutes long and will be published in a proceedings volume in Greek or English, which are the official languages of the conference. Posters are accepted.

* Ed. N. Papadimitriou, J. Wright, S. Fachard, N. Polychronakou-Sgouritsa, and E. Andrikou, Archaeopress, Oxford, 2021.

Organizing and scientific committee

Dr Eleni Andrikou, Director, *Ephorate of Antiquities of East Attica*
Professor John Papadopoulos, *The University of California at Los Angeles*
Professor Alexandros Mazarakis Ainian, *University of Thessaly, Volos*
Professor Sylvian Fachard, *University of Lausanne, Director of the Swiss School of Archaeology in Greece*
Dr Nikolas Papadimitriou, *Director, Paul and Alexandra Canellopoulos Museum*

Honorary Committee

Dr Eleni Banou, *Director, Ephorate of Antiquities of the City of Athens*
Dr Stella Chrysoulaki, *Director, Ephorate of Antiquities of Piraeus and the Islands*
Christina Merkouri, *Director, Ephorate of Antiquities of West Attica*
Dr Andreas Darlas, *Director, Ephorate of Palaeoanthropology - Speleology*
Dr Aikaterini Dellaporta, *Deputy Director, Ephorate of Underwater Antiquities*
Dr Vasileios Petrakos, *Secretary-General, Archaeological Society at Athens*
Professor Jenifer Neils, *Director, American School of Classical Studies at Athens*
Professor Katja Sporn, *Director, German Archaeological Institute, Athens*
Professor Jan Driessen, *Université Catholique de Louvain, Director, Belgian School at Athens*
Professor Dimitris Planzos, *National and Kapodistrian University of Athens*

SUBMISSION OF ABSTRACTS

Please submit a 250 word abstract in Greek or English, including title, name, affiliation, and a description of your presentation to attica2022@gmail.com until November 28, 2021.

4TH CAA-GR CONFERENCE 2020/2021,
COMPUTER APPLICATIONS AND
QUANTITATIVE METHODS IN
ARCHAEOLOGY, GREECE ‘BIG DATA IN
ARCHAEOLOGY’, N.C.S.R. “DEMOKRITOS”,
21ST AND 22ND OCTOBER 2021, 6TH CIRCULAR

GOING VIRTUAL AFTER ALL

Dear Colleagues,

We hope that we find you all well and in good health in the ongoing crisis related to COVID-19. Last year we eventually had to decide to postpone the 4th CAA-GR conference ‘Computer Applications and Quantitative Methods in Archaeology, Greece’, which was initially planned to be held at N.C.S.R. “Demokritos” in October 2020. Under the circumstances of the COVID-19 crisis it was not possible to organize a conference hosting a larger number of participants at the N.C.S.R. “Demokritos” campus at that time. Even though in view of the running vaccination program and other measures the situation has somewhat improved since then, we finally had to accept the fact that hosting even a limited number of participants will still not be possible this year. For this, the 4th CAA-GR conference will be held as pure Web Event after all, as a further postponement appears not to be reasonable. Following our announcement from February 2020 the web conference will be held at 21st/22nd October 2021. We will offer possibilities for presentations and conference participation via ZOOM. The participation at the conference will be free of charge. The registration on the conference web page, however, will be necessary.

caa-gr2020.net/?page_id=224

We would like to ask the colleagues, who are planning to present a paper to register until 10th October 2021. Everybody, who has submitted an abstract either during the initial Call for Abstracts in Spring 2020 or during the 2nd Call for Abstracts in Spring 2021 has been already informed in an individual email. In the case that you submitted an abstract and that you did not receive an email during the last ten days please contact info@caa-gr2020.net. For more information and updates please visit our web page caa-gr2020.net, the webpage of the CAA-GR Society gr.caa-international.org or contact us at info@caa-gr2020.net.

Keep healthy, looking forward to welcoming you in October

The Organizing Committee

Organizing Committee

Anno Hein, Institute of Nanoscience and Nanotechnology, N.C.S.R. „Demokritos“

Vassilis Kilikoglou, Institute of Nanoscience and Nanotechnology, N.C.S.R. „Demokritos“

Ioannis Karatasios, Institute of Nanoscience and Nanotechnology, N.C.S.R. „Demokritos“
Vangelis Karkaletsis, Institute of Informatics and Telecommunications, N.C.S.R. „Demokritos“
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Scientific Committee
Athos Agapiou, Department of Civil Engineering and Geomatics, Cyprus University of Technology
Andreas Angourakis, McDonald Institute for Archaeological Research, University of Cambridge
Jacopo Bonetto, Department of Cultural Heritage, University of Padova
Despina Catapoti, Department of Cultural Technology and Communication, University of the Aegean
Panos Constantopoulos, Department of Informatics, Athens University of Economic and Business
Sylviane Déderix, French School at Athens / AEGIS, UC Louvain
Basilis Gatos, Institute of Informatics and Telecommunications, National Center for Scientific Research "Demokritos"
Dimitris Grigoropoulos, German Archaeological Institute, Athens
Avshalom Karasik, The Institute of Archaeology, Hebrew University
Markos Katsianis, Department of Cultural Heritage Management & New Technologies, University of Patras
Dimitrios Makris, University of West Attica, Department of Conservation of Antiquities and Works of Art
Maria Mertzani, Directorate of Conservation of Ancient & Modern Monuments, General Directorate of Antiquities & Cultural Heritage
Yiannis Papadatos, Department of History and Archaeology, National and Kapodistrian University of Athens
George Pavlidis, Institute for Language and Speech Processing, ‘Athena’ Research Centre
Maria Roussou, Department of Informatics & Telecommunications, National and Kapodistrian University of Athens

Topics of the Conference 21st/22nd October 2021

- ☐ Databases and Statistics
 - o Data management, data mining
 - o Semantics
 - o Statistical methods
 - o Pattern recognition
- ☐ Geographic Information Systems (GIS) and Prospection Methods
 - o 3D reconstruction and visualization of sites and landscapes
 - o Aerial photography and remote sensing
 - o Geophysical prospection
 - o Mapping of excavations and archaeological sites
- ☐ 3-D Modeling of archaeological objects and infrastructure
 - o Reconstruction and digital engineering
 - o Visualization and automatic recognition

- o Simulation of function: FEM, CFD etc.
 - ☐ Sensing techniques in Cultural Heritage
- o Monitoring microclimate
- o Monitoring CH objects and sites
 - ☐ Evaluation and Modeling of socio-ecological systems
- o Investigation of trade and technology transfer
- o Agent based models and simulations
 - ☐ Multimedia and virtual reality
- o Education
- o Museums
- o Gaming

CAA-GR 2020/2021, N.C.S.R. “Demokritos”, 6th Circular, 21 September 2021

Webpage: caa-gr2020.net Email: info@caa-gr2020.net

**STAVROS NIARCHOS FOUNDATION -
FORTH 1ST ONLINE WORKSHOP, IMAGING
CULTURAL HERITAGE: SPACE, AIR, SEA
AND SUBSURFACE, WHICH WILL BE HELD
VIRTUALLY ON FRIDAY, OCTOBER 1ST, 2021
(09:30 – 13:00, CET)**

Dear colleagues/friends,

We are very pleased to invite you, on behalf of the Foundation for Research and Technology, Hellas (FO.R.T.H.), to attend a special workshop titled ***Imaging Cultural Heritage: Space, Air, Sea and Subsurface***, which will be held virtually on Friday, October 1st, 2021 (09:30 – 13:00, CET).

The workshop is organized by FO.R.T.H. in the context of ARCHERS (“Advancing Young Researchers’ Human Capital in Cutting Edge Technologies in the Preservation of Cultural Heritage and the Tackling of Societal Challenges, <https://archers.iesl.forth.gr/>). ARCHERS is a major project implemented at FORTH with exclusive donation by the Stavros Niarchos Foundation (SNF). Through ARCHERS, over 100 young doctoral students and post-doctoral researchers have been supported throughout the past five years and have carried out cutting-edge research at the Institutes of FORTH across a broad range of interdisciplinary thematics including preservation of cultural heritage and tackling of societal challenges such as environment, clean energy and health.

The workshop will be a half-day event with 3 invited talks by well-known experts and 3 presentations by ARCHERS fellows, followed by a roundtable discussion. Further information on the program, the speakers and registration to attend the workshop is available at: <https://archers.iesl.forth.gr/imaging-cultural-heritage-space-air-sea-and-subsurface/>

With warmest regards

Demetrios Anglos (IESL-FORTH and University of Crete)
Apostolos Sarris (University of Cyprus)

ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ –
JOB VACANCIES/FELLOWSHIPS

JOB VACANCIES CEZA MANNHEIM

Dear colleagues,

The Curt-Engelhorn-Zentrum Archäometrie Mannheim is recruiting a full-time isotope geochemist (f/m/d) within the framework of a DFG-funded project as of 01.01.2022 (application deadline: 30.09.2021). The position is initially limited to 36 months, but can be made permanent. The position involves working on the interdisciplinary research project "Origin, development and technology of Bronze Age blades of the Sögel-Wohlde district" and conducting and interpreting analyses of stable and radiogenic isotopic compositions (Sn, Cu, Pb) against an archaeological background. In addition, the candidate will participate in other archaeometric and geoscientific projects of the institute and contribute to routine analysis and development of methods.

In the same project, the position of a PhD student (f/m/d) in Bronze Age Archaeology or Scientific Archaeology is also available on a part-time basis (50 %) for 36 months (application deadline: 30.09.2021). The position involves sampling bronze artefacts, analysing them with EDXRF and metallographic methods, and assessing traces of manufacture and use. The data and observations are to be interpreted by the candidate together with the results of the isotope analyses against the cultural-historical background.

Further information can be found at: <https://www.ceza.de/en/jobs>

Please distribute this post also to colleagues and potential candidates.

Best regards

Daniel

STUDY IN GREECE 2022-2023 - ASCSA **PROGRAMS AND FELLOWSHIPS**

The American School of Classical Studies at Athens was founded in 1881 to provide American graduate students and scholars a base for their studies in the history and civilization of the Greek world. Today it is still a teaching institution, providing graduate students a unique opportunity to study firsthand the sites and monuments of Greece. The School is also a superb resource for students and senior scholars pursuing research in many fields ranging from prehistoric to modern Greece, thanks to its internationally renowned libraries, the Blegen, focusing on all aspects of Greece from its earliest prehistory to late antiquity, and the Gennadius, which concentrates on the medieval to modern Greek world, as well as the Malcolm H. Wiener Laboratory for Archaeological Sciences.

FUNDING FOR GRADUATE STUDENTS FOR STUDY AT THE ASCSA (FULL ACADEMIC YEAR AND SUMMER PROGRAMS)

REGULAR MEMBER FELLOWSHIPS: Fellowships are available for the School's Regular Members. Fellowships provide a stipend of \$11,500 plus room and board at Loring Hall on the School grounds and waiver of School fees. Regular Member fellowships are awarded for the entire nine-month program. All awards are made on the recommendation of the Committee on Admissions and Fellowships and are based on the results of the qualifying examinations and materials submitted with the application. Fellowships include two in archaeology, one each in history and literature, and nine unrestricted as to field. DEADLINE: JANUARY 15, 2022.

STUDENT ASSOCIATE MEMBERSHIP: For advanced graduate students who plan to pursue independent 9-month (Sept. to May) research projects and do not wish to commit to the full Regular Program. DEADLINE: ROLLING

ADVANCED FELLOWSHIPS: Several fellowships for the full academic year at the ASCSA with a stipend of \$11,500 plus room and board at Loring Hall, and waiver of School fees are available to students who have completed the Regular Program or one full academic year as a Student Associate Member and plan to return to the School to pursue independent research, usually for their Ph.D. dissertations. Advanced Fellowships fields awarded by the School include one each in art and architecture of antiquity, history of architecture, Mycenaean archaeology or Athenian architecture and/or archaeology, and the study of pottery; and three unrestricted as to field. DEADLINE: FEBRUARY 15, 2022.

FULBRIGHT FELLOWSHIPS: Visit the Fulbright website for fellowship details and stipend information. Applicants for a Fulbright Fellowship in Greece to be held in affiliation with the ASCSA, must request a letter from the ASCSA for affiliation. Applications for a letter of affiliation must be submitted at least two weeks before the applicant's institutional deadline.

Simultaneous application to both the Fulbright and the ASCSA is required. Candidates must submit the ASCSA application by the due date for the Fulbright application.

DEADLINE: OCTOBER 12, 2021.

WIENER LABORATORY PRE-DOCTORAL FELLOWSHIP 2023-2025 Two-year funding for individuals actively enrolled in a graduate program who have passed all qualifying exams and have an approved Ph.D. proposal pursuing archaeological research related to the ancient Greek world at the Wiener Laboratory. Stipend of \$20,000 for 12 months. Call for applications will open fall 2022.

MEDIEVAL GREEK SUMMER SESSION AT THE GENNADIUS LIBRARY, SUMMER 2023: Graduate students and professors in any field of late antique, post-antique, Byzantine or medieval studies at any university worldwide. Month-long program in intermediate level Medieval Greek language and philology at the Gennadius Library, with site and museum trips. Up to twelve scholarships available. Call for applications will open fall 2022.

SUMMER SESSION: Six-week session to explore the sites and museums in Greece for graduates, undergraduates, and secondary school and college teachers. Fee of \$4,900 includes tuition, travel within Greece, room and partial board, and museum and site fees. Scholarships available.

DEADLINE: JANUARY 7, 2022.

SUMMER SEMINARS: Two 18-day sessions designed for those who wish to study specific topics in Greece and visit major monuments with exceptional scholars as study leaders, and to improve their understanding of the country's landscape, archaeology, material culture, history, literature, and culture. Enrollment is open to graduate and advanced undergraduate students, and to high school and college instructors of classics and related subjects. Fee of \$2,750 includes tuition, travel within Greece, room, partial board in Athens, and museum and site fees. Scholarships available.

DEADLINE: JANUARY 7, 2022.

FUNDING FOR GRADUATE STUDENTS AND POSTGRADUATES FOR STUDY AT THE ASCSA (FULL ACADEMIC YEAR)

JACOB HIRSCH FELLOWSHIP: For projects carried out in Greece; eligibility is limited to U.S. or Israeli citizens, Ph.D. candidate writing a dissertation or recent Ph.D. (not more than five years since the awarding of the Ph.D.) revising a dissertation for publication. A stipend of \$11,500 plus room and board at Loring Hall, and waiver of School fees.

DEADLINE: JANUARY 15, 2022.

KATHRYN AND PETER YATRAKIS FELLOWSHIP: Ph.D. candidates and recent Ph.D.s (within the last 5 years), of any nationality, for work in the Gennadius Library for the full academic year. Stipend of \$11,500 plus room and board at Loring Hall, and waiver of School fees.

DEADLINE: JANUARY 15, 2022.

M. ALISON FRANTZ FELLOWSHIP: Ph.D. candidates and recent Ph.D.s (not more than five years since the awarding of the Ph.D.) for work in the Gennadius Library. A stipend of \$11,500 plus room and board at Loring Hall, and waiver of School fees.

DEADLINE: JANUARY 15, 2022.

SCHWARZ FELLOWSHIP AT THE GENNADIUS LIBRARY FOR RESEARCH ON MUSIC: Career musicians, or researchers who are either currently Ph.D. candidates or have received their Ph.D. within the last 5 years, of any nationality, engaged in research on music that focuses on cultural interactions in the Mediterranean world broadly defined. Stipend of \$11,500 plus room and board at Loring Hall, and waiver of School fees.

DEADLINE: JANUARY 15, 2022.

SCHWARZ FELLOWSHIP AT THE GENNADIUS LIBRARY FOR RESEARCH ON URBAN ARCHITECTURE: Ph.D. candidates or recent Ph.D.s (within the last 5 years), of any nationality, engaged in research on architecture, urban planning, and the history of the built environment in Greece from 1821 to the present. Stipend of \$11,500 plus room and board at Loring Hall, and waiver of School fees.

DEADLINE: JANUARY 15, 2022.

FUNDING FOR GRADUATE STUDENTS OR POSTGRADUATES FOR STUDY AT THE ASCSA (SHORT-TERM FELLOWSHIPS)

ARCHAEOLOGICAL INSTITUTE OF AMERICA (AIA) ANNA C. AND OLIVER C. COLBURN FELLOW: Ph.D. candidates or recent Ph.D. (not more than five years since the awarding of the Ph.D.) whose field is classical archaeology. Visit the Archaeological Institute of America website for more information. Simultaneous application to both the AIA and the ASCSA is required. Two fellowships of \$5,500 each. Fellowship granted in even years.

DEADLINE: JANUARY 15, 2022.

COTSEN TRAVELING FELLOWSHIP FOR RESEARCH IN GREECE: Short-term travel award of \$2,000 for senior scholars and graduate students for projects and research at the Gennadius Library. At least one month of residency required. School fees are waived.

DEADLINE: JANUARY 15, 2022.

HARRY BIKAKIS FELLOWSHIP: North American or Greek graduate students researching ancient Greek law or Greek graduate students working on a School excavation. A stipend of \$1,875. School fees are waived.

DEADLINE: JANUARY 15, 2022.

HENRY S. ROBINSON CORINTH RESEARCH FELLOWSHIP: Awarded to pre- or post-doctoral scholars for research on a dissertation or primary publication specifically on Corinth, requiring the use of the resources, archaeological site, and collections at the ASCSA excavations at Ancient Corinth. Open to all nationalities. One or more grants for up to three months, maximum amount of stipend is \$4,000. School fees are waived. Granted every other year.

DEADLINE: JANUARY 15, 2022.

WIENER LABORATORY RESEARCH ASSOCIATE APPOINTMENTS: Short-term funding for Ph.D. candidates and postdoctoral scholars from colleges and universities worldwide pursuing archaeological research related to the ancient Greek world at the Wiener Laboratory. Variable amounts up to \$7,000. Term variable, up to nine months.

DEADLINE: JANUARY 15, 2022.

WILLIAM SANDERS SCARBOROUGH FELLOWSHIPS: For up to three months in residence to carry out proposed research projects, to join the School's academic programs (field trips and seminars during the regular academic year or the summer, excavations at the Agora or Corinth, scientific field schools, etc.), and/or to develop knowledge, resources, and collegial networks to enhance their teaching. Open to Graduate students, faculty members (K-12 and all levels of post-secondary education), and independent scholars residing in the United States or Canada, regardless of citizenship, whose geographic origin, diverse experiences, and socio-economic background are underrepresented at the School (including persons from the Black, Indigenous, and Persons of Color communities), and whose studies, research, or teaching would benefit from residency at the School. Fellowship recipients need not be specialists in the field of Classical Studies.

DEADLINE: JANUARY 15, 2022.

TRAVELING AND EXCHANGE FELLOWSHIPS FOR GRADUATE STUDENTS AND POSTGRADUATE STUDY

COULSON/CROSS AEGEAN EXCHANGE: Program of the Council of American Overseas Research Centers (CAORC): Short-term fellowships for Greek nationals and scholars to pursue research in Turkey under the auspices of the American Research Institute in Turkey (ARIT). Stipend of \$250 per week plus up to \$500 for travel expenses. Submit online application to ASCSA.

DEADLINE: MARCH 15, 2022.

MULTI-COUNTRY RESEARCH FELLOWSHIPS, Council of American Overseas Research Centers (CAORC): Ph.D. candidates and postdoctoral scholars with research in the humanities, social sciences, or allied natural sciences requiring travel to several countries with an American overseas research center. Consult CAORC website for application and deadline:

<https://nam10.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.caorc.org%2F&data=04%7C01%7Caegeanet%40lists.ku.edu%7C11691d14f0e144739ef708d96e36d04d%7C3c176536afe643f5b96636feabbe3c1a%7C0%7C0%7C637662006370764987%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ikl1haWwiLCJXVCi6Mn0%3D%7C1000&sdata=NThTfVMTujVU5dmzmiXr5EvPV0cTMHLqpVVSv49v6jw%3D&reserved=0>

PAUL REHAK MEMORIAL TRAVELING FELLOWSHIP: Regular members and Student Associate members in attendance at the ASCSA for the entire academic year. Maximum grant of \$1,000 or lesser amounts. School fees are waived. The purpose is to allow individuals to travel in Greece and Italy to conduct a research project during the current academic year from September 1, 2021 to July 1, 2022. Compensation for travel that transpired during the prior fall and winter terms or planned for the spring term of the 2021-2022 academic year will be considered.

DEADLINE: MARCH 1, 2022.

FUNDING FOR SENIOR SCHOLARS FOR STUDY AT THE ASCSA

KRESS PUBLICATIONS FELLOWSHIPS: Postdoctoral scholars working on assigned material from excavations at Ancient Corinth, the Athenian Agora, Lerna, and affiliated projects of the ASCSA to support research for publication of excavated material. Grants for at least three months (up to \$10,000) to a maximum of nine months (up to \$30,000). DEADLINE: JANUARY 15, 2022.

WIENER LABORATORY POST-DOCTORAL FELLOWSHIP 2023-2026 Three-year funding for individuals who have received their Ph.D. within the last seven (7) years pursuing archaeological research related to the ancient Greek world at the Wiener Laboratory. Stipend of \$35,000 for 12 months. Call for applications will open fall 2022.

WIENER LABORATORY PROGRAMMATIC POST-DOCTORAL FELLOWSHIP FOR 2024-2027: Three-year funding for individuals who have received their Ph.D. and have a demonstrable record of research and publication directly relevant to the project. Eligibility limited to any archaeological project affiliated with the ASCSA, current and former permit holders. Stipend of \$35,000 for 12 months. Call for applications will open fall 2023.

For more information about each program or fellowships, please visit <https://nam10.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.ascsa.edu.gr%2F&data=04%7C01%7Caegeanet%40lists.ku.edu%7C11691d14f0e144739ef708d96e36d04d%7C3c176536afe643f5b96636feabbe3c1a%7C0%7C0%7C637662006370764987%7CUnknown%7CTWFpbGZsb3d8eyJWIjojMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Iik1haWwiLCJXVCI6Mn0%3D%7C1000&data=ijYQPV2jkRChvVLA Mp2e6uxwHH6jUrS28ulG6FZBxao%3D&reserved=0> >

ASCSA programs are generally open to qualified students and scholars at colleges or universities in the U.S. or Canada; restrictions may apply for specific fellowships and programs. The American School of Classical Studies at Athens does not discriminate on the basis of race, age, sex, sexual orientation, color, religion, ethnic origin, or disability when considering admission to any form of membership.

American School of Classical Studies at Athens

Email: programs@ascsa.org

Website:

<https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ascsa.edu.gr%2F&data=04%7C01%7Caegeanet%40lists.ku.edu%7C11691d14f0e144739ef708d96e36d04d%7C3c176536afe643f5b96636feabbe3c1a%7C0%7C0%7C637662006370764987%7CUnknown%7CTWFpbGZsb3d8eyJWIjojMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Iik1haWwiLCJXVCI6Mn0%3D%7C1000&data=xy4kJT3UL3iE7Yg7DzWkQkgd%2Fi6ZU%2BOSPd%2BT5XN7YaU%3D&reserved=0>

CERAMICIST FOR IKLAINA EXCAVATION

Dear colleagues,

I would be grateful if you could kindly circulate this position as widely as possible.

With many thanks and best wishes,

Michael Cosmopoulos

CERAMICS ANALYST, IKLAINA EXCAVATION

The Iklaina Excavation is looking for a ceramics specialist, to join our current team of ceramicists (Drs. Patrick Thomas and Joann Gulizio). We are looking for a junior scholar with some experience in studying and publishing fine and coarse Mycenaean pottery. The work includes on-site study of the Iklaina ceramics for 3-5 weeks in the summer (usually mid-June to mid-July), including identification, analysis, interpretation, report preparation, and curation, plus consultation on ceramics issues during the winter.

Interested applicants should send their resume and a name of at least one referee (dissertation supervisor or excavation director with whom they have worked in the past) to Prof. Michael Cosmopoulos

(cosmopoulos@umsl.edu<<mailto:cosmopoulos@umsl.edu>>) by October 1, 2021.

Michael B. Cosmopoulos, FRSC

The Hellenic Government-Karakas Foundation Professor in Greek Studies University of Missouri-St. Louis St. Louis, MO. 63121 Tel. (314) 516-6241 Fax (314) 516-7235

www.michaelcosmopoulos.org<<https://nam10.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.michaelcosmopoulos.org%2F&data=04%7C01%7Cjyounger%40ku.edu%7C048fc4b5ef50497a57e008d96c9a1c97%7C3c176536afe643f5b96636feabbe3c1a%7C0%7C0%7C637660231501765855%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6IjEhaWwiLCJXVCi6Mn0%3D%7C1000&sdata=Q8U84fYFedYGDmXnqFhVaWW07fBYZoRmzZ7b1b%2FfILeE%3D&reserved=0>>

www.greekstudies.org<<https://nam10.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.greekstudies.org%2F&data=04%7C01%7Cjyounger%40ku.edu%7C048fc4b5ef50497a57e008d96c9a1c97%7C3c176536afe643f5b96636feabbe3c1a%7C0%7C0%7C637660231501765855%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6IjEhaWwiLCJXVCi6Mn0%3D%7C1000&sdata=cVGdQz3CSRqefW77hhRMQReyupxPW4RGCPNkOvVGpKQ%3D&reserved=0>>

POSITIONS AVAILABLE - ELIZABETH A. WHITEHEAD DISTINGUISHED SCHOLAR

One or Two Positions for 2022-2023

Deadline: October 31, 2021

Term: Early September to June 1.

Eligibility: A senior scholar working in any area related to the mission of the School who possesses a significant record of publication and teaching and is affiliated with a Cooperating Institution. Preference will be given to those who have not received recent funding from the School. Previous holders of the Whitehead may apply if the previous term was at least five years prior.

Project: The Whitehead Distinguished Scholar shall pursue research on a project that utilizes the facilities of the School and enriches its academic program. Whitehead Scholars also participate in the academic life of the School in a variety of ways, especially by working closely with Regular and Student Associate members of the School during the winter term (late November to late March) on the subject of their expertise, and by joining School trips and excursions throughout Greece. A more detailed description of this position and a list of past Scholars' work with members is available on the School's website:

Applicants are encouraged to consult with the Mellon Professor, Brendan Burke (bburke@ascsa.edu.gr), well in advance of the October 31 deadline when planning their proposed contributions to the academic program of the School.

Compensation: Stipend of \$40,000 plus round-trip coach airfare to Athens, board at Loring Hall for the Whitehead Scholar (one-half senior rate for spouse and dependents), School housing, and hotel and transportation on up to four of the five field trips (western and northern Greece, Peloponnesos, central Greece, Crete, and the Corinthia and Argolid) and transportation on all winter Attica excursions.

Application: On or before October 31, applicants should submit the following materials online:

Brief statement of interest (1 page)

Curriculum vitae (max. 3 pages) including list of publications
Statement of current and projected research (max. 3 pages)
Proposed contribution to the academic program (max. 3 pages)
Account of the frequency and length of earlier visits to Greece

Link to online application form:

https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ascsa.edu.gr%2Fuploads%2Fgeneral%2FPast_Whitehead_Offerings.pdf&data=04%7C01%7Caegeanet%40lists.ku.edu%7Cdd5b5297a2124a4ae37608d976d4cf3a%7C3c176536afe643f5b96636feabbe3c1a%7C0%7C0%7C637671479850769959%7CUnknown%7CTWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Ik1haWwiLCJXVC16Mn0%3D%7C1000&data=njAqyYTNq2XaFDrWoWzX%2BF43sGXWnOkBi9TM21%2FJ95k%3D&reserved=0 >

Applicants should ask three recommenders to submit letters of reference by October 31.

The appointments will be announced by January 15.

The American School of Classical Studies at Athens does not discriminate on the basis of age, color, disability, gender identity or expression, genetic information, national or ethnic origin, pregnancy, race, religion, sex, or sexual orientation when considering admission to any form of membership or application for employment.

American School of Classical Studies at Athens

321 Wall Street

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Website:

<https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ascsa.edu.gr%2F&data=04%7C01%7Caegeanet%40lists.ku.edu%7Cdd5b5297a2124a4ae37608d976d4cf3a%7C3c176536afe643f5b96636feabbe3c1a%7C0%7C0%7C637671479850769959%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6IklhaWwiLCJXVCI6Mn0%3D%7C1000&sdata=%2BJ%2FZcB9YrvCh0tqXXwPo4YwciewH4%2BBImoSUxcut1Y4%3D&reserved=0>

PLEASE NOTE WE HAVE MOVED, EFFECTIVE JULY 1ST.

ASCSA SUMMER 2022 PROGRAM **OPPORTUNITIES**

The American School of Classical Studies at Athens was founded in 1881 to provide American graduate students and scholars a base for their studies in the history and civilization of the Greek world. Today it is still a teaching institution, providing graduate students a unique opportunity to study firsthand the sites and monuments of Greece. The Summer Session and Summer Seminars allow students, scholars, and teachers to experience Greece first-hand with on-site learning. Deadline: January 7, 2021 Scholarships Available for All Programs:

<https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ascsa.edu.gr%2Fprograms%2Fsummer-session%2Fss-scholarships&data=04%7C01%7Caegeanet%40lists.ku.edu%7C13d630c863f1494904f508d97c4e9d65%7C3c176536afe643f5b96636feabbe3c1a%7C0%7C0%7C637677501132854777%7CUnknown%7CTWFpbGZsb3d8eyJWIjojMC4wLjAwMDAiLCJQIjojV2luMzIiLCJBTiI6IklhaWwiLCJXVCi6Mn0%3D%7C1000&sdata=VN55JlCK7BqHUxsLQuGz2ixgwYQhb1gesoW16S8zqeU%3D&reserved=0>

2022 Summer Seminars

Eighteen-day sessions designed for those who wish to study specific topics in Greece and visit major monuments with exceptional scholars as study leaders, and to improve their understanding of the country's landscape, history, literature, and culture. Choose one, or both(!), seminars - seminar topics change every summer.

Aegean Networks of Technology (June 6-24, 2022) This seminar will explore four fundamental technologies in ancient Greece (ceramics, wood-working, stone carving, and bronze-casting) and how craft practitioners shared their expertise in multi-craft projects, such as building a boat or a temple. Participants will discover how these networks of technology developed in a broad Aegean context, from Athens and Corinth on the mainland to the Cycladic islands of Naxos, Paros, and Santorini, and in a deep time frame, from prehistory to contemporary traditional practices. Taught by Professor Eleni Hasaki, University of Arizona.

The Northern Aegean: Macedon and Thrace (June 30 - July 18, 2022) In this seminar, participants will explore the Northern Aegean region during various time periods. The history of Macedon and Thrace bridges the East and West and offers a glimpse into some of the most significant developments in Greek history, such as colonization, cross-cultural relations, the Persian Wars, Athenian hegemony, and the rise of Macedon. Taught by Professors Amalia Avramidou, Democritus University of Thrace, and Denise Demetriou, University of California, San Diego.

Learn More about the Summer Seminars:

<https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ascsa.edu.gr%2Fprograms%2Fsummerseminars&data=04%7C01%7Caegeanet%40lists.ku.edu%7C13d630c863f1494904f508d97c4e9d65%7C3c176536afe643f5b96636feabbe3c1a%7C0%7C0%7C637677501132854777%7CUnknown%7CTWFpbGZsb3d8eyJWIjojMC4wLjAwMDAiLCJQIjojV2luMzIiLCJBTiI6IklhaWwiLCJXVCi6Mn0%3D%7C1000&>

mp;sdata=afYkRbluOA5qwgVd%2FpFBnGskfPB6fXcjaoick9mPaE%3D&reserved=0

2022 Summer Session

Six-week intensive introduction to Greece from antiquity through the modern period. The program provides the most extensive exposure to Greece, ancient and modern, for participants with interests in Classics and related fields. A strong academic component with participants researching and presenting topics on site. Offers unique opportunities to interact with eminent archaeologists in the field.

For 2022, the Summer Session (June 13-July 27, 2022) will be directed by Professor J. Matthew Harrington, Tufts University. Roughly half of the session is spent in travel throughout Greece. Three trips give participants an introduction to the major archaeological sites and museum collections throughout the country. The extended trips vary from session to session, but traditionally include six days on Crete, ten days in the Peloponnese, and a week in Northern Greece. Roughly, 60 sites and museums are visited. The remainder of the session is devoted to study of the museums and monuments of Athens and the surrounding area with day trips. While in Athens, members visit and study the city's important monuments and sites.

Every participant gives two on-site oral reports of about twenty minutes each. Report topics are selected in consultation with the director, taking into account participants' interests and skills.

Learn More about the Summer Session:

<https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ascsa.edu.gr%2Fprograms%2Fsummer-session&data=04%7C01%7Caegeanet%40lists.ku.edu%7C13d630c863f1494904f508d97c4e9d65%7C3c176536afe643f5b96636feabbe3c1a%7C0%7C0%7C637677501132854777%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzliLjBjBTIiI6Ij1haWwiLCJXVCi6Mn0%3D%7C1000&sdata=aJOHQ87hAETBh7y1VzS0JVvUTbqv8Rbdld1IFFjKCw%3D&reserved=0>

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American School of Classical Studies at Athens

321 Wall Street

Princeton, NJ 08540-1515

Email: programs@ascsa.org

Website:

<https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ascsa.edu.gr%2F&data=04%7C01%7Caegeanet%40lists.ku.edu%7C13d630c863f1494904f508d97c4e9d65%7C3c176536afe643f5b96636feabbe3c1a%7C0%7C0%7C637677501132854777%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzliLjBjBTIiI6Ij1haWwiLCJXVCi6Mn0%3D%7C1000&sdata=aJOHQ87hAETBh7y1VzS0JVvUTbqv8Rbdld1IFFjKCw%3D&reserved=0>

[zIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=lpAe1LnrsMWBv1NQztWmFrDMqyY1J%2BZJXf5dxILxrDA%3D&reserved=0](https://www.hellenicarchaeology.gr/?sdata=lpAe1LnrsMWBv1NQztWmFrDMqyY1J%2BZJXf5dxILxrDA%3D&reserved=0)

PLEASE NOTE WE HAVE MOVED, EFFECTIVE JULY 1ST.



ASSISTANT PROFESSOR IN ANCIENT SCIENCE (LOYOLA-CHICAGO)

Position Title

Classical Studies, Assistant Professor in Ancient Science, Tenure-Track

Job Category

University Faculty

Job Type

Full-Time

FLSA Status

Exempt

Campus

Rogers Park-Lake Shore Campus

Location Code

CLASSICAL STUDIES (02106A)

Department Name

CLASSICAL STUDIES

Is this split and/or fully grant funded?

No

Duties and Responsibilities

Loyola University Chicago (LUC), College of Arts and Sciences, Department of Classical Studies seeks qualified candidates for an appointment as Assistant Professor, beginning Fall 2022. The Department of Classical Studies has seven full-time faculty serving majors and minors in Classical Civilization, Latin, and Ancient Greek.

The department, which is located on the university's Lakeshore Campus, also houses a post-baccalaureate program in Classics and contributes to the training of graduate students in the humanities in the ancient languages. For more information about the department, please visit its web site at <https://www.luc.edu/classicalstudies/>.

Located on Chicago's vibrantly multicultural North Side, LUC is committed to creating an inclusive, responsive community of faculty, students, and staff. As an urban-based Department dedicated to mentoring a diverse student body, many of whom come from under-represented and under-served populations, we especially encourage applications from candidates from under-represented groups.

We also encourage applications from scholars committed to interdisciplinarity (i.e., working with colleagues across different subfields and departments, particularly in scientific disciplines) and the successful pursuit of external grants.

This search is part of a University-wide, multi-year hiring initiative designed to hire outstanding researchers and teachers who are reflective of our diverse student body and committed to interdisciplinarity and the pursuit of external grants. Of special interest are candidates who can further the University's efforts to foster diversity, equity, and inclusion.

The successful candidate will be expected to teach in their specialty area as well as in the Core and ancient languages. The teaching load is 2-2 in the first three years; teaching loads thereafter will be determined by departmental guidelines. The candidate will also be expected to pursue an active research agenda and increase the incorporation of scientific topics in the department through new and existing courses. Applicants should also be prepared to demonstrate their commitment to the performance of service activities within the Classical Studies department.

Qualifications

The candidate will have a Ph.D. in Classics or a related discipline such as Ancient History or Near Eastern Studies whose research intersects with science; subdisciplines may include the scientific humanities, history of scientific thought, bioethics, the environment, technology, medicine, or material science and archaeology. The candidate should be willing to support the mission of LUC and the goals of a Jesuit Catholic Education.

Minimum Education and/or Work Experience The candidate will have a Ph.D. in Classics or a related discipline such as Ancient History or Near Eastern Studies whose research intersects with science; subdisciplines may include the scientific humanities, history of scientific thought, bioethics, the environment, technology, medicine, or material science and archaeology.

Open Date

09/13/2021

Close Date

[empty]

Special Instructions to Applicants

Candidates should submit to www.careers.luc.edu (1) a brief letter of interest; (2) a current Curriculum Vitae; (3) a statement outlining the applicant's research agenda; (4) a statement on teaching experience; and (5) a statement addressing past and/or potential contributions to mentoring a diverse student body through research, teaching and other channels and engaging a diverse community through scholarship and service (inclusive excellence statement). They also should provide the names and email addresses of three individuals prepared to speak to their professional qualifications for this position. Referees will not be contacted immediately but might be at subsequent points in the review process. Any additional materials related to teaching, scholarly, and administrative excellence can be uploaded to www.careers.luc.edu. Please direct inquiries and further inquiries to:

Dr. Laura Gawlinski

Search Committee Chair, Department of Classical Studies lgawlinski@luc.edu

Review of applications will begin immediately and continue until the position is filled. Applications received before November 1st will receive full consideration. First-round interviews will take place exclusively via Zoom, with (planned) in-person interviews for finalists.

Loyola University Chicago is an Equal Opportunity/Affirmative Action employer with a strong commitment to hiring for our mission and diversifying our faculty. The University seeks to increase the diversity of its professoriate, workforce and undergraduate and graduate student populations because broad diversity – including a wide range of individuals who contribute to a robust academic environment – is critical to achieving the University's mission of excellence in education, research, educational access and services in an increasingly diverse society. Therefore, in holistically assessing the many qualifications of each applicant, we would factor favorably an individual's record of conduct that includes experience with an array of diverse perspectives, as well as a wide variety of different educational, research or other work activities. Among other qualifications, we would also factor favorably experience overcoming or helping others overcome barriers to an academic career or degrees.

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DIRECTOR AT THE BRITISH SCHOOL AT ATHENS

Founded in 1886, the British School at Athens (BSA) is the UK's research hub in the humanities and social sciences in Greece and its wider Balkan, European, Mediterranean and Levantine contexts. The BSA conducts, facilitates and promotes research of international excellence alongside offering targeted courses to develop the next generation of researchers and academics in those fields. It comprises a world class library, archive, the Fitch Laboratory for archaeological science, guesthouse and offices in Athens; a smaller guesthouse, library and museum in Knossos; and an office in London.

The BSA forms part of the British Academy's network of British International Research Institutes (BIRI) which sustains and supports British research overseas. Its 135-year history brings a strong reputation, an unparalleled regional network, an accumulation of library and material resources, and a body of expertise that benefit both UK-based researchers and those who engage with the BSA as research partners. The School's goals are achieved through science-based archaeological research; use of its archival, laboratory, library and museum collections by the scholarly community worldwide; an academic programme of seminars, lectures, and conferences; dissemination of research through the publication of its journals and monograph series; and the provision of internships and training courses for undergraduates, postgraduates, and schoolteachers.

The BSA is a diplomatic institution in the broad sense. It represents British academic interests overseas, supports the work of the British Embassy especially in cultural matters, and enhances the international visibility of UK research. Alongside cultural diplomacy, the BSA is committed to a wide range of public engagement, addressed to audiences and stakeholders in Greece, the UK and (via online outreach) worldwide.

The BSA wishes to appoint a new Director with ambition, energy and leadership skills, who will work with the School's Council, staff and other stakeholders to articulate and develop a strategic vision for the future, positioning the BSA as a world-class institution in its fields of expertise for the next decade and beyond. As part of this process, a key requirement will be to ensure that the BSA is an intellectually vibrant, welcoming, inclusive and diverse centre for a wide variety of academics, students, and other visitors.

In this exciting and varied role, the Director will be responsible for the management of the BSA and its staff in both Athens and London, and for the well-being and development of all individuals within the BSA community. As research leader and mentor for researchers, the Director will determine, support and supervise the research strategy, programmes and projects of the BSA. The Director will maintain collaborative and productive relations with the British Academy, Greek Ministry of Culture and Sports, and other external stakeholders. S/he will also work closely with the BSA's Council to develop and implement strategies to secure external funding from a wide range of sources in the UK, Greece, and other countries.

Good candidates will bring a record of distinction and achievement in research in one or more of the academic disciplines covered by the BSA. They will also possess leadership

and management experience, including the ability to lead change in an academic or analogous setting, and the interpersonal skills associated with cultural diplomacy and public engagement. This Athens-based post is full-time and residential at the BSA, normally in the Director's residence on-site. The post may be held on secondment from a UK university or other institution, or otherwise the Director may be employed directly by the BSA.

Saxton Bampfylde Ltd is acting as an employment agency advisor to The British School at Athens on this appointment. For further information about the role, including details about how to apply, please visit www.saxbam.com/appointments using reference WARABA. Alternatively telephone +44 (0)20 7227 0880 (during office hours). Applications should be received by noon on 22nd October 2021.

Further information can be found at <https://www.bsa.ac.uk/2021/09/22/job-vacancy-director-at-the-british-school-at-athens/>

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Best regards,

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ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS

SCIENTIFIC CULTURE INDEXED IN SCOPUS!

Dear esteemed members and editors of the EDITORIAL BOARD of our Journal SCIENTIFIC CULTURE (www.sci-cult.com),

I am most pleased to convey the good news.

SC is accepted to be indexed in SCOPUS.

Within 1-3 months we shall obtain and an IF.

I wish to thank you all for your patience, confidence, and support.

You may circulate this news amongst your colleagues.

I look forward to receiving a paper from you (review or research article) to boost even more SC.

Best Wishes,
Take care, keep safe

Ioannis Liritzis
Editor in Chief

Prof. Ioannis Liritzis

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EΛΗΣΕΙΣ - NEWS RELEASE

MAKING, TRADING AND CONSUMING PHOENICIAN WINE, BY ADRIANO ORSINGER, JENS KAMLAH, HÉLÈNE SADER, AARON SCHMITT, SILVIA AMICONE AND CHRISTOPH BERTHOLD, ANE TODAY, SEPTEMBER 2021, VOL. IX, NO. 9

The coastal cities of the central Levant – Iron Age Phoenicia – made their own wine in antiquity and Phoenician wine was acclaimed. But what do we know about it archaeologically?

The 8th century BCE prophet Hosea mentions the “wine of Lebanon” as a symbol for something famous and valuable (14.8). The importance of Phoenician wines is also acknowledged by various Graeco-Roman sources.

The wine of Byblos, sometimes described as “fragrant”, enjoyed the highest reputation and is mentioned by authors such as Hesiod (Op. 589), Euripides (Ion 1177), Theocritus of Syracuse (Id. 14.15), Arcestratus of Gela (fr. 59.5), and Athenaeus of Naukratis (Deipn. 1.29B). Pliny the Elder (HN 14.9.1) referred to the wines of Tripoli, Beirut, and Tyre, while the wine of Sidon is cited in a ca. 5th century BCE scroll from Elephantine. Sidon is also mentioned in painted inscriptions on Phoenician-type transport amphorae of the Persian period from Elephantine, and, possibly, even as far west as the cave-sanctuary of Grotta Regina near Palermo, in Sicily.

In Phoenicia, as in many other regions, wine was an expensive and rare commodity, which was probably available only to people of high social status. It was certainly consumed during feasting activities, as part of civic/secular, religious or funerary ceremonies. Libations of wine were also offered in sacred and funerary contexts.

It is not surprising that the coastal Levant played such an important part in the wine-making industry of the 1st millennium BCE, as it stems from an earlier tradition. Indeed, this region is described in the Egyptian tale of Sinuhe (ca. mid-19th century BCE) as having “more wine than water.” This long-lasting role in wine production and trade is archaeologically well-documented especially during the Late Bronze Age (ca. 16th-12th centuries BCE), with Ugarit providing overwhelming textual evidence.

Such long continuity may be explained by the favourable environmental conditions which allowed the development of viticulture. Wine production on the Phoenician coast has long been recognized in the large quantities of Levantine-type transport amphorae that were traded in the eastern Mediterranean over the centuries and which have been usually assumed to have contained either wine or oil. As regards the Early Iron Age, the possible relation of Phoenician-type amphorae to a beverage (likely wine) finds support from other Phoenician-type ceramics that were exported alongside them to Cyprus during the 11th-9th centuries BCE. They appear to have formed a sort of drinking set, which

included kraters, dipper juglets, strainer- and tubular-spouted jugs, namely vessels usually associated with mixing, decanting and pouring wine. Small pilgrim flasks are another pottery form frequently exported with them. The recent discovery of cinnamon residues inside some pilgrim flasks from the southern Levant – occasionally also containing traces of tartaric acid (a marker for wine) – should also be considered as possibly related to the frequent practice of mixing wine with various types of additives.

In antiquity, wine could be consumed unmixed, diluted with water or with the addition of other ingredients such as honey, spices, herbs or tree resins, which seasoned, enhanced and changed the taste of wines, improving their conservation, flavour, and psychoactive properties. In the Iron Age Near East, the mixing of ground additives with wine is attested in Ashurbanipal's banquet scene from the North Palace at Nineveh (ca. 645-635 BCE). In this relief, the Assyrian king and queen are drinking what is probably wine under a grapevine canopy. On the low table between the two royal figures holding a bowl, stands a small tripod mortar together with other objects, probably used for grinding substances.

Although locally used for a variety of purposes, Phoenician wines were also exported to neighbouring regions, as shown by the wide distribution of Phoenician-type transport amphorae in the eastern Mediterranean. However, as archaeometric and residue analyses have not yet been extensively carried out, many of these amphorae cannot be pinpointed to specific production centers or even sub-regions, and their original content usually remains elusive.

In Cyprus, they are attested in all archaeological phases, while a peak of imports during the Persian period seems to be well documented in Egypt. This evidence supports the famous account of Herodotus (Hist. 3.6), who claimed that Phoenician wine was imported twice a year in Egypt. Two shipwrecks (ca. 8th century BCE), nicknamed Elissa and Tanit by archaeologists and discovered about 30 nautical miles off the coast of the Gaza Strip, provide some evidence for the Phoenician wine trade. They were laden with hundreds of carinated-shoulder amphorae, probably destined for Egypt. The organic residue analysis of one amphora allegedly showed that it contained wine. At the same time, Ezekiel's oracle against Tyre (27:19) suggests this city's involvement, in the 6th century BCE, in transporting and marketing wines produced in other regions of the Levant. At present, however, there is no archaeological evidence for the Phoenicians shipping both local and foreign wines, which may represent an even more complex view of wine production and trade in the Iron Age Levant.

Until recently, our understanding of wine culture in Phoenicia was mainly based on evidence from trade such as the transport amphorae, and on wine consumption attested by drinking scenes that are a common motif in the imagery of this period. The gap in our knowledge about Phoenician winemaking has been partly filled by the new evidence which resulted from the multidisciplinary investigation at the coastal site of Tell el-Burak (ca. 725-350 BCE), 9 km south of Sidon, in Lebanon.

Tell el-Burak was established as a large-scale agricultural production centre. As no residential area was found on site, its products – mostly wine, but also cereals and olive oil – were most probably intended for the regional and extra-regional market. This site sheds light on a regionally integrated economic system, with a larger centre nearby – probably Sarepta or Sidon – providing the amphorae used for the storage and transport of

agricultural products, and a main administrative center (most probably Sidon), securing the redistribution of these commodities.

The strong agricultural (especially winemaking-related) and export-oriented vocation of Tell el-Burak is testified by ceramic and botanical finds: transport amphorae dominate the pottery repertoire (57.6%), while *Vitis vinifera* (common wine grape) seeds represent 41.7% of the entire archaeo-botanical assemblage. The increasing standardization of the carinated-shoulder amphorae from Tell el-Burak and other sites in Phoenicia has been connected to the intensification of agriculture in this region during the late Iron Age and Persian period.

The presence and size of various processing and storing facilities further support the large scale of the agricultural activities at Tell el-Burak. Among the plastered installations from this site, of prime importance is a well-preserved wine press (ca. late 8th/7th-mid-6th century BCE) which was exposed on the southern slope of the tell. Not far from it, the geophysical survey has revealed the existence of another similar structure, suggesting the strategic location of winemaking facilities near the vineyards. This wine press included: 1) a rectangular treading basin (ca. $3.20 \times 3.50\text{m}$), with a perimeter wall of ashlar blocks and a flat stone-slab foundation, where grapes were trodden, 2) a (not preserved) connecting channel, through which the must flowed, and 3) a semi-circular vat (ca. $2.50 \times 1.95\text{m}$) with a maximum capacity of around 4,500 litres, where the must was collected and fermented. Archaeometric analyses provided new data on the composition and technology of the plaster of which the wine press was made. The Phoenicians mixed recycled ceramic fragments with lime to produce plaster at this site. This made it possible to construct better and more stable structures as this lime-based plaster mixed with ceramics (i.e., Roman *opus signinum* or in modern Italian, *cocciopesto*) was water-resistant and hardwearing.

The Phoenicians have been traditionally credited with introducing the grape in the western Mediterranean as a result of their mobility, trade and the foundation of new settlements as early as the second half/late 9th century BCE. However, current archaeo-botanical data show that grapes were already known before the arrival of the Phoenicians in Sardinia. Based on the available archaeological evidence, it seems reasonable to assume that the Phoenicians may have improved viticulture and fostered a social consumption of wine in the west by bringing and further developing building technology, marketing strategies and tools (e.g., the amphorae), and drinking practices from the Levant, which vaunted a long tradition of making, trading and consuming wine.

In the context of Phoenician mobility and migration, wine may have been instrumental in establishing and maintaining new relations with the local communities through feasting activities. These kind of ceremonies may also have been a way to show and share how wine was consumed in the eastern Mediterranean, eventually determining the adoption and adaptation of these practices by the local communities.

This would explain the distribution of specific metal and pottery shapes as part of the drinking sets (e.g., tripod mortars, bowls), which may have had an impact on gestures and symbolism. In promoting wine as an essential commodity for elites, the Phoenicians favoured external demand for the product and a network for its distribution.

This tradition in winemaking continued and was later enhanced in various regions of the western Mediterranean. Carthage, particularly, became an agricultural power to the point that its husbandry knowledge/skills – known especially through the account of the Carthaginian agronomist Magon (ca. 3rd-early 2nd centuries BCE) – were praised even by Greco-Roman sources.

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Please visit the site: <https://www.asor.org/anetoday/2021/09/phoenician-wine> [Go there for many pix , caps, and format]

ALTERED STATES AND PALEOLITHIC CAVES, BY YAFIT KEDAR, GIL KEDAR, AND RAN BARKAI

People have always been fascinated by caves. Underground cavities and hollows in mountains have played a special role for indigenous societies, past and present, shaping the way they perceived the universe, understood their place in the world, and perpetuated their relationships with the different entities inhabiting the cosmos. But communicating with these entities was a challenge.

Many indigenous societies viewed, and still view, the cosmos as a tripartite system, composed of an upper, a middle (or here-and-now) and lower world (also known as the netherworld or the underworld).

Indigenous people saw their well-being, prosperity, and perpetuation of the world order as dependent upon maintaining good relations and communicating with the entities inhabiting the upper and the lower worlds.

Upper Paleolithic decorated caves, first discovered in Europe in the late 19th century, have generated great interest among researchers due to the seeming uniqueness of this phenomenon in human history. About 400 decorated caves have been found in Western Europe, mostly in Spain and France, and are dated to ca. 40,000 to 14,000 year before present (BP). The images are often found in dark, narrow passages or in dark halls with narrow passage access. Fire was used as artificial light in order to reach the depths of the cave and allow a unique human activity in these completely dark spaces: the creation of the depictions themselves. In Chauvet-Pont d'Arc, France, for example, various traces of fire use were found, such as formal hearths, scattered charcoal, lamps, torch marks, and thermal modification of the cave walls. Other evidence for fire use for light was also identified at the caves at Morgota, Covaciella, Comte, Pergouset, and Grotta della Bàsura among others.

Chauvet-Pont d'Arc (Ardèche, France), Galerie des Mégacéros, ceiling showing heating mark with accumulated charcoals in the cave bear hibernation nests. (Ferrier et al., 2014)

The significance of caves in indigenous world-views is a fascinating subject, and so is the study of Paleolithic decorated caves. The use of artificial light in these well-chosen portals allowed early humans to maintain their connectedness with the cosmos via altered states of consciousness. Moreover, it was suggested that the depictions reflect entoptic visuals – originating in the human eye itself – which are oriented towards non-human counterparts in the Netherworld beyond the cave wall. Researchers further suggest that underground chambers were decorated because of their cosmological and ontological significance.

It was not the decoration that rendered the caves significant; rather, the significance of the chosen caves was the reason for their decoration.

We suggest that caves and rockshelters were conceived as portals to the underground world, a world of prosperity, plenty, and growth. The rock face itself, within the cave or the rockshelter, was conceived as a membrane, a tissue connecting the here-and-now world and the underground world beyond. We also argue that these are the reasons behind human engagement with subterranean natural features, and that humans targeted specific caves in order to establish and maintain their relationships with the entities of the underworld.

Caves—especially deep, dark caves with narrow passages that cannot be navigated without artificial light—are characterized by sharp reductions in oxygen concentration. The natural oxygen concentration in the atmosphere is 21%. When the human body is deprived of its mandatory oxygen supply, a condition known as hypoxia ensues. Hypoxia is defined as a reaction to oxygen concentration below 18%. Oxygen concentration of 18% to 13.5% results in mild hypoxia; anything lower results in severe hypoxia.

Hypoxia affects the nervous tissues, particularly in the frontal cortex and the right hemisphere of the brain, areas thought to be related to creativity associated with emotions. Hypoxia causes physiological or behavioral changes such as drowsiness, euphoria, misjudgment, and loss of self-criticism. These symptoms usually occur at oxygen concentration lower than 14.5% and may occur even at higher concentrations associated with physical exercise or in extreme environments, such as the darkness and isolation typical of caves.

We simulated the use of artificial light in various closed spaces inside caves in order to analyze the conditions in such contexts in Upper Paleolithic caves. The simulations simulated the natural air tunnels between the cave internal and the external environment due to temperature differences. We also used the Fire Dynamics Simulator (FDS) developed by the US National Institute of Standards and Technology (NIST). This simulation program was used to simulate fire in complex compartments and buildings, and it has been verified in archaeology by simulating fire and comparing the results to samples from Chauvet-Pont d'Arc Cave, France.

The simulation showed that oxygen levels in narrow passages or halls with a single passage declined rapidly. The oxygen concentrations in most simulation cases fall below the level that induces a hypoxic state (<18%) after only about 15 minutes. In case of a low ceiling or small halls, the oxygen concentration decreases to as low as 11%, a level at which the symptoms of hypoxia may be severe. Hypoxia has also been shown to increase dopamine hormone levels, resulting in hallucinations, and out-of-body experiences. Hypoxia followed by increased dopamine hormone levels may thus trigger altered states of consciousness (ASC) symptoms naturally, without psychoactive plants or any other active measures.

A possible connection between ASCs and cave depictions was previously proposed by archaeologist David Lewis-Williams, who claimed that the dark cave environment combined with extended isolation from the outside world and disorientation may result in altered states of consciousness. These originate within the nervous system and thus are common to all humans, regardless of cultural differences. In their research they showed that hypoxia, which shares many of the symptoms also associated with ASCs, might indeed be a plausible trigger for the creation of cave depictions. This moreover demonstrated that hypoxia might well be a plausible explanation for many of the

depiction locations, which are far from the cave mouth and require passing through low, narrow passages.

Plan of the Grotte de Cussac showing the location of the paintings deep within the cave. (<https://www.donsmaps.com/images32/cussacplan2.jpg>)

We suggest that the depictions themselves should be viewed as one component of human connectedness and interactions with the cosmos, and not as the sole and ultimate objective of the humans who created them in the innermost depths of the cave. We contend that entering these deep, dark caves was a conscious choice, motivated by an understanding of the transformative nature of an underground, oxygen-depleted space.

Cave of Altamira, ceiling. (<https://donsmaps.com/images25/ceilingaltamira.jpg>)
Handprints, Altamira. (<https://donsmaps.com/images25/altamirahands.jpg>)

While most researchers highlight the depictions as one of the most commendable achievements of the human race, we also suggest that this magnificent phenomenon be acknowledged within the set of practices oriented towards establishing and maintaining indigenous relationships with the world.

Yafit Kedar is a PhD candidate at the Department of Archaeology and Near Eastern Studies, Tel-Aviv University, Israel.

Gil Kedar received his PhD in Electrical Engineering from the Technion, Israel, in 2017.

Ran Barkai is Professor at the Department of Archaeology and Ancient Near Eastern Cultures, Tel Aviv University.

Further Reading

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Please visit the site: <https://www.asor.org/anetoday/2021/09/altered-states-paleolithic-caves> [Go there for pixm map, and pdf link]

EXCAVATORS FIND 3,500-YEAR-OLD MOSAIC IN CENTRAL TURKEY

Archeologists have uncovered a 3,500-year-old mosaic in central Turkey that could be one of the oldest in the world.

The mosaic, measuring 3 by 7 meters (10 by 23 feet) consists of 3,147 stones and was found in Uşaklı Mound located in Yozgat province's Sorgun district, where surface surveys were initiated in 2008 and excavations began in 2012.

Hüseyin Çiftçi, provincial culture, and tourism director said the excavations are being carried out jointly by the General Directorate for Cultural Heritage and Museum, Bozok University, and Italy's Pisa University.

He continued: "It has been determined through scientific studies that the mosaic found is the first of its kind in world history. The mold of the mosaic also supports this as it is quite primitive. We plan to add value to the tourism sector through this discovery."

Anacleto D'agostino, a lecturer at Pisa University and the excavation team head, said that the mosaic they found belongs to the 1500s B.C.

Also stating that the mosaic is the oldest in the world, he said: "We know there are similar mosaics in Greece, but we think that the mosaic here is older than that there."

Please visit the site: <https://www.dailysabah.com/arts/excavators-find-3500-year-old-mosaic-in-central-turkey/news> [Go there for pix]

SURPRISE! MONUMENTAL CAMEL SCULPTURES IN ARABIA ARE PREHISTORIC, ARCHAEOLOGISTS FIND

Initially thought to be ‘only’ 2,000 years old, the life-size animal reliefs found in Saudi Arabia were actually carved nearly 8,000 years ago, during the Neolithic, when the desert was green Ariel David

A series of ancient reliefs carved into the desert rocks of northern Saudi Arabia depicting life-sized camels and equids are older than initially thought, it turns out. Much, much older. Far from dating to the Roman era as initially thought, they are prehistoric, a new study reveals.

Back in 2018, when archaeologists announced the discovery of nearly two dozen reliefs, they were at a loss as to who had created the so-called “Camel Site,” , why, and when. While rock art is common throughout the Levant, there was nothing in the region quite as spectacular as these monumental sculptures.

The initial theory was that the reliefs dated to some 2,000 years ago and were linked to the Nabateans, whose nomadic kingdom amassed great wealth and power during the Roman era. But a new scientific analysis of the time-worn sculptures of Camel Site shows that the early estimate was a bit off – by thousands of years. The data published Wednesday in the Journal of Archaeological Science: Reports suggests that the reliefs were carved during the Neolithic, and specifically in the 6th millennium B.C.E., or between 7,000 and 8,000 years ago.

This was a time when the Arabian peninsula was much less arid than it is today. The lush grasslands of this “Green Arabia” were inhabited by groups of hunters and herders who also built enigmatic stone monuments that still dot the desert landscape today.

The backdating of Camel Site marks the sculptures there as the oldest preserved large-scale animal reliefs known in the world, the study notes.

The new research only adds to the fascination surrounding these life-sized sculptures and their purpose.

“Part of the difficulty in dating the site is that there are no parallels to it, so it was difficult to imagine what it was linked to,” says Maria Guagnin, an archaeologist at the Max Planck Institute for the Science of Human History in Germany and the lead researcher on the new study.

While there are thousands of known Neolithic engravings in the region, these tend to be two-dimensional. The only other known three-dimensional life-size reliefs of camels are located in Petra, the famed capital of the Nabateans, which is why the researchers initially attributed the art to that culture, Guagnin says.

Since discovering Camel Site, located in the northwestern province of Al Jawf, Guagnin and colleagues have been trying multiple approaches to dating the sculptures. Rock art is notoriously difficult to date, particularly when it is exposed to erosion in dry desert climes.

At Camel Site, the first hint that the sculptures were older than assumed came when a stonemason was brought in to look at the tool marks left in the desert rock by the long-gone artists. The expert concluded that none of the marks had been made with metal tools, and the massive camel figures were all carved with stone utensils, Guagnin says. Soon enough, more data confirmed this hunch.

A test excavation under the carved panels uncovered Neolithic arrowheads and tools that showed wear patterns compatible with sculpting the reliefs. Radiocarbon dating of bones from the dig returned dates from the 6th millennium B.C.E., and showed there was no later occupation at the site.

A study of the rock varnish, the accumulation of dust and other particles on the stone surfaces, also returned similar dates for the carving of the rocks at Camel Site, the researchers note.

All of this makes them confident in their new dating of the site.

“Quite a few Neolithic depictions of fauna are equally life-sized, detailed and naturalistic but they are two-dimensional,” Guagnin says.

“This made us think that the Camel Site is part of this wider tradition but has a special place within that because it’s the only spot where we have it so concentrated and where we have high relief to the point that it looks like the animal is coming out of the rock.”

A savannah in Arabia

The backdating of the site makes us marvel even more at the huge effort that carving these sculptures must have required. Back in the Neolithic, an entire community must have labored for days to make each figure. The tools uncovered at the site were made of chert, a hard sedimentary rock not found in the immediate vicinity, which had to be brought in from miles away.

Given that some of the panels are two or three meters above ground, the artists would have also had to construct scaffolding or rope rigging to reach their stone canvases, Guagnin notes.

Why someone would go to so much trouble to carve 21 figures of camels and equids in the middle of nowhere is unclear, but the site likely had a ritualistic or social purpose, the archaeologists believe.

The camels shown there were likely wild animals, as nothing marks them as domesticated, Guagnin says. The domestication of the camel is believed to have first happened in Arabia, but this occurred thousands of years later, possibly only around 1200 B.C.E., she says. The domesticated camel then made its first appearance in what is today Israel a couple of centuries later.

In the Neolithic, the pastoralist groups of Arabia herded cattle, sheep and goats in the savannah-like grassland scattered with lakes and trees. Wild camels and equids also roamed the area and were likely hunted for millennia.

These prehistoric nomadic groups are especially known for creating the so-called mustatils, thousands of stone edifices built throughout northwestern Arabia that look like giant animal pens. The purpose of these structures remains unclear but a recent study has suggested they may have served as ritual centers for a cattle-centered cult.

We don't know if the people behind the mustatils were the same that carved the animal figures at Camel Site, or whether they were two different, neighboring groups, Guagnin says.

Please visit the site: <https://www.haaretz.com/archaeology/MAGAZINE-surprise-monumental-camel-sculptures-in-arabia-are-prehistoric-archaeologists-find-1.10210585> [Go there for pix]

OLDEST AND BEST PRESERVED **SHIPWRECK IN ADRIATIC DISCOVERED** **NEAR ILOVIK, BY LAUREN SIMMONDS**

Did you know that the best preserved shipwreck is from the 2nd century BC and was found in the waters surrounding Losinj near the island of Ilovik? This important archeological discovery was discovered at a depth of only two and a half metres, and previously undertaken research has confirmed that it is indeed the oldest ancient ship ever discovered in the Adriatic.

As Morski writes, this ancient wooden ship was built using the technique of "joining grooves and tabs", and in the process of its creation, the formwork was first constructed, and then the skeleton of the ship was placed onto it, all of it connected by wooden wedges.

It is a merchant ship that sailed along an important maritime route, right next to the island of Ilovik in Croatia. The ship is between 20 and 25 metres long, and given that it sank into its watery grave at a depth of a mere two and a half metres, it is a real miracle that it remained so well hidden for centuries.

The ship was discovered quite by accident by Slovenian archaeologist Milan Eric while anchoring in this particular Ilovik bay. After that, the research started, which has been being conducted since 2018 by the Department of Underwater Archeology of the Croatian Restoration Institute, in cooperation with French colleagues from the University of Marseille (Aix-Marseille University, the French National Centre for Scientific Research (CNRS), and the Camille Jullian Centre), and the Losinj Museum. This is all being done with the logistical support of the Diving Centre of the Special Police of the Ministry of the Interior of the Republic of Croatia (MUP) and the Subseason Diving Centre.

The research procedure in the waters surrounding Ilovik was carried out by the most modern methods of documentation, using photogrammetric techniques. The movable archeological material found on the ancient sunken ship confirms the dating of the ship's wood, which undoubtedly belongs to the older horizon of ships sailing the Adriatic, and testifies to the importance of the Losinj archipelago in the context of ancient waterways.

The site of this ship near Ilovik is extremely significant because of the shipbuilding tradition to which we attribute it, its dating, the ship's cargo and the very shallow working conditions that both facilitate and complicate research and pose a challenge to preserve the site. Since it is a site on loose sand, the archeological excavation itself was difficult due to the constant backfilling of the site, so a dam was built in parallel with the excavation," they said from the Losinj Museum.

Upon completion of the research and the preparation of documentation, the remains of the "Ilovik ship" were covered with sand, geotextiles, then again with sand and with iron nets, which are connected by concrete blocks. The movable archeological finds

discovered there were brought back up to the surface, added to the list of finds, and were stored in the premises of the Croatian Air Force in Split during the desalination process.

Upon the completion of the conservation and restoration works, the findings from the Ilovik wreck will be stored in the Losinj Museum.

Please visit the site: <https://www.total-croatia-news.com/lifestyle/55944-ilovik> [Go there for pix]

TEMPEST OVER A “CHEATER’S WEIGHT”, **BY DAVID HENDIN**

A scientist need not be chastised for every error. Neither should every archaeologist, numismatist, or historian. But when the error leads to lots of publicity and an internationally noticed erroneous report, it at least needs to be corrected. This is the case regarding a Judahite First Temple Period limestone scale weight discovered in Jerusalem but completely misunderstood by the authors who reported it.

The first reference to this incident that I have found was the September 2 Jerusalem Post, which reported:

Archaeologists have uncovered a weight used for trading in ancient Jerusalem that scholars believe was used to defraud traders. Found in the northern part of the City of David in Jerusalem’s Old City and dating back to 2,700 years ago during the First Temple period, the weight in question is just 14 mm in diameter and 12 mm in height, and is only the second one of its kind to have been found in Israel. Made of hard limestone, it contained engravings indicating it has a weight of two gerah, which equals 0.944 grams.

Despite this, however, the weight does not weigh two gerah. Rather the researchers found that it weighed at least 3.61 grams, over three times as much.

While this may seem odd, Hebrew University of Jerusalem’s Eli Shukron and Hagai Cohen Kolonimus say that the likely explanation is that whoever used this weight in commerce was using it to cheat people.

The professors concluded that because the weight in question had two parallel lines || that it represented the denomination of two gerahs, but fraudulently created to be MUCH heavier.

Indeed, it all makes a nice story, especially for release just before the Jewish New Year holiday. The authors and the media all cite the Old Testament, whose authors frequently rail against dishonesty in commerce, especially when weighting, a critical issue at the time:

“Do not have in thy bag diverse weights, a great and a small...” Deuteronomy 25:13.

And:

“Just balances, just weights, a just ephah [a measure of about 1.1 bushels], and a just hin [a measure of about 1.5 gallons] shall ye have.” Leviticus 19:36.

It was not difficult to rub away a bit of an ancient weight, or to make one’s own that was just too light or too heavy. Thus, the Prophets had a dim view of dishonest weighing that often went along with buying and selling. The Prophet Amos condemns the people who cannot wait for the Sabbath to end so they can get back to making their dishonest profits because they “Make the ephah small, and the shekel great, and falsify the balances of deceit.” Amos 8:5.

It was a good and upbeat message for the new year, be good, be honest.

The story was so compelling that it was picked up quickly by LOTS of other outlets, including the Jewish Press, Times of Israel, Israel Today, Bignewsnetwork.com, World Israel News, and even Xinhuanet.com, a Chinese news service.

Unfortunately, the “fraudulently” marked weight at the center of the story was not fraudulently marked at all.

Egyptian hieratic numbers were used to identify ancient Judahite weights from the Iron Age. These numbers were usually engraved on the top of the dome-shaped, limestone weights, but many unmarked weights exist and there is evidence they originally had numbers painted on them.

The hieratic number for 2 is indeed shown by two vertical lines. And this is the symbol that would be used to identify a two-gerah weight.

Apparently, when the Israeli archaeologists saw the || they jumped to the conclusion that it stood for “two”. However, specialists in Judahite weights are also familiar with the hieratic number for 8, which is represented by two horizontal lines, sometimes, but not always, with small edges on one end to help distinguish it from the number 2.

The average two-gerah weight weighs either 0.96 or 1.14 grams (depending on if you adhere to 20 or 24 gerahs to the shekel, either is possible, and scholars of Judahite weights generally prefer 24).

The average eight-gerah weight weighs either 3.84 or 4.56 grams.

The weight in question from the City of David excavation is reported to weigh at least 3.61 grams. Since, as the Jerusalem Post article points out, this is nearly four times the weight of two gerahs that is attributed to it, it MUST be a larger denomination weight.

Multiplication shows us that the weight is in the neighborhood of six to eight gerahs. Since there are no known seven-gerah weights, one who understands these weights can assume that the weight was meant to be six or eight gerahs, but certainly NOT two gerahs.

What was interesting to me was that the researchers obviously referred to Dr. Raz Kletter’s groundbreaking book on the subject: *Economic Keystones: The Weight System of the Kingdom of Judah* (1998), because the Post noted that as a two-gerah weight, theirs was only the “second of its kind” found in an excavation in Israel.

Yet they did not check the same reference for any other small denomination weights with masses similar to the weight in question.

I asked Dr. Robert Deutsch about this misidentification since he holds a Ph.D. in archaeology from Tel Aviv University and is also a published expert in ancient weights and inscriptions.

“This is not the first time that unskilled excavators are publishing epigraphic materials with severe errors,” Deutsch said. He referred specifically to a similar error in reading a

fiscal bulla, a seal impression also from the First Temple Period and also found in the same area of the City of David excavations, which was published incorrectly and later corrected by both Deutsch and Dr. Gaby Barkay.

Deutsch believes that some archaeologists continue to stubbornly “refuse to consult unprovenanced material” even if it would be helpful to them. Large numbers of unprovenanced ancient objects are located in public, private, state, and university collections, and have often been published in more accessible formats than objects found in excavations.

To me, the most fascinating part of this whole story is that if an expert in Judahite scale weights had been consulted regarding the 3.61-gram scale weight marked ||, then she or he would very likely have rotated it by 90 degrees and said: “This is more likely an eight-gerah weight because of its mass and inscription.”

Since most published eight-gerah weights are, however, around 10-20 % heavier than this particular weight, we should consider the possibility that the weight was used fraudulently in the marketplace.

It would have been a very modest fraud, like the butcher slipping his thumb on the scale to add a quarter or half a pound to the price of your order. Similarly, the owner of this scale could have passed off a measly 3.61 grams of silver as eight gerahs (either 3.84 or 4.56 grams).

In fact, if I was writing an article about it, I would have likely quoted The Code of Hammurabi (Section 94), which refers specifically to weighing transactions by merchants (called tamkaru [tamkarum, singular] in Akkadian):

“If the tamkarum tries to practice fraud with weights, he loses everything he has lent.”

Then I would have gone on to quote the Old Testament about cheating during commerce...

Please visit the site: <https://coinweek.com/ancient-coins/tempest-over-a-cheaters-weight/>

HOW DO ARCHAEOLOGISTS CRACK THE CODE OF DEAD LANGUAGES?

BY BENJAMIN PLACKETT

From the Rosetta stone to the Enigma Code, there are two main ways to decipher an extinct language, but artificial intelligence is helping to modify translations.

Until 200 years ago, no one in the modern era could understand Egyptian hieroglyphs; ancient Egyptian was essentially a lost language. The fact that historians can now read and understand hieroglyphic inscriptions is down to an act of archaeological prowess involving a fairly banal, but ancient legal text chiseled onto a world-famous stone.

“Next year marks the bicentenary of the Rosetta decipherment, which really was a watershed moment for Egyptology,” says Roland Enmarch, senior lecturer in Egyptology at the University of Liverpool in the United Kingdom. “It’s the single most famous translational artifact.”

The Rosetta Stone, a carving of a proclamation issued in 196 B.C., proved so useful in decoding Egyptian hieroglyphs because the decree was repeated three times over. The first was written in hieroglyphs and the second in the demotic script, a cursive form of ancient Egyptian similar in style to written Arabic. The third version was in ancient Greek. Because ancient Greek was understood, this provided a route to decode ancient Egyptian.

“If you have a bilingual script and one of them is in a language that you understand then that’s really helpful as long as the content of the text repeats itself,” says Enmarch.

Using this technique, you can see where sections reoccur and translate those bits. Sadly, the resulting translation of the Rosetta stone didn’t reveal anything particularly earth-shattering — it’s just a piece of administrative text to mark the anniversary of a king’s jubilee, but it did provide the means to understand other, more interesting texts.

The other way to resurrect a long dead language is through basic data processing. “There are some clay tablets from about 1450-1200 B.C. that were dug up in Greece and for decades people tried to work out what the hell they said,” says Enmarch.

The language is known as “linear B” and it predates the Greek alphabet and so most historians agreed it was probably a separate language altogether. However, decoders who had worked on cracking the German Enigma code during World War II were able to decipher linear B by assuming that it was in fact an ancestor of Greek.

They looked at patterns of variation within the script to see if that could offer clues. Certain sequences of symbols only appeared on tablets that were found on the island of Crete, but not on those discovered on the Greek mainland. This led the decoders to suppose that the sequences were therefore place names on the island, which turned out to be true. From this deduction, they were able to work backwards to translate the whole text.

“This is the only famous example of success by using this method,” says Enmarch.

There are efforts to make translating ancient languages a more modern pursuit. Researchers at Macquarie University in Australia teamed up with experts from Google to use artificial intelligence with the aim of speeding up the process of translating ancient Egyptian hieroglyphs into English and Arabic.

“What the machine does well is to recognize where there are hieroglyphs and where there aren’t any. That’s not trivial because it means that the machine doesn’t just see gobbledygook,” says Camilla Di Biase-Dyson, a lecturer in Egyptology at Macquarie University who was involved in the project. “The problem is that it isn’t based on a great deal of training data. In order to snap a photo of an Egyptian tomb wall and translate it quickly, the machine will need a lot more data.”

For now, it still requires a lot of human input to make sure the end result is a reliable translation, but if the software is exposed to enough sample data, it’s possible that it may not need human help in the future.

Please visit the site: <https://www.discovermagazine.com/planet-earth/how-do-archaeologists-crack-the-code-of-dead-languages>

A SORCERESS' TOOLKIT HAS BEEN DISCOVERED IN THE ASHES OF POMPEII, BY ANDY CORBLEY

Out of the ashes of Pompeii, archaeologists recently pulled up a time capsule, though only the bronze hinges remained of what is being described as a “sorceress’ toolkit.”

Inside were a collection of around 100 little objects: two mirrors, tiny skulls, scarab beetles, bone-carved objects like buttons, bells, and little fists, decorative elements made of amber, carnelian, and bronze, carved images of men and satyrs, and of course, miniature phallic amulets.

All in all it's everything your average sorceress could need on the job, which archaeologists believe were to tell fortunes, divine pregnancies, conduct fertility rites, and ward off bad luck.

“They are objects of everyday life in the female world and are extraordinary because they tell micro-stories, biographies of the inhabitants of the city who tried to escape the eruption” states Pompeii General Director Massimo Osanna.

“In the same house, we discovered a room with ten victims, including women and children, and now we are trying to establish kinship relationships, thanks to DNA analysis. Perhaps the precious box belonged to one of these victims.”

The box containing the toolkit was found in the Garden House in Regio V, a luxurious villa which also included some highly sexualized friezes on the walls, such as the myth of Queen Leda and the Swan, and a fresco of Priapus, the god of fertility.

Early hypotheses are that the owner of the objects was not of status and could even have been a slave.

The lack of gold or precious stones among the trinkets suggests this, as the Pompeians adored the yellow metal.

Speaking with Italian news agency Ansa, Osanna theorized the objects belonged to a kind of Roman love doctor, but that's pure speculation.

The toolkit will soon be on display in the Palestra Grande on the Pompeii site.

It's fascinating that, even though most of us grew up learning about the city of Pompeii buried under the ash of Vesuvius, major discoveries are still being made there today despite the fact the site is only 163 acres (66 hectares).

Please visit the site: <https://www.goodnewsnetwork.org/a-sorceress-toolkit-of-small-fertility-objects-was-uncovered-in-pompeii/> [Go there for pix]

RESEARCHERS UNCOVER NEW INSIGHTS ON DATE PALM EVOLUTION USING 2,100- YEAR OLD LEAF FOUND IN ANCIENT EGYPTIAN TEMPLE

This study is one of the first to examine the genomes of plants found in archaeological sites

Using a leaf uncovered from the archaeological site of an ancient Egyptian temple, researchers from NYU Abu Dhabi's (NYUAD) Center for Genomics and Systems Biology have successfully determined the ancient hybrid origin of some date palms, which could prove useful for modern date palm breeding as the plant remains a cornerstone of Middle Eastern and North African agriculture.

The findings, published in the journal *Molecular Biology and Evolution*, corroborate hybridization with wild relatives first reported by NYUAD researchers two years ago (Flowers et al. 2019).

They follow another project in which the researchers first sequenced the genomes of date palm plants from ancient germinated seeds.

In this instance, NYUAD researchers in collaboration with lead researchers at the Royal Botanic Gardens at Kew, UK, sequenced the nuclear and plastid genomes of an approximately 2,100 year-old date palm leaf found in a temple at a UNESCO World Heritage site located south of Cairo, Egypt and radiocarbon dated it to the Late Period of ancient Egypt, roughly 357-118 BCE.

Researchers then used population genomic tests, molecular clock models, and gene-flow-aware multi species coalescence (MSC) approaches on plastid and nuclear genome wide-data sets to detect ancient gene flow and to provide a temporal framework for diversification and reticulated evolution in the plant.

"This paper is one of the very few studies that have looked at the genomes of plants found in archaeological sites. The work sheds light on the importance of hybridization in the evolution of date palms, especially those from North Africa. It shows that by 2,200 years ago, date palms from Egypt already had genetic material from another species, *Phoenix theophrasti*, which today grows only in Crete, some of the other Greek islands and parts of southwest Turkey." NYUAD Professor of Biology Michael D. Purugganan

Please visit the site: <https://nyuad.nyu.edu/en/news/latest-news/science-and-technology/2021/september/date-palm-evolution.html>

WHAT IS THE OLDEST-KNOWN ARCHAEOLOGICAL SITE IN THE WORLD? **BY OWEN JARUS**

The candidates make the Giza pyramids and Stonehenge seem young.

Our human ancestors were roaming Earth as far back as 6 million years ago, but what is the earliest site containing archaeological evidence of their existence?

It turns out, there are two spots — one in Kenya and the other in Ethiopia — that are considered the top candidates for world's oldest archaeological sites, according to about a dozen scholars, all with expertise in prehistoric archaeology and anthropology, who spoke with Live Science.

The question of what is the oldest archaeological site in the world is "a topic that has since recently divided the archaeological community," Yonatan Sahle, a senior lecturer of archaeology at the University of Cape Town in South Africa, told Live Science in an email.

The first site, called Lomekwi 3, holds bones of hominins as well as stone artifacts and is located on a low hill in West Turkana, Kenya. In a study published in 2015 in the journal *Nature*, researchers reported that, by dating the sediment where the artifacts were found, they estimated the age of the site to be about 3.3 million years. The finds "mark a new beginning to the known archaeological record," a team of scientists wrote in the journal article. The tools were likely created by *Australopithecus afarensis*, a hominin (human ancestors and their relatives) that thrived in the region at the time.

The site is located in a wooded area on a small hill not far from Lake Turkana. It's possible that *Australopithecus afarensis* was using the stone artifacts to break open nuts the team wrote in the paper. The number of people who lived at the site at any given time is not clear.

"Lomekwi 3 is the oldest known archaeological site in the world," Jason Lewis, assistant director of the Turkana Basin Institute and a co-author of the paper, told Live Science in an email.

Jeremy DeSilva, an associate professor of anthropology at Dartmouth College who was not involved in the study, agreed that Lomekwi 3 is the oldest known archaeological site, but he noted that not all scholars agree. "Lomekwi is controversial, and some of our colleagues remain unconvinced of the antiquity of these tools," DeSilva told Live Science.

Indeed, a number of recent papers "call into question the status of the artifacts at Lomekwi 3, arguing that some of the artifacts were not actually found in a context where the age of the artifacts can be certain," David Braun, an anthropology professor at The George Washington University, told Live Science. In other words, the artifacts may not date to the same time as the sediment that it was found in.

Sahle is one of those archaeologists. "For many of us — myself included — unequivocal evidence for the oldest archaeological occurrences comes in the form of 2.6-million-year-old stone tools from Gona," which is located by the Kada Gona river in Afar, Ethiopia, Sahle said. The dating results for Lomekwi 3 are contested, he noted, and he has serious doubts that the remains found at that site date back 3.3 million years.

The research at Lomekwi 3 was published relatively recently, whereas research at Gona has been published over several decades and has withstood academic scrutiny, Sahle said. "Inferences made on the chronological and behavioral context of [the] Gona archaeological assemblages derive from decades of research and have, therefore, withstood the test of time," Sahle said.

The stone tools at Gona may have been made by *Australopithecus garhi*, a human ancestor that lived in east Africa around 2.5 million years ago. Fossils of the species have been found near stone tools and they may have been one of the first human ancestors to make sophisticated stone tools Smithsonian's Human Origins project website notes.

"The Lomekwi claims were not adequately demonstrated when announced, and there has [been] no new evidence provided, despite several well-considered criticisms of the original Nature announcement," said Tim White, co-director of the Human Evolution Research Center at the University of California, Berkeley. White agrees that Gona has the best unequivocal evidence for being the oldest archaeological site.

On the other hand, some scholars are supportive of the idea that Lomekwi is older than Gona. Rick Potts, director of the Smithsonian's Human Origins Program, is convinced that Lomekwi 3 "is the oldest site with solid evidence of stone-on-stone percussion," meaning that it's the oldest site that has stone artifacts made by human ancestors. He noted that the stone artifacts at Lomekwi 3 appear different from those found at Gona; they are cruder and may not have been used as tools at all. The stone artifacts at Lomekwi 3 "show awkward fracturing of the rocks, including large, thick, irregularly shaped flakes that could have been the accidental byproducts of pounding — for what purpose, no one currently knows," Potts wrote in an email, noting that people at Lomekwi 3 may not have been creating tools but rather pounding rocks together for unknown reasons. Even if the Lomekwi 3 artifacts weren't used as tools, they would still be considered artifacts created by humans.

Brian Villmoare, an associate professor of anthropology at the University of Nevada, told Live Science, "I do tend to think that *Australopithecus afarensis* could have made stone tools," but he noted that he has not examined the Lomekwi 3 artifacts.

A third candidate?

Braun said that if future fieldwork cannot alleviate concerns about the dating of Lomekwi 3, his second choice for the oldest archaeological site would be Ledi-Geraru in Afar, Ethiopia, which dates back about 2.8 million years.

At Ledi-Geraru, researchers found a partial hominin mandible with teeth, and they dated it by examining the age of the surrounding sediment, they reported in the journal Science in 2015.

Sahle expressed doubts about the dating of this site, saying that it may be considerably younger than 2.8 million years and that Gona is the site with the best unequivocal evidence.

Regardless of which of these archaeological sites is the oldest, all of them make the Giza pyramids (which are about 4,500 years old) and Stonehenge (which is roughly 5,000 years old) relatively young by comparison.

Originally published on Live Science.

Please visit the site: <https://www.livescience.com/oldest-archaeological-site.html?fbclid=IwAR0XzgsyN4kt40MZRza3oYsDIEqDJj1aQB5rLqaRRallWDiNotKbyeEVOIo>

WORKS ONGOING TO REVEAL CULTURAL TIMELINE OF ALACAHÖYÜK

Works that have been carried out in the ancient site of Alacahöyük, one of the first archaeological excavations of the Republic era, aim to reveal the detailed cultural timeline of the 7,000-year-old city.

Excavations in the Central Anatolian province of Çorum's Alacahöyük village, which started in 1935 with the order of the founder of Turkish Republic, Mustafa Kemal Atatürk, and the contribution of his personal wealth, still continue.

The ancient site of Alacahöyük, located 53 kilometers away from the city center, is among the most important archaeological centers of Anatolia as it embraced different civilizations since the Chalcolithic Age.

Local and foreign researchers from different disciplines have so far worked in the excavations where important traces of the ancient Anatolian cultural history, as well as the Hatti and Hittite civilizations, have been unearthed.

Archaeological excavations stopped after the death of the previous head of the excavation, Professor Aykut Çınaroğlu, and resumed in 2020 under the chairmanship of Professor Tayfun Yıldırım, a lecturer at Ankara University's Department of Protohistory and Near East Archaeology.

Speaking to the state-run Anadolu Agency, Yıldırım said that they focused on two main goals this year in Alacahöyük.

“One of my main goals is to identify the details of the cultural timeline in Alacahöyük and to reveal the place of the city in the chronology of Central Anatolia in line with this new information. A chronology has been attempted to be made in this place since 1935, but this chronological system must compete and be in harmony with the chronology we have obtained in other Hittite cities or other mounds today. Therefore, we will conduct test drillings in some areas,” Yıldırım said.

“In particular, we need new data to build the Chalcolithic and Early Bronze Age chronology on a solid basis. The dating methods, frequently used in the scientific world, and the place of Alacahöyük cultural layers are extremely important in history,” he added.

Stating that they will also examine the surrounding settlements during the excavations, Yıldırım said that they carry out geophysical studies around the ruins.

Noting that they will trace the traces of different cultures in the “lower city” part of Alacahöyük in this year's excavation program, Yıldırım said: “My other purpose is to determine what kind of archaeological formation is there not only in the mound but also around the mound.”

“We started this project last year. We are scanning around the ruins using geophysical methods. It was also reported by the previous team that there is a ‘lower city’ here, but we need to reveal the details.

For this, we will conduct test drillings. According to these drillings, we will try to find if there was a Bronze Age culture here or a ‘karum area’ [trade center established next to the city] in the era of Assyrian trade colonies. We will try to find answers to these questions,” he added.

Highlighting that Alacahöyük was an important cult city belonging to the Hittites, Yıldırım said: “Our primary goal is to preserve and protect the Hittite city with all its ruins. In other words, we need to somehow protect the Hittite palace complex, the structures connected to it, small temples, warehouses and granaries that were unearthed in previous excavations, as these ruins are the most beautiful visual elements of the city that are open to visitors. Our primary goal is to protect them. Previous teams made an archeology park plan here. We will continue our efforts to develop this plan and adapt it to today’s conditions. Alacahöyük is our ancestral heritage.”

Please visit the site: <https://www.hurriyetdailynews.com/works-ongoing-to-reveal-cultural-timeline-of-alacahoyuk-167854> [Go there for pix]

HOARD OF ROMAN GOLD COINS RECOVERED FROM SEABED

Archaeologists from the University of Alicante, and the Spanish Civil Guard Special Underwater Brigade (GEAS), in collaboration with the Town Council of Xàbia, has recovered a hoard of 53 gold coins from the 4th and 5th century AD.

The horde was identified after two amateur free divers discovered 8 coins in the bay of Portitxol in Xàbia.

The bay of Portitxol is an area well known for the abundance of underwater archaeological remains, where studies have previously found anchors, amphora, ceramics, and artefacts associated with ancient navigation.

In a series of underwater studies, researchers recovered 53 Roman coins from the late Roman period around the 4th and 5th century AD, consisting of coins depicting Valentinian I (3 coins), Valentinian II (7 coins), Theodosius I (15 coins), Arcadius (17 coins), Honorius (10 coins), and an unidentified coin. The team also discovered nails, in addition to deteriorated lead remains which may belong to a sea chest.

Professor in Ancient History, Jaime Molina, from the University of Alicante said: “This is one of the largest sets of Roman gold coins found in Spain and Europe.” Molina added: “This is an exceptional archaeological and historical find, since it can offer a multitude of new information to understand the final phase of the fall of the Western Roman Empire.”

The researchers point to the possibility that the coins may have been intentionally hidden, in a context of looting such as those perpetrated by the Alans in the area at that time. Therefore, the find would serve to illustrate a historical moment of extreme insecurity with the violent arrival of the barbarian peoples (Suevi, Vandals and Alans) in Hispania, and the final end of the Roman Empire in the Iberian Peninsula from AD 409.

The coins will be restored by the IVCR+i and will then be exhibited in the Soler Blasco Archaeological and Ethnographic Museum in Xàbia.

Please visit the site: <https://www.heritagedaily.com/2021/09/hoard-of-roman-gold-coins-recovered-from-seabed/141483>

CRUSADER MASS GRAVE IN LEBANON SHEDS LIGHT ON CRUELTY OF MEDIEVAL WARFARE, BY ROSSELLA TERCATIN

Archaeologists managed to reconstruct the rest of 25 individuals, all men, and analyzed their wounds.

A mass grave uncovered in Sidon, Lebanon, has shed new light on the Crusades and on the cruelty of medieval warfare, a new study in the academic journal PLOS ONE has shown.

Archaeologists unearthed a large quantity of human bones in the moat of the Saint Louis Castle in South Lebanon.

The area was first conquered by the Crusaders after the First Crusade in 1110. Some 150 years later, the Christian city was attacked and largely destroyed by the Mamluks in 1253 and then destroyed even more by the Mongols in 1260.

Pursuing the idea of liberating the holy sites from Muslim rule and encouraged by the Roman Catholic Church, European powers and sometimes peoples initiated several military campaigns in the Middle East during those centuries, which led to the establishment of a number of Christian states in the area of modern Israel, Lebanon and Syria, and for a certain period managed to place Jerusalem under Christian rule, following massacres against Jews, both in Europe and in the Middle East.

While widely chronicled in historical documents, very few archaeological remains have been found documenting the battles.

For this reason, the discovery of the mass grave offered unprecedented insights into warfare in medieval times, based on analysis of the type of wounds that were detected on the remains of approximately 25 individuals.

“All the bodies were of teenage or adult males, indicating that they were combatants who fought in the battle when Sidon was attacked,” UK Bournemouth University archaeologist Dr Richard Mikulski, one of the excavators, and a lead author of the study, said. “When we found so many weapon injuries on the bones as we excavated them, I knew we had made a special discovery.”

Separating the bones of each warrior required significant effort.

“To distinguish so many mixed up bodies and body parts took a huge amount of work, but we were finally able to separate them out and look at the pattern of wounds they had sustained,” said Dr Martin Smith, a co-author of the paper.

The scholars detected a high number of unhealed blade wounds, as well as wounds caused by other weapons capable of applying blunt force. In some cases, the wounds on the back of the skeletons suggested that the soldiers were struck down as they were trying

to flee, while in other cases, based on a high concentration of blade injuries on the necks, experts believe the men were executed by decapitation.

In addition, archaeologists discovered that the bodies must have been left unburied and exposed to the elements for a period.

“The way the body parts were positioned suggests they had been left to decompose on the surface before being dropped into a pit some time later,” Smith said. “Charring on some bones suggests they used fire to burn some of the bodies.”

This specific find has allowed scholars to present an evocative hypothesis.

“Crusader records tell us that King Louis IX of France was on crusade in the Holy Land at the time of the attack on Sidon in 1253,” Dr. Piers Mitchell, from Cambridge University, and a Crusader expert who participated in the research, said. “He went to the city after the battle and personally helped to bury the rotting corpses in mass graves such as these. Wouldn’t it be amazing if King Louis himself had helped to bury these bodies?” “So many thousands of people died on all sides during the crusades, but it is incredibly rare for archaeologists to find the soldiers killed in these famous battles,” he stressed. “The wounds that covered their bodies allow us to start to understand the horrific reality of medieval warfare.”

Please visit the site: <https://www.jpost.com/archaeology/crusader-mass-grave-in-lebanon-sheds-light-on-cruelty-of-medieval-warfare-680138>

WHAT DID BIBLICAL JERUSALEM LOOK LIKE SOME 2,500 YEARS AGO?

BY ROSSELLA TERCATIN

JPost One-on-One Zoomcast, Episode 34 - Rossella Tercatin and Prof. Yuval Gadot, archaeology and ancient near eastern cultures at Tel-Aviv University.

What did Jerusalem look like at the time of the kings of Judah some 2,500 years ago?

In the past few years, some new archaeological discoveries at the outskirts of the city have shed new light on the centuries that separate the Assyrian military campaign in the region in the last decades of the 8th century BCE and the Babylonian conquest in 586 BCE, which resulted in the destruction of Jerusalem and its temple.

“What we have uncovered is a level of wealth that we could not imagine before,” Prof. Yuval Gadot, the head Department of Archaeology and Ancient Near Eastern Cultures at Tel-Aviv University - and co-director of the excavations conducted by TAU and the Israeli Antiquities Authority at the City of David - said.

Salvage excavations conducted in preparation for new construction projects in the Arnona and Armon Hanatziv neighborhoods have exposed remains of monumental buildings that suggests that Jerusalem remained a vital center within the Assyrian-dominated region.

In light of new discoveries, also the renowned structure from the First Temple period at Ramat Rachel needs to be considered under a different light, not as an isolated complex a few kilometers from the city, but rather as part of a constellation of buildings.

The topic will also be covered during the conference “New developments in archaeology in Jerusalem and surroundings” organized by TAU, the Hebrew University of Jerusalem, the IAA and other partners on October 6-7 at the Begin Heritage Center in Jerusalem.

Please visit the site: <https://www.jpost.com/israel-news/what-did-biblical-jerusalem-look-like-some-2500-years-ago-680116>

'ANCESTOR' OF MEDITERRANEAN MOSAICS DISCOVERED IN TURKEY

The discovery of a 3,500-year-old paving stone, described as the "ancestor" of Mediterranean mosaics, offers illuminating details into the daily lives of the mysterious Bronze Age Hittites.

The assembly of over 3,000 stones -- in natural shades of beige, red and black, and arranged in triangles and curves -- was unearthed in the remains of a 15th century BC Hittite temple, 700 years before the oldest known mosaics of ancient Greece.

"It is the ancestor of the classical period of mosaics that are obviously more sophisticated. This is a sort of first attempt to do it," says Anacleto D'Agostino, excavation director of Usakli Hoyuk, near Yozgat, in central Turkey.

At the site three hours from Turkey's capital Ankara, first located in 2018, Turkish and Italian archaeologists painstakingly use shovels and brushes to learn more about the towns of the Hittites, one of the most powerful kingdoms in ancient Anatolia.

"For the first time, people felt the necessity to produce some geometric patterns and to do something different from a simple pavement," D'Agostino says.

"Maybe we are dealing with a genius? Maybe not. It was maybe a man who said 'build me a floor' and he decided to do something weird?"

The discovery was made opposite Kerkenes mountain and the temple where the mosaic is located was dedicated to Teshub, the storm god worshipped by the Hittites, equivalent to Zeus for the ancient Greeks.

"Probably here the priests were looking at the picture of Kerkenes mountain for some rituals and so on," D'Agostino adds.

The archaeologists this week also discovered ceramics and the remains of a palace, supporting the theory that Usakli Hoyuk could indeed be the lost city of Zippalanda.

A significant place of worship of the storm god and frequently mentioned in Hittite tablets, Zippalanda's exact location has remained a mystery.

Excavation director Anacleto D'Agostino describes the discovery as 'the ancestor of the classical period of mosaics' Adem ALTAN AFP

"Researchers agree that Usakli Hoyuk is one of two most likely sites. With the discovery of the palace remains alongside the luxurious ceramics and glassware, the likelihood has increased," D'Agostino says.

"We only need the ultimate proof: a tablet carrying the name of the city."

The treasures of Usakli Hoyuk, for which cedar trees were brought from Lebanon to build temples and palaces, were swallowed up like the rest of the Hittite world towards the end of the Bronze Age.

The reason is still not known.

But some believe a change in climate accompanied by social unrest is the cause.

Nearly 3,000 years after their disappearance, the Hittites continue to inhabit Turkish imagination.

A Hittite figure representing the sun is Ankara's symbol. And in the 1930s, the founder of the modern Turkish republic, Mustafa Kemal Atatürk, presented Turks as the direct descendants of the Hittites.

"I don't know if we can find a connection between ancient Hittites and people living here now. Centuries and millennia have passed, and people moved from one place to another," D'Agostino says.

"But I would like to imagine that some sort of spiritual connection exists."

In an attempt to honour this connection, the excavation team recreated Hittite culinary traditions, trying ancient recipes on ceramics produced as they would have been at the time using the same technique and clay.

"We reproduced the Hittite ceramics with the clay found in the village where the site is located: we baked dates and bread with them as the Hittites used to eat," says Valentina Orsi, co-director of the excavation.

"It was very good."

Please visit the site: <https://www.france24.com/en/live-news/20210926-ancestor-of-mediterranean-mosaics-discovered-in-turkey> [Go there for pix]

SODOM DESTROYED BY METEOR, SCIENTISTS SAY. BIBLICAL ARCHAEOLOGISTS NOT CONVINCED. BY GORDON GOVIER

Naturalistic explanation for a biblical miracle doesn't resolve questions of chronology at Tall el-Hammam excavation in Jordan.

A fireball exploded over the northern shore of the Dead Sea around 1650 BC, according to the findings of a multidiscipline team of 21 scientists. The explosion laid waste to the entire lower Jordan River Valley, sowing Dead Sea saltiness that ruined agriculture for several hundred years.

The huge 100-acre city located at what is today called Tall el-Hammam east of the Jordan River was destroyed, along with a dozen other smaller cities and multiple small villages. They were abandoned and uninhabited for hundreds of years.

The highly technical report—published this week in *Scientific Reports*, an online peer-reviewed journal, and already accessed more than 100,000 times—noted in conclusion the similarity to the biblical account of the destruction of Sodom and Gomorrah: “There are no known ancient writings or books of the Bible, other than Genesis, that describe what could be construed as the destruction of a city by an airburst/impact event.”

However, amid the wave of headlines, the unofficial peer reviews on social media from a number of archaeologists with varying degrees of familiarity with the Tall el-Hammam excavation were highly skeptical.

As Christianity Today reported seven years ago, few archaeologists outside of those working on the excavation team believe that Tall el-Hammam is Sodom.

“In my opinion, this is an example of evidence being marshaled to support the identification of the site as Sodom, as opposed to letting the site speak for itself and then—if the evidence supports it—put forth a proposal of it as Sodom,” archaeologist Robert Mullins told CT. Chair of the Department of Biblical Studies at Azusa Pacific University, he currently codirects the excavation at Abel Beth Maacah, a site in northern Israel. He is also listed on the Tall el-Hammam excavation website as a ceramic consultant.

Mullins, along with other evangelical archaeologists and Bible scholars, cite chronology as a major issue with the Sodom identification. The Bible's internal chronology places Abraham and the events in his life, including the destruction of Sodom and Gomorrah, three to four centuries earlier. At 1650 BC, the Israelites were in Egypt, with the Exodus still 200 years in the future.

Pottery is a key tool for archaeological dating. Mullins, reviewing Tall el-Hammam pottery, saw a lot of 16th-century BC pieces, which seems to indicate the city was destroyed after the date of the airburst fireball described in the article.

Archaeologists Steve Ortiz, director of Lipscomb University's Lanier Center of Archaeology, agreed that while Tall el-Hammam is an important site, its destruction date is too late to fit the Sodom scenario. He dismissed the fireball hoopla to CT. "[Their] destruction does not look any different than any other destruction," he said. "We have Assyrian and Egyptian destructions at Gezer that looks just as dramatic."

Israeli archaeologist Aren Maeir of Bar Ilan University noted a lack of citations to other studies of the archaeology of destruction and thought the destruction the report described was not that unusual. "I see some things that remind me of phenomena that we have in the Iron Age IIA (1000–925 BC) destruction at Tell es-Safi/Gath (e.g. vitrified or "melted" bricks, ultra-high temperatures, and other things)—a destruction that is most likely caused by the conquest and destruction of the site by Hazael of Aram," he said. Hazael's attack on Gath is reported in 2 Kings 12:17.

The archaeological disagreement over Sodom centers not only on the chronology but also on the location. Sodom is conventionally located more to the south end of the Dead Sea.

Steven Collins, the codirector of the Tall el-Hammam excavation, often quotes Genesis 13, where Abraham and Lot camped between Bethel and Ai and looked down on Sodom, which seems to favor its location north of the Dead Sea. But Mullins said Collins dismisses Genesis 18:16. "Abraham is at Mamre looking down at Sodom; one cannot see Hammam from the Hebron area," he observed.

Whether it's a fireball that destroys a city, a mighty wind that holds back the waves of the Red Sea, an ark that landed on a mountain after a global flood, or celestial events that herald a royal baby's birth, there's a tendency to look for naturalistic explanations for biblical miracles—as if that would prove the Bible to skeptics.

The scientists who wrote this report on the Jordan River Valley fireball state, "An eyewitness description of this 3600-year-old catastrophic event may have been passed down as an oral tradition that eventually became the written biblical account about the destruction of Sodom."

If the Bible is just a collection of oral traditions that were puzzled together centuries later, perhaps the fireball would fit. But a century and a half of increasingly detailed archaeological investigation shows time and again that the historical framework of the biblical story holds up back to the time of Abraham.

"There is no question that this is an amazing site," Mullins concluded. All of the archaeologists would agree with that. "But they are going to have to put forth more evidence that it's Sodom."

Gordon Govier is host of The Book and The Spade podcast and editor of ARTIFAX magazine.

Please visit the site:

<https://www.christianitytoday.com/news/2021/september/sodom-meteor-biblical-archaeology-tall-el-hammam-airburst.html>

CAN MUMMIFIED CATS HELP UNRAVEL THE MYSTERIES OF ANCIENT DYES?

BY SARAH E. BOND

Museum preservation specialists have demonstrated that these remains help us reconstruct the history and meaning of dyes used in animal burials.

Thousands of animals — from crocodiles to cobras, down to scarab beetles — were once mummified in ancient Egypt. New analysis of the dyes on the textiles that tightly bound these mummies is now helping scientists rewrite the history of color.

Recent finds have increased the number and type of mummified animals known today. Archaeologists working at Saqqara, south of Cairo, in 2019 discovered dozens of mummified animals. The necropolis finds included two lion cubs dating to the 26th Dynasty (664–525 BCE), only the second time lion mummies have been found. The use of CT scans have commonly revealed the bones within these objects, yet questions about the use of color and dyed fabrics on the outside of these objects remained.

Work to reconstruct the techniques of fabrication and materiality of the textiles used on animal mummies has a long history. In 1999, Egyptologist Salima Ikram began to reconstruct the ancient techniques for the mummification of animals along with her students at the American University in Cairo. The research would eventually lead to *Divine Creatures: Animal Mummies in Ancient Egypt*. The study explored the four different types of offerings for which the researchers concluded these animal mummies were used: food offerings, sacred animals, votive offerings, and as pets.

CT scans of the ibis at the Brooklyn Museum have revealed that the herringbone pattern on the linen, resin, beak, and crown all cover a mummy made only from ibis feathers (30 BCE–100 CE) Abydos, Egypt, now at the Brooklyn Museum, Brooklyn, NY (image courtesy the Brooklyn Museum).

These remains of ibises, cats, calves, crocodiles, and various birds of prey have generally been studied for their ability to reveal the structures of Egyptian religion and ancient embalming techniques, but museum preservation specialists and digital humanists interested in the history of color have demonstrated that these remains can also help us reconstruct the history and meaning of the dyes, tannins, and patterns used in animal burials.

In order to reconstruct the colors that once decorated animal mummies, museum conservators and preservation experts have increasingly turned to non-invasive digital techniques. A new article from researchers at scientific labs within London's British Museum and the Museo Egizio in Turin analyzes the colorants used on textile wrappings of animal mummies originally excavated from Ancient Egypt and held within museum collections.

Diego Tamburini, Joanne Dyer, and the rest of the authors of the open access study note that the linen wrappings used on these animals were often thrown away and undervalued as items of interest in their own right by modern archaeologists.

[T]he use of bands of different colours (black, brown, orange, pinkish/red) could create many variations of the same pattern.

Additionally, dyed textiles and painted motifs were used to reconstruct some of the anatomical parts of the animal (eyes, ears, beak, etc.) ...

In order to examine the chemical nature of the colorants used on mostly linen textiles created from flax plants, scientists used broadband multispectral imaging (MSI) and then fiber optic reflectance spectroscopy (FORS) technology. Optical microscopy with visible or UV light (called Vis-OM, UV-OM), as well as advanced analytical chemistry methods such as high performance liquid chromatography–tandem mass spectrometry (HPLC–MS/MS) all aided the museum scientists in identifying the chemicals used on these delicate linen wrappings.

Dyes responded differently to variant types of UV irradiation. The luminescence given off by each dye is a type of signature that can indicate when and where it was used. For the animal mummy study, the scientists discovered use of safflower (*Carthamus tinctorius* L) and red ochre as two of the primary colorants identified among the 20 specimens examined by the museums. When used as a dye, safflower tends to provide a nice pinkish hue. However, it is very sensitive to UV rays and thus fades quickly following exposure to the light sources.

Dyes responding differently to differing types of UV irradiation: a, Visible-reflected (VIS); b, UV-induced visible luminescence (UUVL); c, infrared-reflected false colour (IRRF); d, UV-reflected false colour (UUVRF) images of the proper right top section of C2 (2021) (image courtesy Tamburini et al., and the Heritage Science journal)

In addition to dyes, analysis of the brown and black linens indicated the use of tannins. These tannins were used by those in ancient Egypt to bind dyes — thus acting as a mordant — to the fibrous materials being stained. Darker colors in the study were found to often have a tannin combined with an additional iron mordant, whereas the brown linen samples tended not to have iron added. Iron triggers autoxidation on these textiles. This often leads to quicker breakdown of them. That is why darkly colored linens from antiquity are often so difficult to preserve.

It is important to understand color not only in terms of accurate reconstruction, but also as a means of connecting these objects to Egyptian religion. Christina Riggs, a professor at Durham University and historian of ancient Egypt who specializes in its visual culture, spoke to Hyperallergic about the reasons behind these colorful and complex wrappings.

The dyed colors of the linen textiles on these embalmed animals often goes together with intricate patterns of folds and wrappings.

Handbooks that explain how to wrap animal mummies survive from ancient Egypt. Magic phrases were spoken by priests while the wrapping and interlacing took place. Something similar might have taken place when wrapping smaller animals or bundles of animal parts, helping these objects function as thanksgiving offerings for the gods. The

intricate patterns perhaps also had a protective (apotropaic) function, confusing any harmful forces that would threaten the sacred.

The partnership between labs at the British Museum and those in Torino are increasingly revealing that mummy wrappings themselves were much more colorful than we might have thought. Despite the widespread perception that inside sarcophagi lay only drably covered bodies, new chemical analysis of these mummies, along with earlier work on the red colorants on dyed shrouds, have established that these wrappings deserve a second look.

The intricate patterns and strategic colors of the linens used on mummified remains have only begun to be understood by humanists, museum specialists, and chemists working together. What is apparent is that like literary texts, color does not exist within a vacuum and its meaning must be translated. Color reconstruction is important not only to revivifying our reimagination of the past, but also to decoding the complex lexicon spoken by both the absence and the addition of colored patterns in the ancient world

Please visit the site: <https://hyperallergic.com/678360/can-mummified-cats-help-unravel-the-mysteries-of-ancient-dyes/>

OLDEST BONE TOOLS FOR CLOTHES- MAKING FOUND IN MOROCCO

Archaeologists in Morocco have identified clothes-making tools fashioned from bone dating back 120,000 years, the oldest ever found, one of the researchers said.

“It’s a major discovery,” Moroccan archaeologist Abdeljalil El Hajraoui said, “because while older bone tools have been found elsewhere, it’s the first time we have identified bone tools [this old] that were used to make clothing.”

The international team discovered more than 60 tools in Contrebandiers (Smugglers) Cave, less than 20 kilometres from the North African country’s capital.

They had been “intentionally shaped for specific tasks that included leather and fur working”, the team wrote in a study published in the journal iScience.

The discovery could help answer questions on the origins of modern human behaviour, said El Hajraoui, a researcher at the National Institute of Archaeology and Cultural Heritage (INSAP).

“Sewing is a behaviour that has lasted” since prehistory, he told AFP. “Tools like those discovered in the cave were used for 30,000 years, which proves the emergence of collective memory.”

The iScience paper predicted that “given the level of specialization of the bone tool material culture at Contrebandiers Cave, it is likely that earlier examples will be found.”

The team also discovered living spaces dug into the ground or built in the cave, as well as perforated seashells apparently used as ornaments.

“This was a cultural evolution that still needs study,” El Hajraoui said.

Morocco has been the location of a number of significant archaeological findings, including on Wednesday when the country’s culture ministry announced that researchers in a cave near Essaouira, about 400 kilometres southwest of Rabat, had discovered a collection of about 30 shaped marine snail shells dating back as much as 150,000 years.

In a statement, it said they were “the oldest ornaments ever discovered”.

That followed an announcement in July when archaeologists revealed the discovery of North Africa’s oldest Stone Age hand-axe manufacturing site, dating back 1.3 million years.

The find pushed back by hundreds of thousands of years the start date in North Africa of the Acheulian stone tool industry associated with a key human ancestor, Homo erectus, researchers on the team told journalists in Rabat.

In 2017, the discovery of five fossils at Jebel Irhoud in Morocco, estimated at 300,000 years old, overturned evolutionary science when they were designated Homo sapiens.

Please visit the site: <http://www.dailystar.com.lb/Arts-and-Ent/Culture/2021/Sep-24/523658-oldest-bone-tools-for-clothes-making-found-in-morocco.ashx>

3 EGYPTIAN MUMMY FACES REVEALED IN STUNNING RECONSTRUCTION, BY MINDY WEISBERGER

A forensic artist created the 3D reconstructions based on genetic data.

The faces of three men who lived in ancient Egypt more than 2,000 years ago have been brought back to life. Digital reconstructions depict the men at age 25, based on DNA data extracted from their mummified remains.

The mummies came from Abusir el-Meleq, an ancient Egyptian city on a floodplain to the south of Cairo, and they were buried between 1380 B.C. and A.D. 425. Scientists at the Max Planck Institute for the Science of Human History in Tübingen, Germany, sequenced the mummies' DNA in 2017; it was the first successful reconstruction of an ancient Egyptian mummy's genome, Live Science reported at the time.

And now, researchers at Parabon NanoLabs, a DNA technology company in Reston, Virginia, have used that genetic data to create 3D models of the mummies' faces through a process called forensic DNA phenotyping, which uses genetic analysis to predict the shape of facial features and other aspects of a person's physical appearance.

"This is the first time comprehensive DNA phenotyping has been performed on human DNA of this age," Parabon representatives said in a statement. Parabon revealed the mummies' faces on Sept. 15 at the 32nd International Symposium on Human Identification in Orlando, Florida.

Scientists used a phenotyping method called Snapshot to predict the men's ancestry, skin color and facial features. They found that the men had light brown skin with dark eyes and hair; overall, their genetic makeup was closer to that of modern individuals in the Mediterranean or the Middle East than it was to modern Egyptians', according to the statement.

The researchers then generated 3D meshes outlining the mummies' facial features, and calculated heat maps to highlight the differences between the three individuals and refine the details of each face.

Parabon's forensic artist then combined these results with Snapshot's predictions about skin, eye and hair color.

Heat maps of the different faces enabled scientists to refine details and highlight differences in the mummies' features. (Image credit: Parabon NanoLabs)

Working with ancient human DNA can be challenging for two reasons: the DNA is often highly degraded, and it's usually mixed with bacterial DNA, said Ellen Greytak, Parabon's director of bioinformatics.

"Between those two factors, the amount of human DNA available to sequence can be very small," Greytak told Live Science in an email.

However, because the vast majority of DNA is shared between all humans, scientists don't need the entire genome to glean a physical picture of a person. Rather, they only need to analyze certain specific spots in the genome that differ between people, known as single nucleotide polymorphisms (SNPs). Many of these SNPs code for physical differences between individuals, Greytak said.

However, sometimes ancient DNA doesn't provide enough SNPs to pinpoint a given trait. In those cases, scientists can replace absent genetic data with substituted values that come from other SNPs nearby, said Janet Cady, a Parabon bioinformatics scientist. Statistics that are calculated from thousands of genomes reveal how closely associated each SNP is with an absent neighbor, Cady told Live Science in an email. From there, the researchers can make a statistical prediction of what the missing SNP was.

The processes used on these ancient mummies could also help scientists to recreate faces to identify modern remains, Greytak told Live Science. Of the approximately 175 cold cases that Parabon researchers have helped to solve using genetic genealogy, so far nine were analyzed using the techniques from this study, Greytak said.

Mindy Weisberger is a Live Science senior writer covering a general beat that includes climate change, paleontology, weird animal behavior, and space. Mindy holds an M.F.A. in Film from Columbia University; prior to Live Science she produced, wrote and directed media for the American Museum of Natural History in New York City.

Please visit the site: <https://www.livescience.com/ancient-egyptian-mummies-faces-reconstructed-dna> [Go there for pix]

DNA HAS FINALLY REVEALED THE MYSTERIOUS ORIGINS OF THE ANCIENT ETRUSCANS, BY MICHELLE STARR

DNA evidence has finally ended the debate about where the ancient Etruscans – an ancient civilization whose remains are found in Italy – came from.

According to almost 2,000 years worth of genomic data, collected from 12 sites across Italy, these enigmatic people did not emigrate from Anatolia (a region that's now part of Turkey), but shared genetic heritage with people who lived nearby in ancient Rome.

All were descended from pastoralists who moved into the region from the steppes during the Late Neolithic and Bronze Age. Given that the steppes are thought to be where Indo-European languages originated, the finding underscores another Etruscan mystery – that of their (now extinct) non-Indo-European language, which managed to persist for centuries.

"This linguistic persistence, combined with a genetic turnover, challenges simple assumptions that genes equal languages," said anthropologist David Caramelli of the University of Florence in Italy, "and suggests a more complex scenario that may have involved the assimilation of early Italic speakers by the Etruscan speech community, possibly during a prolonged period of admixture over the second millennium BCE."

There's a lot we don't know about the Etruscans. Some evidence of their presence remains, obviously. We know they were remarkable craftspeople, skilled metalworkers, and politically sophisticated. But we only partially understand their extinct language, which has made teasing out their origins complicated, particularly in the absence of solid genetic evidence.

One school of thought, championed by Greek historian Herodotus, was that the Etruscans migrated into Italy from Anatolia or the Aegean, and that their culture was descended from Greek origins. This interpretation is not favored by modern scholars; archeologists have uncovered very little evidence in support of migration.

The other option is that the Etruscan civilization emerged from an indigenous population that had already been settled in the region – what is known as an autochthonous civilization.

Led by anthropologist Cosimo Posth of the University of Tübingen in Germany, a large international team of researchers sought to get to the bottom of the mystery by studying ancient DNA. They collected genetic samples from 82 individuals spanning a timeframe from 800 BCE to 1000 CE across Etruria and southern Italy, and compared them to DNA from other ancient and modern populations.

They found that the Etruscans shared a genetic profile with neighboring populations, such as the Latins that inhabited Rome at the same time, even though the two groups had significant linguistic and cultural differences.

As with most other European populations, a large proportion of this genetic profile can be attributed to steppe-related ancestry. It's unclear, then, how such significant differences arose between the Etruscans and their neighbors.

The Etruscan language is not, however, completely unique. It belongs to a proposed group called the Tyrsenian languages, all of which are extinct. This group includes Rhaetic, once spoken in the Alps, and Lemnian, from Lemnos in the Aegean sea.

This could suggest that these languages may have spread via a sea-borne expansion from the Mediterranean, but the genetic profile of the Etruscans shows no evidence of this origin. Instead, the researchers suggest, perhaps the Tyrsenian languages spread from Etruria as a point of origin. Further investigation is definitely warranted.

The team's analysis also revealed the results of major changes in Italy. When the Roman Empire rose, the ancient DNA revealed, the Etruscan population experienced a significant genetic shift as people from the eastern Mediterranean mixed with the Italian population, likely as the result of the Roman importation of slaves and soldiers.

"This genetic shift clearly depicts the role of the Roman Empire in the large-scale displacement of people in a time of enhanced upward or downward socioeconomic and geographic mobility," said anthropologist Johannes Krause of the Max Planck Institute for Evolutionary Anthropology, Germany.

In the Middle Ages, following the collapse of the Roman Empire, genetic profiles changed again, with northern European ancestries spreading across the Italian peninsula. This was probably the result of the invasion of the Lombards, from Germany and Sweden, who conquered and then ruled most of Italy from 568 to 774 CE.

From about 1,000 CE, however, the genetic profiles of people in Tuscany, Lazio, and Basilicata have remained more or less unchanged.

This is consistent with the genetic profile of people in Rome, the researchers said. Future studies including additional datasets from other regions of the Roman Empire will help substantiate these findings.

"The Roman Empire appears to have left a long-lasting contribution to the genetic profile of southern Europeans, bridging the gap between European and eastern Mediterranean populations on the genetic map of western Eurasia," Posth said.

The research has been published in Science Advances.

Please visit the site: <https://www.sciencealert.com/dna-has-finally-revealed-the-mysterious-origins-of-the-ancient-etruscans> [Study at <https://www.science.org/doi/10.1126/sciadv.abi7673#F1>
