



Επιστημονικό Σωματείο,
Έτος Ίδρυσης 1982, έδρα:
Κάνιγγος 27, 106 82 Αθήνα
(Ένωση Ελλήνων Χημικών)

**ΔΙΟΙΚΗΤΙΚΟ
ΣΥΜΒΟΥΛΙΟ:**

Β. Κυλίκογλου (πρόεδρος),
Ι. Μπασιάκος (αντιπρόεδρος),
Ε. Φιλίππακη (γραμματέας),
Ι. Καρατάσιος (ταμίας),
Ν. Ζαχαριάς (μέλος),
Α. Hein (μέλος),
Γ. Φακορέλλης (μέλος)

Πληροφορίες:

Γ. Φακορέλλης (σύνταξη,
επιλογή ύλης)

E-mail: yfacorel@teiath.gr

Scientific Association, Year
of Establishment 1982,
Headquarters: Kaniggos 27,
106 82 Athens (Association
of Greek Chemists)

BOARD:

V. Kilikoglou (president),
J. Bassiakos (vice-president),
E. Philippaki (secretary),
I. Karatassios (treasurer),
N. Zacharias (member),
A. Hein (member),
Y. Facorellis (member)

Information: Y. Facorellis
(editor)

E-mail: yfacorel@teiath.gr

Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

- Φεβρουάριος 2015 -

Η αξιοπρέπεια, η ευγένεια, η φρόνηση, η ακολασία, η φιλοκαλία, φανερώνονται απ' το πρόσωπο κι απ' τα σχήματα των ανθρώπων, κι όταν περπατάνε κι όταν κάθονται.
(Σωκράτης)

Newsletter of the Hellenic Society of Archaeometry

- February 2015 -

Nr. 167

ΠΙΝΑΚΑΣ ΠΕΡΙΕΧΟΜΕΝΩΝ – TABLE OF CONTENTS

ΣΥΝΕΔΡΙΑ – CONFERENCES/WORKSHOPS

SHARING CULTURES – 4th International Conference on Intangible Heritage
September 21-23, 2015, Lagos, Algarve, Portugal, CALL FOR PAPERS **page 6**

Call for papers EAA 2015: The social context of metallurgy, 2-5 September,
Glasgow **page 8**

Deadline extension to Feb. 12 for "Radiocarbon and Diet" proceedings **page 10**

Production and consumption of fermented beverages in prehistory, 21st Annual
Meeting of the European Association of Archaeologists (EAA), Glasgow,
Sept 2-5, Call for papers **page 12**

Mathematical Practices in relation to the Astral Sciences, Paris, Spring **page 14**

ASOR Member-Organized Session: Integrated Chronologies of the Bronze
Age: Combining Historical, Archaeological, and Scientific Approaches,
American Schools of Oriental Research, Annual Meeting, Atlanta, GA, The
InterContinental Buckhead Atlanta Hotel, November 18-21, 2015 CALL FOR
PAPERS **page 15**

Call for papers: EAA session Climate and Society in the ancient Near East:
new palaeoclimate and palaeoenvironmental reconstructions, climate model
simulations, and archaeological implications, 21st Annual Meeting of the
European Association of Archaeologists, Glasgow 2015, 2-5 September **page 16**

EAA 2015, Recycling things and ideas: linking scientific, archaeological and
conceptual approaches to the reuse of materials in the past, CALL FOR
PAPERS **page 18**

EUROPEAN ASSOCIATION OF ARCHAEOLOGISTS 21ST ANNUAL
MEETING, GLASGOW, UK, 2-5 SEPTEMBER 2015, Science in
Archaeology theme, Proposed session: The in-situ characterisation of
archaeological materials, buildings and artworks: implications for the practice
of archaeology **page 19**

3rd Young Researchers' Conference in Aegean Archaeology, Department of
Aegean Archaeology, Institute of Archaeology, University of Warsaw, Poland,
April 24th, 2015, Call for Papers **page 21**

BRITISH SCHOOL AT ATHENS - LIST OF EVENTS (February – June
2015) **page 23**

Digital Archaeology Workshop: "Mobilizing the Past for a Digital Future: the
Potential of Digital Archaeology", February 27-28, 2015, Wentworth Institute
of Technology (WIT), Boston, MA **page 27**

ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ – JOB VACANCIES/FELLOWSHIPS

University of Tübingen, Zooarchaeology/Archaeobotany Technician posting ... **page 28**

Post-Doctoral Position at the University of Tübingen, Faculty of Humanities,
Institute of Prehistory, Protohistory and Medieval Archaeology **page 29**

2015 RICHARD SEAGER DOCTORAL FELLOWSHIP, APPLICATION
GUIDELINES **page 31**

Position in CAMS sample prep lab **page 34**

SUERC AMS Scientist positions **page 36**

ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS

MSc in Cultural Heritage Materials and Technologies, CultTech, University of
the Peloponnese **page 37**

Scholarships for the Advanced Masters in Structural Analysis of Monuments
and Historical Constructions **page 38**

2015 MICHAEL VENTRIS MEMORIAL AWARD FOR MYCENAEAN
STUDIES **page 39**

The Robin Hägg Memorial Fund **page 41**

Short Course in Radiocarbon Dating & Bayesian Chronological Analysis
(Oxford: Mon 30 Mar to Wed 1 Apr 2015) **page 42**

OPTO-CH POLITEIA 2015 WORKSHOP, 04-10 May 2015, Lasers for Art's
Sake IESL - FORTH, Heraklion, Crete **page 43**

INTERNET SITES

Anthropological Index Online **page 45**

ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

Oxford Journal of Archaeology, Volume 34, Issue 1 Pages 1 - 108, February
2015 **page 47**

Features of Common Sense Geography: Implicit Knowledge Structures in
Ancient Geographical Texts **page 48**

The Origins and Use of the Potter's Wheel in Ancient Egypt **page 52**

The Cambridge Prehistory of the Bronze and Iron Age Mediterranean **page 53**

European Journal of Archaeology, Volume: 18, Number: 1 (February 2015) **page 55**

ΕΙΔΗΣΕΙΣ - NEWS RELEASE

Ancient Middle East Shipwrecks Shed Light on Shipbuilding History, by Agata
Blaszczyk-Boxe **page 58**

3 cheers for the onion	page 60
Ancient Amulet Discovered with Curious Palindrome Inscription, by Owen Jarus	page 63
Top Ten Underwater Discoveries of 2014, by April Holloway	page 65
Tomb of previously unknown pharaonic queen found in Egypt	page 69
Osiris tomb discovered in Luxor - A symbolic tomb of the god Osiris has been discovered at Al-Gorna on Luxor's west bank, by Nevine El-Aref	page 70
Atlantis' Legendary Metal Found in Shipwreck, by Rossella Lorenzi	page 71
Pollution turning the Taj Mahal yellow, by Amit Bhattacharya	page 73
Tabun caves and use of fire	page 75
Ancient Egyptian fortress unearthed in Sinai Foundation Of The Fortress Discovered At Tell Haboa, by Rany Mostafa	page 77
Egyptian Coffin Conservation Project – Oriental Institute, University of Chicago	page 78
Expedition to Idalion, Cyprus, Explores Ancient Sanctuaries	page 80
How to Recreate a Sloppy Ancient Greek Drinking Game, by Megan Gannon .	page 82
Archaeologists make unique discoveries in Egypt	page 85
Urantians used jewelry according to status	page 87
Tomb of Huy, ruler of Nubia under Tutankhamun, to be opened to the public, by April Holloway	page 88
Ancient golden artefacts found in Almaty	page 89
More on Tel Habuwa (Egypt) discoveries, by Nevine El-Aref	page 90
Ancient Piece of Leather Found in Burnt City, by Adam Steedman Thake	page 93
Egypt: Mummy mask found to contain 'oldest known gospel' from first century AD, by Mary-Ann Russon	page 95
Archaeologists Investigate Ancient Greek Temenos on Black Sea Island – Possible evidence of lost temple of Apollo uncovered	page 98
More Progress Made Toward Learning Contents of Herculaneum Scrolls, by Nicholas Wade	page 100

King Tut's Burial Mask Has Been "Irreversibly Damaged", by George Dvorsky **page 102**

Archaeologists Want Egyptian Officials Charged for Damage to
Tutankhamen's Burial Mask, by Robert Mackey **page 103**

Post-traumatic stress 'evident in 1300BC', by James Gallagher **page 105**

Red Seat Numbers Found on Rome's Colosseum, by Rossella Lorenzi **page 106**

A Graeco-Roman necropolis was uncovered during illegal excavations in
Alexandria, by Nevine El-Aref **page 108**

An innovative method of documenting shipwrecks **page 109**

Skull Fossil Offers New Clues on Human Journey From Africa, by John Noble
Wilford **page 111**



ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS

SHARING CULTURES – 4TH **INTERNATIONAL CONFERENCE ON** **INTANGIBLE HERITAGE SEPTEMBER 21-23,** **2015, LAGOS, ALGARVE, PORTUGAL,** **CALL FOR PAPERS**

Organised by: Green Lines Institute for Sustainable Development

Conference Overview
Lagos, Portugal

SHARING CULTURES 2015 - 4th International Conference on Intangible Heritage aims at pushing further the discussion on Intangible Cultural Heritage (ICH), under the main topics proposed by the UNESCO Convention adding some new field of discussion, namely on what concerns management and promotion of ICH, educational matters and musealization (please refer to the list of Topics).

The concept of ICH gained its rightful place among the scientific community during the last two decades and a significant amount of work has been done by a large number of researchers, academics and practitioners, leading to the recognition of ICH as fundamental piece for the comprehension of human societies, organisations and ways of living. Accordingly, scientific events that gather scholars, researchers and academics with on-going work on ICH are privileged moments to share experiences, problems, questions and conclusions. SHARING CULTURES in its 2015 edition aims at consolidating its rightful place among those events.

As in its previous editions SHARING CULTURES 2015 will include a number of workshops promoting some hands-on experience to all Delegates who will have the opportunity to learn traditional know-how from its owners and practitioners.

Authors intending to submit papers to SHARING CULTURES 2015 are encouraged to address one of the topics of the Conference by providing evidence of ongoing research work.

The Conference will welcome papers and presentations on field work, case studies and theoretical approaches to ICH.

SHARING CULTURES 2015 is a peer reviewed conference.

Visit the conference website for full details about the conference scope, topics and submission procedures at:

<http://sharing.greenlines-institute.org>

Abstract Submission

Submit an abstract via the conference website: <http://sharing.greenlines-institute.org/> or contact the Conference Secretariat below.

Topics

- Oral traditions and expressions
- Performing arts
- Social practices
- Traditional craftsmanship
- Management and promotion of intangible heritage
- Authenticity of intangible heritage
- Intangible heritage and education
- Special Chapter: ecomuseums, community museums and living communities

Conference Secretariat

Secretariat SHARING CULTURES 2015

Green Lines Institute for Sustainable Development Av. Alcaides de Faria, 377 S12

4750-106 Barcelos, PORTUGAL

Telephone: + 351 253 815 037

Email: sc2015@greenlines-institute.org



CALL FOR PAPERS EAA 2015: THE SOCIAL CONTEXT OF METALLURGY, 2-5 SEPTEMBER, GLASGOW

Dear colleagues,

I hope you had a Happy New Year.

I would like to draw your attention to our session for the coming EAA conference (2-5 September, Glasgow): '***The social context of metallurgy: material and identity***'. The session covers a wide chronological and geographical spectrum and invites papers focusing on the study of past metallurgical technology as a means to discuss its social context and cultural expressions (for more details see abstract below).

The call for papers is open until 16 February 2015 and abstracts can be submitted online at <http://eaaglasgow2015.com/call-for-papers/>

If you are interested in submitting a proposal and for any further questions please do not hesitate to contact me at s.orfanou@ucl.ac.uk.

all best wishes,

Vana

The social context of metallurgy: material and identity

Main author details

Ms. Vana Orfanou, Institute of Archaeology, UCL
s.orfanou@ucl.ac.uk

Co-Author(s)

Ms. Ruth Fillery-Travis, Institute of Archaeology, UCL
Mr. Thomas Birch, Institut für Archäologische Wissenschaften der Goethe-Universität Frankfurt am Main

Session details

Session type
Oral presentation
Session ID
SA23
Session theme
Science and Archaeology

Abstract

In recent decades, archaeometallurgy has significantly grown within the field of archaeological science. Currently, the use of more accessible and affordable analytical instruments and techniques such as, for example, portable XRF equipment, has made archaeometallurgical studies increasingly popular, while considerable datasets are being generated each year. Considering the large volume of analytical data developed by both archaeologists and archaeometallurgists, this session aims to explore and expand the contribution of scientific analyses to archaeological interpretation beyond a mere presentation of quantitative data. Past metallurgical activities and the finished objects were a well-embedded element of past societies, while they were the products of the socio-economic structures and organisation of the respective communities. Metal objects have been diachronically and widely used to cover peoples' various everyday needs, as well as they have communicated more personal and intimate sentiments as gifts to the gods or the dead. Thus, the investigation of ancient metallurgy has the potential of referring back to and revealing to a greater extent the elements of the society/-ies which contributed in the materialisation of these technologies. The present session invites papers which employ scientific methods in the study of past metallurgy including finished objects/tools, e.g. metallurgical ceramics, by-products, e.g. slag, and/or structures, e.g. furnaces, and which use these data to discuss the social context of metallurgy amongst past communities. Of interest would also be the expressions of individual/collective identity/-ies and the materiality of metallurgical practices/objects as seen from the investigation of techniques and patterns of production/consumption of the metal artefacts. Research focus may relate to all periods and stages of metal technology's cycle and the metal objects' biographies including primary and secondary production, (re)use, and disposal. Overall, the session aims to shed light on the manifold cultural expressions and technological choices that were practiced during metal production and left their imprint on the metal objects.

DEADLINE EXTENSION TO FEB. 12 FOR "RADIOCARBON AND DIET" PROCEEDINGS

Hello all,

Please note that the deadline for the “¹⁴C in the Environment” proceedings has been extended to **February 12**. This is a one-time extension, so please be sure to submit by Feb. 12.

Submissions intended for the “Radiocarbon & Diet” proceedings will be published as a special issue of the journal *Radiocarbon*.

Submission details:

The conference registration covered publication fees up to 8 printed pages (about 16 pages in MS Word for all text, figures, tables, references, etc.). Papers exceeding the 8-page limit will be subject to page charges of \$50 per excess page. Please keep in mind the page restrictions and possible charges when writing the article.

Submissions should be done through the online submission page:

<https://journals.uair.arizona.edu/index.php/radiocarbon/information/authors>

If already registered with the site, simply login and follow the instructions for a new submission. If authors are not registered with the site, please register as a new user (and choose “author” from the dropdown menu at the bottom of the page).

Once logged in, please fill in the author and coauthor names and contact information, the title, and paste the abstract:

<https://journals.uair.arizona.edu/index.php/radiocarbon/author/submit/1>

At the bottom of this page, in the box labeled “Comments for the Editor”, please enter “Radiocarbon & Diet”. This way, we can track these manuscripts separately from the regular journal articles. The following Steps of the submission process allow one to upload files for the manuscript and any Supplemental files meant to accompany the article. The Supplemental files could be overly long tables, extra figures, coding for OxCal models, or any other material that could benefit readers of the article but are not necessary to print in the article.

Any questions or problems concerning the submission process should be directed to Mark McClure (mcclurem@email.arizona.edu).

Best,

Mark

Mark McClure
RADIOCARBON Managing Editor

Univ. of Arizona, Dept. of Geosciences
4717 E. Fort Lowell Rd, #104
Tucson, AZ USA 85712
+1 (520) 621-0641 phone | +1 (520) 621-0584 fax
www.radiocarbon.org | <https://journals.uair.arizona.edu/index.php/radiocarbon/index>

Follow us on Twitter: <https://twitter.com/14Cjournal>

**PRODUCTION AND CONSUMPTION OF
FERMENTED BEVERAGES IN PREHISTORY,
21ST ANNUAL MEETING OF THE
EUROPEAN ASSOCIATION OF
ARCHAEOLOGISTS (EAA), GLASGOW, SEPT
2-5, CALL FOR PAPERS**

As part of the 21st Annual Meeting of the European Association of Archaeologists (EAA), to be held in Glasgow between the 2nd and 5th September 2015, we are organizing a session that will present topics on fermented foods and beverages in pre- and protohistory, focusing mainly on methods used to identify fermentation products and their cultural significance.

The call for abstracts is now open until the 16th February 2015, and we would like to invite you to submit paper/poster abstracts. Abstracts can be submitted by following this link: <http://eaaglasgow2015.com/call-for-papers/>

Shira Gur-Arieh, Domingo Carlos Salazar García, Cynthianne Debono Spiteri

ABSTRACTS

Main theme: Science and Archaeology

Session title: Exploring the production and consumption of fermented beverages and foods in pre- and protohistoric communities (SA9)

Abstract: Fermentation is an important process in the production of some of the staple food products and beverages in the human diet. It is brought about by the action of yeast, enzymes and bacteria, which convert carbohydrates into alcohols, organic acids and gas. Examples of these are the leavening of bread, the production of beer, wine, mead, cider, yoghurt and the souring of milk. These fermented products are not only important for their nutritional value, their potential to store otherwise perishable foodstuffs, their increased digestibility (e.g. yoghurt for lactose intolerant individuals), but also for their social aspect. Indeed, they play a central role in cultural, celebratory and ritual aspects of different human communities around the world. Identifying the production and consumption of fermented foods and beverages is not straight forward since they rarely preserve in the archaeological record, especially in pre- and protohistoric periods. Attempts to identify these dietary products often require a multidisciplinary approach, including the use of macroscopic (e.g. charred grains) and microscopic (e.g. phytoliths and starches) plant remains from archaeological finds including stone tools and sediments, or directly from skeletal remains such as dental calculus and stomach content.

Fermented food and drink products can also be identified using spectroscopic techniques to identify residual biomolecules trapped in porous, unglazed pottery vessels. Other lines

of evidence are derived from the study of historical references such as art and decoration, ancient texts, typological pottery studies, and ethnographic or ethnoarchaeological studies. This session will focus on research carried out at identifying fermented food and beverage products, and their dietary and cultural significance to the communities that produced them.

We invite submissions aimed at exploring the role of fermented products in the human diet, and their contribution to our understanding of the development and spread of complex food production processes and cultural ideas.

MATHEMATICAL PRACTICES IN RELATION TO THE ASTRAL SCIENCES, PARIS, SPRING

The SAW Project (<http://sawerc.hypotheses.org/>) organises a three-Month Workshop on "Mathematical Practices in relation to the Astral Sciences" in Paris, January-March 2015.

The complete program and description of the workshop are available here:
<http://sawerc.hypotheses.org/workshops/3-month-workshop-mathematical-practices-in-the-context-of-the-astral-sciences>

The workshop will be concluded by several events, among them the two following conferences to be held in Paris:

"Scholars and Scholarship in Late Babylonian Uruk", March 23-24, co-organized by the SAW Project and the Department of Egyptology and Assyriology at Brown University."

More information here: <http://sawerc.hypotheses.org/conferences/conference-science-and-scholarship-in-late-babylonian-uruk>

"Mathematical Practices in relation to the Astral Sciences".

More information here: <http://sawerc.hypotheses.org/conferences/conference-mathematical-practices-in-relation-to-the-astral-sciences>

**ASOR MEMBER-ORGANIZED SESSION:
INTEGRATED CHRONOLOGIES OF THE
BRONZE AGE: COMBINING HISTORICAL,
ARCHAEOLOGICAL, AND SCIENTIFIC
APPROACHES, AMERICAN SCHOOLS OF
ORIENTAL RESEARCH, ANNUAL MEETING,
ATLANTA, GA, THE INTERCONTINENTAL
BUCKHEAD ATLANTA HOTEL, NOVEMBER
18-21, 2015, CALL FOR PAPERS**

Session Organizers:

Felix Höflmayer (The Oriental Institute, University of Chicago), Aaron A. Burke (University of California, Los Angeles)

The last decades have seen considerable advance in the use and application of radiocarbon dating and Bayesian modelling (i.e. combining radiocarbon determinations with other information, such as the sequence of samples derived from archaeological stratigraphy) in the field of chronological research. Past major projects like ARCANÉ or SCIEM 2000 reviewed the material evidence for the relative chronological phases and aimed to synchronize different regions based on first appearance of certain key-wares. On the other hand, the Oxford project on 'Radiocarbon dating and the Egyptian historical chronology' combined over 200 new radiocarbon determinations with historical information, like the succession of kings and their respective reign lengths and the DAI-Thyssen project 'Radiocarbon dating the Bronze Age of the Levant' focused on acquiring radiocarbon sequences from key-sites in order to synchronize different regions on the basis of radiocarbon dating alone.

The aim of this session is to provide a forum for 1) current research that combines different approaches (historical, archaeological, scientific) for refining chronologies, 2) the impact of these data on current chronological schemes, and 3) the issue of how this data could be integrated in a most useful and transparent way.

Interested speakers will need to submit a title and abstract (max. 200 words) at the link provided <http://www.asor.org/am/2015/call-for-papers.html> by February 15, 2015.

For any inquiries contact Felix Höflmayer (fhoeflmayer@uchicago.edu) or Aaron A. Burke (burke@humnet.ucla.edu).

**CALL FOR PAPERS: EAA SESSION CLIMATE
AND SOCIETY IN THE ANCIENT NEAR
EAST: NEW PALAEOCLIMATE AND
PALAEOENVIRONMENTAL
RECONSTRUCTIONS, CLIMATE MODEL
SIMULATIONS, AND ARCHAEOLOGICAL
IMPLICATIONS, 21ST ANNUAL MEETING OF
THE EUROPEAN ASSOCIATION OF
ARCHAEOLOGISTS, GLASGOW 2015, 2-5
SEPTEMBER**

(<http://eaaglasgow2015.com/>)

Session organisers: Bülent Arikan (Istanbul Technical University), Pascal Flohr (University of Reading), Dominik Fleitmann (University of Reading)

Abstract:

Reconstructing past climate, especially with the aim of studying its effect on societies, has become a well-established part of archaeology. The issue is relevant globally, but certainly so in the (semi-)arid Near East. While much progress has been made, many questions still remain, and while multi-disciplinary projects have become common, in other cases communications between palaeoclimate proxy specialists, modellers, and archaeologists could be improved. This session therefore aims to bring together researchers from various disciplines, to share the latest developments and further the understanding of how to study past climate within Near Eastern archaeology. The session is divided into three parts:

- 1) Proxy-based reconstructions: High resolved and precisely dated palaeoclimate and environmental reconstructions are required to study the impact of climate on societies. Though their number is increasing steadily, uncertainties associated with dating, resolution and proxy quality are still a major obstacle, which we aim to address.
- 2) Palaeoclimate modelling and proxy-model integration: The increasing amount of climate research reveals the complex and non-linear aspects of parameters and variables affect climate. Currently, there are several approaches to model past climate, each model different in terms of spatio-temporal resolution, forcings, variables, and algorithms used. Results from different palaeoclimate models, covering single regions and archaeological periods, will be discussed, and compared with proxy-based reconstructions and among themselves.
- 3) Social aspects: Climate reconstructions will be integrated with the archaeological record in various case studies to understand the impact of climate on versus the resilience of past communities.

We invite papers that present palaeoclimate and palaeoenvironmental records from the Near East or new studies on climate proxy development; papers that deal with the methods of palaeoclimate modeling, issues in modeling the ancient climate, and quantitative comparisons among other models and proxy data; case studies and methodological papers assessing the impact of climate on Near Eastern societies.

<http://eaaglasgow2015.com/session/climate-and-society-in-the-ancient-near-east-new-palaeoclimate-and-palaeoenvironmental-reconstructions-climate-model-simulations-and-archaeological-implications/>

Interested speakers will need to submit a title and abstract at the link provided by February the 16th, 2015: <http://eaaglasgow2015.com/call-for-papers/>

EAA 2015, RECYCLING THINGS AND IDEAS: LINKING SCIENTIFIC, ARCHAEOLOGICAL AND CONCEPTUAL APPROACHES TO THE REUSE OF MATERIALS IN THE PAST, CALL FOR PAPERS

Peter Bray, University of Oxford (peter.bray@rlaha.ox.ac.uk); Aurélie Cuénod, University of Leicester; Chloë Duckworth, University of Leicester; Patrick Degryse, KU Leuven; Marianne Mödler, University of Vienna

Recycling touches upon all aspects of archaeology, but it often suffers from its perceived 'invisibility' in the material record. Reuse, reforming and mixing of material alters its composition and shape, and can therefore directly affect conceptions of source, provenance, technology and chronology. The malleability and reuse of material challenges simple ideas of identity, value, economy and exchange. Despite the profound effects of recycling it is often difficult to identify and quantify in the archaeological record, particularly for materials and artefact-based studies (by comparison with, for example, architecture). This means that the manufacture of objects from 'prime' raw materials is often implicitly assumed to be standard practice. We are also in danger on relying on modern conceptions of recycling that focus on ecological concerns and coping with scarcity. Improved communication and co-operation across a range of disciplines offers new ways to better understand the flow of materials in the past. This session aims to provide a forum for these discussions and will highlight new approaches and models. Papers will examine how lab-based science, experimental archaeology, excavation and artefact-led archaeology, and conceptual archaeology can come together to identify and quantify recycling and its effects. This will be in conjunction with considering the challenges involved in pursuing inter-disciplinary work.

Please visit the site: <http://eaaglasgow2015.com/call-for-papers/>

EUROPEAN ASSOCIATION OF
ARCHAEOLOGISTS 21ST ANNUAL MEETING,
GLASGOW, UK, 2-5 SEPTEMBER 2015,
SCIENCE IN ARCHAEOLOGY THEME,
PROPOSED SESSION: THE IN-SITU
CHARACTERISATION OF
ARCHAEOLOGICAL MATERIALS,
BUILDINGS AND ARTWORKS:
IMPLICATIONS FOR THE PRACTICE OF
ARCHAEOLOGY

The organisation and management of the archaeological process has been formalised and subsequently refined over the last five decades by a number of European National Heritage agencies. The same may be said of cultural resource management in Europe involving preservation, restoration and conservation. One of the most enduring and extensive features of the archaeological process has been the physical and temporal separation of specialist finds processing and fieldwork. To a large extent the entrenched relationship between excavation in the field and finds analyses in a laboratory remains in place. Theoretical perspectives have often been put into practice, yet the importance of the laboratory as a place has often held back change.

More recently there have been a number of developments in portable equipment that allows conventional analyses to be undertaken *outside* the laboratory in the field, the museum or other location; these in-situ, non-destructive and rapid analyses are applicable to the whole spectrum of inorganic materials, many organic materials as well as soils. The implications of these methods are far reaching especially when employed in light of recent theoretical perspectives. Their role and capabilities have already been the subject of discussion among archaeological scientists, but that discussion has not always extended to the end users in museums and in cultural heritage more generally.

In this session we therefore hope to review the implications of increasingly portable analytical equipment for how we practice archaeology and how they are best deployed in cultural resource management. Speakers are invited to contribute experience and positions on a number of topics: the ability of non-invasive techniques to more directly inform excavation strategy, identifying their limitations, resource availability, how current traditions of practice might be better reconfigured, and the shift in relations between archaeologists, archaeological and conservation scientists and other specialists.

Session organisers: Richard Jones (Archaeology, Glasgow University), Roger Doonan (Archaeology, Sheffield University), Costanza Miliani (Istituto CNR di Scienze e Tecnologie Molecolari, Perugia) and Effie Photos-Jones (Scottish Analytical Services for Art & Archaeology).

If you would like to contribute a paper or poster please submit a proposal by February 16.

Please visit the site: <http://eaaglasgow2015.com/>

3RD YOUNG RESEARCHERS' CONFERENCE
IN AEGEAN ARCHAEOLOGY, DEPARTMENT
OF AEGEAN ARCHAEOLOGY, INSTITUTE
OF ARCHAEOLOGY, UNIVERSITY OF
WARSAW, POLAND, APRIL 24TH, 2015, CALL
FOR PAPERS

The organizers invite proposals on all themes related to Aegean Archaeology, that is Aegean areas and cultures in the Bronze Age (i.e. art, crafts, everyday life, social/funerary/political landscapes, long-distance relations, Aegeans overseas, impact on other cultures, etc.), also in a broader context (new methods/approaches/technologies applied to the research, new technologies in data/research/site management, etc.).

Proposals are welcomed from doctoral students, PhD candidates and scholars who have recently completed doctoral research.

The proposals for **20 min. lectures** should consist of an **abstract** in English (max. 250-300 words), information about the author (short CV) and the author's contact details.

Please send the proposals to the Department of Aegean Archaeology, Institute of Archaeology: egea@uw.edu.pl by **February 15th 2015**.

The provisional program of the Conference will be announced on **February 28th 2015**.

Details of payment:

Conference fee: 50,00 PLN per person (c. 4,30 PLN = 1 EUR)
(Free for students and staff of the Institute of Archaeology, University of Warsaw)

Please pay at: Institute of Archaeology, University of Warsaw bank account

Bank: Bank Millennium S.A.

Account Number: PL 95 1160 2202 0000 0000 6084 9522

(BIC) SWIFT: BIGBPLPW

Please, write your **name** and "**3 AEGEAN CONFERENCE**" on the payment form.

Payments should be done by accepted participants **by March 15th 2015**.

Please note that the Organizers do not cover travel or accommodation expenses.

Organizing Committee:

Kazimierz Lewartowski, Professor, head of the Department

Agata Ulanowska, Dr, Senior Lecturer

Katarzyna śebrowska, PhD Candidate

The Department of Aegean Archaeology, Institute of Archaeology, University of Warsaw, Poland.

BRITISH SCHOOL AT ATHENS - LIST OF EVENTS (FEBRUARY – JUNE 2015)

TUESDAY, 10TH - FEBRUARY 2015 AT 7.00 P.M.

The work of the British School in 2014

Prof. Catherine Morgan (Director, British School at Athens)

Από τη Νεολιθική μέχρι σήμερα: Αρχαιολογία και Αρχαιολογική Εθνογραφία στην Κουτρουλού Μαγούλα, Φθιώτιδα

Dr Nina Kyprissi-Apostolika (Director Emerita, Ephorate of Paleoanthropology & Speleology of Southern Greece & Director of the Koutroulou Magoula Project in collaboration with the British School at Athens)

Prof. Yannis Hamilakis ((University of Southampton & BSA Director of the Koutroulou Magoula Project)

Location: Thessaloniki, Aristotle University, Cast Gallery

WEDNESDAY, 11TH - FEBRUARY 2015 AT 5.00 P.M.

The use of spectrochemical techniques in the study of archaeological bone

Dr Elizabeth Stathopoulou (University of Athens/Wiener Laboratory, ASCSA)

Location: Loring Hall, ASCSA Fitch - Wiener Seminar

TUESDAY, 17TH - FEBRUARY 2015 AT 5.00 P.M.

Infancy and childhood in ancient Greek philosophy I

Professor Malcolm Schofield (Cambridge University)

Location: British School at Athens, Upper House

Co-organized by the BSA and the Research Centre for Greek Philosophy (Academy of Athens) Philosophy Seminar

WEDNESDAY, 18TH - FEBRUARY 2015 AT 5.00 P.M.

Infancy and childhood in ancient Greek philosophy II

Professor Malcolm Schofield (Cambridge University)

Location: E. Lambridis Library (Ypsilantou 9)

Co-organized by the BSA and the Research Centre for Greek Philosophy (Academy of Athens) Philosophy Seminar

WEDNESDAY, 18TH - FEBRUARY 2015 AT 7.00 P.M.

Caryatids lost and regained: re-branding the classical body in contemporary Greece

Dr Dimitris Plantzos (University of Athens)

Location: British School at Athens, Upper House

Upper House Seminar (co-sponsored by the KCL Rumble Fund)

THURSDAY, 19TH - FEBRUARY 2015 AT 7.00 P.M.

The work of the British School in 2014

Prof. Catherine Morgan (Director, British School at Athens)

From the Neolithic to the present: archaeology and archaeological ethnography at Koutroulou Magoula, Fthiotida

Dr Yannis Hamilakis (University of Southampton & BSA
Director of the Koutroulou Magoula Project)

Dr Nina Kyparissi-Apostolika (Director Emerita, Ephorate of Paleoanthropology & Speleology of Southern Greece & Director of the Koutroulou Magoula Project in collaboration with the British School at Athens)
Location: Archaeological Society, Lecture Hall

TUESDAY, 24TH - FEBRUARY 2015 AT 5.15 P.M.

The work of the British School in 2014 & The British School at Athens on Ithaca, 1930-2014

Prof. Catherine Morgan (Director, British School at Athens)

Location: British Academy, Wolfson Auditorium

For further information please contact Philippa Waller, bsa@britac.ac.uk

MONDAY, 2ND - MARCH 2015 AT 7.00 P.M.

'A peculiar people, (not) properly governed'. State building in the Ionian Islands under British rule (1815-1864)

Prof. Athanasios Gekas (University of York)

Location: British School at Athens, Upper House

Upper House Seminar

MONDAY, 9TH - MARCH 2015 AT 7.00 P.M.

The Great Islands

Launch of C. Macdonald, E. Hatzaki, and S. Andreou (eds),

The Great Islands. Studies of Greece and Cyprus presented to Gerald Cadogan (Kapon Editions: Athens 2015).

Location: British School at Athens, Upper House

In collaboration with Kapon Editions

WEDNESDAY, 18TH - MARCH 2015 AT 7.00 P.M.

The priestess at Bolshaya Bliznitsa c. 300 BC and Aphrodite Ourania in the Bosporan kingdom

Prof. David Braund (University of Exeter/BSA Visiting Fellow)

Location: British School at Athens, Penrose Library

Visiting Fellow lecture

MONDAY, 23RD - MARCH 2015 AT 7.00 P.M.

Two oxen ahead: 'traditional' and ancient farmers in Greece

Prof. Paul Halstead (University of Sheffield)

Location: British School at Athens, Upper House

Upper House Seminar

WEDNESDAY, 24TH - MARCH 2015 AT 5.00 P.M.

The microfauna from the Aegean Age: indirect evidence for human impact on the natural environment

Dr Katerina Papagianni (Wiener Laboratory, ASCSA)

Location: Loring Hall, ASCSA

Fitch - Wiener Seminar

MONDAY, 30TH - MARCH 2015 AT 7.00 P.M.

National poets stammering the nation: Foscolo, Kalvos and Solomos

Dr Konstantina Zannou (Université de Creteil)

Location: British School at Athens, Upper House
Upper House Seminar

WEDNESDAY, 6TH - APRIL 2015 AT 5.00 P.M.

Landscape use in the northern Aegean Bronze Age through isotopic analysis of archaeobotanical and faunal remains

Dr Erika Nitsch (University of Oxford/Fitch Laboratory, BSA)

Location: Loring Hall, ASCSA

Fitch - Wiener Seminar

MONDAY, 20TH - APRIL 2015 AT 7.00 P.M.

Νέα στοιχεία για τα Προπύλαια

Dr Tasos Tanoulas

Location: British School at Athens, Upper House

Upper House Seminar

MONDAY, 27TH - APRIL 2015 AT 7.00 P.M.

Colour and light: exploring visual phenomena in Minoan Neopalatial seals

Dr Erin McGowan (Oxford University & Richard Bradford McConnell Student, BSA)

Location: British School at Athens, Upper House

Upper House Seminar

MONDAY, 4TH - MAY 2015 AT 7.00 P.M.

Title to be confirmed

Prof. Nena Galanidou (University of Crete)

Location: British School at Athens, Upper House

Upper House Seminar

FRIDAY 8TH - SUNDAY 10TH MAY 2015

Music, language and identity in modern Greece: defining a national Art Music in the 19th and 20th centuries

Organizers: Centre for Hellenic Studies (KCL), Department of Music (KCL), Athens Conservatoire, British School at Athens

Location: Athens Conservatoire and British School at Athens Conference

MONDAY, 11TH - MAY 2015 AT 7.00 P.M.

The western traditions of ancient history

Prof. Oswyn Murray (University of Oxford)

Location: British School at Athens, Upper House

Upper House Seminar

SATURDAY, 16TH - MAY 2015

Terracotta sculpture: new finds & new studies

Location: BSA, Upper House

Workshop

MONDAY, 18TH - MAY 2015 AT 7.00 P.M.

Lusieri's excavations in Athens at the time of Lord Elgin

Dr Tatiana Poulou (Athens Ephorate of Antiquities)

Location: British School at Athens, Upper House

Upper House Seminar

MONDAY, 25TH - MAY 2015 AT 7.00 P.M.

Pindar and Corinth

Prof. Catherine Morgan (Director, BSA)

Location: Upper House

Upper House Seminar

WEDNESDAY, 26TH - MAY 2015 AT 5.00 P.M.

Luminescence dating in geoarchaeological studies

Evangelos Tsakalos (Archaeometry Laboratory, NCSR Demokritos)

Location: Loring Hall, ASCSA

Fitch - Wiener Seminar

WEDNESDAY, 10 JUNE 2015 AT 5.00 P.M.

The Mycenaean wreck of the islet of Modi: an interdisciplinary maritime research project in the Saronic Gulf

Dr Christos Agouridis (Greek Ministry of Culture & Sport and IENAE)

Location: Fitch Laboratory

Fitch - Wiener Seminar

DIGITAL ARCHAEOLOGY WORKSHOP:
“MOBILIZING THE PAST FOR A DIGITAL
FUTURE: THE POTENTIAL OF DIGITAL
ARCHAEOLOGY”, FEBRUARY 27-28, 2015,
WENTWORTH INSTITUTE OF
TECHNOLOGY (WIT), BOSTON, MA

On February 27-28, 2015, the Wentworth Institute of Technology (WIT) in Boston, MA will host “Mobilizing the Past for a Digital Future: the Potential of Digital Archaeology.” The proceedings will be live streamed. Registration for attending the workshop in person closes on February 5.

The workshop organizers are Erin Walcek Averett (Creighton University), Derek Counts (University of Wisconsin-Milwaukee), Jody Gordon (Wentworth Institute of Technology), and Michael K. Toumazou (Davidson College). The National Endowment for the Humanities is sponsoring the project, which received a Digital Humanities Start-Up Grant.

Workshop sessions include:

App/Database Development and Use for Mobile Computing in Archaeology
Mobile Computing in the Field
Systems for Archaeological Data Management
Pedagogy, Data Curation, & Reflection

Learn more at <http://uwm.edu/mobilizing-the-past/>.

Please visit the site: <http://www.classicslibrarians.org/2015/01/digital-archaeology-workshop/>

ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ –
JOB VACANCIES/FELLOWSHIPS

UNIVERSITY OF TÜBINGEN,
ZOOARCHAEOLOGY/ARCHAEOBOTANY
TECHNICIAN POSTING

Hi All,

The Institute of Archaeological Sciences at the University of Tübingen is looking for a full-time technician to help manage our zooarchaeology and archaeobotany collections. Below are the applicant details; the term is currently two years and the closing date is January 19th. Please circulate this to anyone who might be interested with a background in either zooarch or archaeobot.

Best Wishes, and Happy New Year!

Britt

Dr. Britt M. Starkovich
Universität Tübingen
Institut für Naturwissenschaftliche Archäologie
Archäozoologie
Rümelinstr. 23
72070 Tübingen
Germany
Email: Britt.Starkovich@uni-tuebingen.de

Senckenberg Gesellschaft für Naturforschung
Rechtsfähiger Verein gemäß § 22 BGB
Senckenberganlage 25
60325 Frankfurt
Direktorium: Prof. Dr. Dr. h.c. Volker Mosbrugger, Prof. Dr. Katrin Böhning-Gaese,
Prof. Dr. Uwe Fritz, Dr. Johannes Heilmann, Dr. Ingrid Kroencke, Prof. Dr. Andreas
Mulch
Vorsitzende des Präsidiums: Dr. h.c. Beate Heraeus
Aufsichtsbehörde: Magistrat der Stadt Frankfurt am Main (Ordnungsamt)

POST-DOCTORAL POSITION AT THE
UNIVERSITY OF TÜBINGEN, FACULTY OF
HUMANITIES, INSTITUTE OF PREHISTORY,
PROTOHISTORY AND MEDIEVAL
ARCHAEOLOGY

The Faculty of Humanities at the University of Tübingen invites applications for the position of a Post-Doctoral Researcher, specialising in the field of organic residue analysis.

The chosen candidate will be part of a team of archaeologists and curators working on a project titled *Meanings and Functions of Mediterranean Imports in Early Iron Age Central Europe*, funded by the German Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung, BMBF). The project aims to conduct a comprehensive contextual and scientific evaluation on transformations in the use of imported Mediterranean ceramic and bronze vessels found in Early Celtic sites in Central Europe.

Applicants must be in possession of a PhD in a related discipline at the time of application. The successful candidate will have extensive experience in the analysis of ancient lipid residues. Excellent laboratory skills and a good working knowledge of Gas Chromatography and Gas Chromatography-Mass Spectrometry are essential. Ability to work as part of a team and independently is required, coupled with excellent communication and organisational skills.

The appointment will be for three years, starting around March 2015. The salary is equivalent to TVL 13, according to the German Public Service Scale. Applicants are required to send i) a curriculum vitae, ii) a motivation letter, iii) a list of publications, iv) a brief summary of previous and current research, and v) contact details of two referees.

Applications must be sent as a single pdf document to the email address below by the 15th February 2015. Applications will be considered until the position is filled.

The University of Tübingen is an equal opportunity employer and particularly welcomes applications from individuals with disabilities. The University of Tübingen aims to increase the percentage of women in research positions and strongly encourages qualified women to apply.

For further enquiries about the position, please contact Jun. Prof. Dr. Cynthianne Debono Spiteri (cynthianne.debono-spiteri@uni-tuebingen.de)

Jun. Prof. Dr. Cynthianne Debono Spiteri

Junior Professor for Archaeometry
Eberhard Karls Universität Tübingen

Institut für Ur- und Frühgeschichte
Burgsteige 11
72070 Tübingen

Tel: +49 7071 29 78541

2015 RICHARD SEAGER DOCTORAL FELLOWSHIP, APPLICATION GUIDELINES

The INSTAP Study Center for East Crete is pleased to announce the availability of one Doctoral fellowship to be awarded on a competitive basis to an eligible candidate for work to be done at the Study Center in Pacheia Ammos, Crete in 2015. A minimum of four weeks should be spent working at the Center. The fellowship is intended for scholars in the field of the Aegean Bronze Age/Early Iron Age who are working to complete their PhD Dissertations. The fellowship will be awarded in the amount of \$4,000. Applications must be received by e-mail no later than **March 31, 2015** and the award will be announced by **April 24, 2015**.

In addition to the completed application form, proposals should include a *curriculum vitae* of the applicant, a copy of their Dissertation Proposal, an outline of the Dissertation, and two letters of support, one from the head of your Dissertation Committee, and another from an additional member of your Committee. It is assumed that the applicant will have passed his or her Doctoral Examinations, and have a Dissertation Proposal that has been approved by his or her Department.

Applications and the required enclosures should be sent as attachments to:

elizabethshank@hotmail.com

Consideration for the fellowships is open to all candidates meeting the stated requirements. Awards are made irrespective of race, gender, religion, national origin, age, disability, marital status, sexual orientation, and actual or perceived medical conditions. It is possible that in the absence of qualified candidates with appropriate projects, a fellowship will not be awarded.

INSTAP Study Center for East Crete 2015 RICHARD SEAGER DOCTORAL FELLOWSHIP Cover Sheet

Name of Applicant

Title of Dissertation

INSTAP Study Center for East Crete

**2015 RICHARD SEAGER DOCTORAL FELLOWSHIP
Application Form**

1. Full name of applicant:
Social Security Number:

2. Title of Dissertation:

Present Address:

Telephone:

Fax:

E-mail:

3. Institution:

Citizenship:

4. Name of the head of your Dissertation Committee:

Telephone number:

E-mail address:

Name of another Dissertation Committee Member:

Telephone number:

E-mail address:

5. Please list any publications by the applicant:

6. Please list any other fellowship applications for 2015:

Date to receive funding:

Method of payment: _____ A check in US dollars
in Euros

_____ A check

Where would you like your check to be sent?

If awarded the INSTAP Study Center for East Crete Richard Seager 2015 Doctoral Fellowship, I agree to abide by the terms of the award, including the submission of a final report detailing the work completed and a financial accounting by January 1, 2016. I agree to supply the Library of INSTAP Study Center for East Crete with a copy of my dissertation upon the completion of my degree.

Signature: _____

Date: _____

Proposed Plan of Study

Please provide a brief description of the work that you plan to complete while at the INSTAP Study Center for East Crete, and the dates that you intend use the Center's facilities. Your Proposed Plan of Study must fit on this page and one additional page.

POSITION IN CAMS SAMPLE PREP LAB

We have an opening in the natural carbon sample preparation laboratory. The position is described below and in the url to the posting.

https://careers-prd.llnl.gov/psc/careers/EMPLOYEE/PSFT_LHIRE/s/WEBLIB_LLGOTO.FieldFormula.IScript_LL?HRS_HRAM.HRS_CE.GBL?Page=HRS_CE_JOB_DTL&Action=A&JobOpeningId=12801&SiteId=1&PostingSeq=2

NATURE AND SCOPE OF JOB

The Center for Accelerator Mass Spectrometry (CAMS) in the Atmospheric, Earth & Division within the Physical and Life Sciences Directorate has an opening in the natural research group's sample preparation/graphitization laboratory. Under limited direction, the selected candidate will manage day-to-day operations of the natural radiocarbon sample preparation laboratory in support of biogeochemistry and earth science basic research in the application and utilization of natural abundance ^{14}C as a biogeochemical tracer and geochronometer. The incumbent will interact with staff scientists, postdoctoral researchers, and visiting students/researchers. There will be opportunities for collaborative research activities. The incumbent will report to the Director of CAMS.

ESSENTIAL DUTIES

- Serve as the Integrated Worksheet system (IWS) responsible individual for accelerator mass spectrometry radiocarbon sample preparation.
- Manage CAMS' natural radiocarbon sample preparation laboratory.
- Maintain sample preparation equipment, making repairs and upgrades as necessary on moderately complex to complex hardware. Maintenance of LabView graphitization software, FileMaker Pro and excel databases.
- Provide direct technical oversight of the conversion of carbonaceous sample materials to graphite for AMS isotopic analysis.
- Train new LLNL scientists/postdocs, and visiting students/scientists in AMS sample preparation techniques.
- Participate in individual and/or collaborative research projects with CAMS staff and/or outside collaborators.
- Ensure that all appropriate materials and equipment are accessible and in working order at all times.
- Maintain laboratory notebooks and sample preparation logs (hardcopy and electronic).
- Conduct data analysis of ^{14}C AMS results relevant to sample preparation laboratory protocols including defining background and modern carbon contributions.
- Perform all assignments in accordance with ES&H, security, and business practice requirements and policies.

ESSENTIAL SKILLS, KNOWLEDGE, AND ABILITIES:

- BS in chemistry, geology, or related field or equivalent level of demonstrated knowledge.
- Comprehensive knowledge of and ability to apply technical and/or business concepts and techniques related to sample preparation and lab maintenance.
- Recent experience and demonstrated proficiency with natural abundance radiocarbon sample preparation or related activity.

- Experience providing technical support for scientific research involving naturally occurring radioactive isotopes.
- Recent experience and proficiency with isolation, chemical pretreatment, and conversion of natural carbonaceous materials to CO₂ and graphite, or equivalent.
- Experience with quantitative gas transfer of small volume carbon dioxide and related gases using vacuum lines and cryodistillation techniques.
- Experience following and developing/implementing laboratory procedures and protocols, including keeping written and electronic records.
- Demonstrated ability to work effectively under rigorous and sometimes multiple conflicting deadlines.
- Demonstrated proficient verbal and written communication skills necessary to work effectively in a diverse research environment, give technical presentations, reports, and scientific documents.

DESIRED SKILLS, KNOWLEDGE, AND ABILITIES:

- MS in chemistry, geology, or related field.
- Comprehensive experience in the application of natural abundance ¹⁴C and/or stable isotope analyses to terrestrial biogeochemistry and or atmospheric chemistry problems.
- Demonstrated proficient computer skills including but not exclusive to EXCEL, WORD, FileMaker Pro, LabView, MatLab, and python (or equivalent) on Macintosh platforms.
- Demonstrated proficiency in vacuum technology.
- Demonstrated ability to independently troubleshoot a variety of moderately complex to complex issues in the preparation and analysis of stable isotope and natural abundance carbonaceous samples.

SPECIAL REQUIREMENTS

Pre-placement Medical Exam: A pre-placement medical examination may be required.

Pre-Employment Drug Test: External applicants selected for this positing will be required to pass a post-offer, pre-employment drug test.

Anticipated Clearance Level: none

SUERC AMS SCIENTIST POSITIONS

All,

The SUERC is seeking to recruit up to two scientists at university grades 7/8 (ref 009728) or 9 (ref 009932) depending on skills and experience.

Application is via <http://www.gla.ac.uk/about/jobs/vacancies/> with February 1st closing date. New colleague(s) will contribute to our cosmogenic Be10, Al26 & Cl36-AMS programmes and/or develop C14-PIMS (non-accelerator radiocarbon mass spectrometry) plasma ion source sample interfaces.

I'll gladly address any questions.

Stewart

Professor Stewart P.H.T. Freeman

AMS Laboratory
Scottish Universities Environmental Research Centre Scottish Enterprise Technology
Park East Kilbride G75 0QF

email: s.freeman@suerc.gla.ac.uk

phone: +44 (0)1355 270187

fax: +44 (0)1355 229898

ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS

MSC IN CULTURAL HERITAGE MATERIALS AND TECHNOLOGIES, CULTTECH, UNIVERSITY OF THE PELOPONNESE

Studies on the interdisciplinary field of Cultural Heritage and Science/Technology offer the great potential of a modern and balanced educational syllabus; they also produce an ideal platform for holistic approaches that are guaranteed by the creative mixing of up-to-date methodologies with archaeological science, archaeometry and cultural heritage technologies.

CultTech operates within the Peloponnese, an advanced natural and cultural environment that hosts plethora of historical, archaeological sites and monuments. A key issue for **CultTech** is its orientation towards hands-on research thus offering post-graduate research training and the potential of the implementation of a diploma dissertation closely related or within ongoing research projects.

The program is oriented from the Department of **History, Archaeology and Cultural Resources Management, University of the Peloponnese** and operates in collaboration with the **National Center for Scientific Research Demokritos**, the **Navarino Environmental Observatory** (through the **National Observatory of Athens**) and key lecturers from other academic institutions in Greece.

The courses given are totally 6: **Landscape Archaeology and Cultural Heritage Management, Archaeometry I: Approaches for Archaeology and Cultural Heritage, Archaeometry II: Non-Destructive and Innovative Methodologies for CH, Environmental and Remote Studies for Cultural Heritage, Information Communication Technologies for Cultural Heritage, Field Prospection and Computing Technologies for CH.**

The language is English and the duration of the program is 3 semesters (two semesters of taught courses and one for the implementation of the dissertation).

Students from the fields of archaeology, cultural heritage management, conservation, materials science and engineering are welcomed to apply.

Applications are welcomed throughout March and April while the courses start on **October 1st, 2015.**

For more information please visit the site (activated from 10th February 2015):
www.culttech.uop.gr or email: culttech@uop.gr

SCHOLARSHIPS FOR THE ADVANCED MASTERS IN STRUCTURAL ANALYSIS OF MONUMENTS AND HISTORICAL CONSTRUCTIONS

Applications for the **Advanced Masters in Structural Analysis of Monuments and Historical Constructions**, approved and financially sponsored by the European Commission within the framework of the Erasmus+ Programme, are opened up to January 20, 2015.

This Master Course is organized by a Consortium of leading European Universities/Research Institutions in the field, composed by **University of Minho** (coordinating institution, Portugal), the **Technical University of Catalonia** (Spain), the **Czech Technical University in Prague** (Czech Republic), the **University of Padua** (Italy) and the **Institute of Theoretical and Applied Mechanics of the Czech Academy of Sciences** (Czech Republic).

The course combines the most recent advances in research and development with practical applications.

A significant number of **scholarships**, ranging from 4,000 to 25,000 Euro, are available to students of any nationality.

Please find full details on the MSc programme, as well as electronic application procedure, on the website www.msc-sahc.org

Yours sincerely,

Paulo B. Lourenco

Course Coordinator

Editor of the International Journal of Architectural Heritage: Conservation, Analysis, and Restoration

2015 MICHAEL VENTRIS MEMORIAL AWARD FOR MYCENAEAN STUDIES

The Michael Ventris Memorial Fund was founded in 1957 in appreciation of his contribution to the fields of Mycenaean civilization and architecture. The Trustees of the Fund offer an annual award of up to £2,000 to a junior scholar for research into Mycenaean studies or kindred subjects: (1) Linear B and other Bronze Age scripts of the Aegean and Cyprus, and their historical and cultural connections and (2) all other aspects of the Bronze Age of the Aegean and Cyprus. It is intended that the Award should support a specific project, which may be part of a continuing programme of post-doctoral research.

The Award is open to applicants from all countries who have completed their doctorate within the past eight years. Applications are also accepted from postgraduate students who are about to complete their doctorate, but the Award is not intended to fund doctoral research per se. The Award cannot be used to pay third parties, e.g. to undertake drawings, scientific analyses etc.

Applications must reach the Deputy Director at the Institute of Classical Studies not later than 13 February 2015. There are no application forms per se. Instead, applicants should give particulars of their age, qualifications, academic record, and outline the work they intend to pursue in the event of the Award being made to them, including projected costs. Applications should not exceed 6 single-sided pages (A4). Ideally they should be submitted by email to admin.icls@sas.ac.uk with an attachment in PDF format or compatible with Word 2003.

Applicants must also supply the names and addresses of two referees, and, at the same time, ask the referees to write independently in support of their application.

For further information please contact admin.icls@sas.ac.uk

The Award will be made by a Committee appointed by the Institute of Classical Studies and Architectural Association acting jointly. Payment will be in one single sum in May of each year. The Committee reserves the right to make no Award in any given year or to invite a scholar to hold the Award in a particular year. If sufficient money is available, the Committee may from time to time make small grants from the Fund.

The successful candidate will be required to submit a written report to the Advisory Committee on the work that the Award has enabled him or her to complete. He or she may be invited to make a public presentation of the results at the Institute of Classical Studies.

Dr O. H. Krzyszkowska
Deputy Director
Institute of Classical Studies
Senate House
Malet Street

London WC1E 7HU
0207 862 8700



THE ROBIN HÄGG MEMORIAL FUND

In accordance with his own wishes, a research fund has been created in memory of Robin Hägg. The *Robin Hägg Memorial Fund* will offer grants to post-doctoral scholars working in the field of Aegean prehistory. It will be open to applicants from all countries who have completed their doctorate within the past eight years and are under forty years of age at the time of application.

The *Robin Hägg Memorial Fund* will be managed by the *Institute of Aegean Prehistory* and donations can be made through the SEB bank account of the Swedish Institute at Athens: 5811-3313400 (IBAN: SE1150000000058113313400 and Bic ESSESESS for donations from outside Sweden). All donations should be marked “Robin Hägg”. It is also possible to send a check to the *Institute of Aegean Prehistory* (INSTAP) Study Center for East Crete. Checks should be made out to the *Institute for Aegean Prehistory Study Center for East Crete* and sent to:

INSTAP Study Center for East Crete
c/o Elizabeth Shank
INSTAP US Coordinator for East Crete
2133 Arch Street
Suite 300
Phila., PA 19103
USA

The *Robin Hägg Memorial Fund* will be administered by a committee consisting of Tom Brogan, director of the INSTAP Study Center for East Crete, Arto Penttinen, director of the Swedish Institute at Athens, and Helène Whittaker, professor of Classical Archaeology and Ancient History at the University of Gothenburg. The committee will be responsible for announcing the availability of grants and evaluating the applicants.

Helène Whittaker
Professor of Classical Archaeology and Ancient History
Department of Historical Studies
University of Gothenburg
Room C422
email: helene.whittaker@gu.se
Telephone: (+46) 0317864514

SHORT COURSE IN RADIOCARBON DATING & BAYESIAN CHRONOLOGICAL ANALYSIS (OXFORD: MON 30 MAR TO WED 1 APR 2015)

This course is aimed at researchers using radiocarbon and other techniques, including Quaternary geologists, palaeobiologists, archaeologists and marine geoscientists. The first two days of the course will cover key aspects of radiocarbon dating including sample selection, laboratory processes and Bayesian analyses of radiocarbon dates. Various aspects relating to the production and interpretation of radiocarbon dating will be taught by members of the NERC Radiocarbon Facility, based at both Oxford and East Kilbride.

The third day of the course will expand on this to look at the construction of Bayesian chronologies more generally, including those that rely primarily on other dating techniques. In this third day there will be a focus on using chronologies for environmental records. This day of the course will be suitable for those participating in the INTIMATE (Integrating ice core, marine and terrestrial records) initiative.

Further details are at: <https://www.conted.ox.ac.uk/v400-523>

Best wishes

Christopher Ramsey

OPTO-CH POLITEIA 2015 WORKSHOP, 04-10 MAY 2015, LASERS FOR ART'S SAKE IESL - FORTH, HERAKLION, CRETE

OPTO-CH POLITEIA 2015 workshop will introduce participants to applications of advanced laser-based technologies in Cultural Heritage (CH) science, diagnostics and conservation.

Lectures from experts on modern laser diagnostic and analytical techniques, as well as on laser cleaning methodologies will be combined with practical demonstrations and laboratory hands-on sessions.

Two days of field tests and experiments on-site at selected monuments in Crete is also foreseen.

DEADLINE FOR APPLICATIONS: 15 FEBRUARY 2015.

Please visit the sites: <http://www.iesl.forth.gr/research/course.aspx?id=5> and <https://www.facebook.com/741095675911349/posts/851612318193017/>



OPTO-CH POLITEIA 2015 workshop

May 4 - 10, 2015

Laser technologies for Cultural Heritage analysis, diagnostics and conservation

IESL-FORTH Heraklion, Crete, Greece

Join us for an exciting journey to Crete to become acquainted with the latest developments on non-invasive optical technologies and explore their field applications in Cultural Heritage conservation

OPTO-CH POLITEIA 2015 Workshop

May 4-10, 2015

Applications deadline
February 15, 2015

Notice of acceptance
March 15, 2015

Contact

Dr Paraskevi Pouli
Institute of Electronic Structure & Laser
(IESL)
Foundation for Research & Technology
- Hellas (FORTH)
PO Box 1385, 71110
Heraklion, Crete, Greece

+30 281039 1870, -1300
+30 2810 39 1318
laserart@iesl.forth.gr

www.iesl.forth.gr

Further information at: www.iesl.forth.gr/research/course.aspx?id=5

What Does it Cover?

OPTO-CH 2015 POLITEIA thematic workshop series combine lectures from experts on modern laser diagnostic and analytical techniques, as well as, laser conservation methodologies, with practical demonstrations and laboratory hands-on sessions. Two days of field tests and experiments on-site at selected monuments in Crete are also foreseen. The topics covered include:

- Materials analysis with Laser Spectroscopy (LIBS, Raman)
- Optical Coherence Metrology for Structural Diagnosis
- Imaging and Mapping: multispectral, multiphoton and THz
- Laser Cleaning

What Will You Learn?

- The general concepts & principles of operation of each technique with emphasis on their analytical & diagnostic potential
- How optical and laser technologies can be used in CH conservation on the basis of discussion on selected examples & case studies
- How these techniques have been introduced to the conservation practice at world heritage sites & monuments in Greece
- You will experience the capacities of the technologies presented in the lab (identification & characterization of pigments, salts, rocks, metals, mortars, wall paintings, adhesion cases, etc) through field tests and experiments on-site.

Who Should Attend?

- Graduate students (or Undergraduate Seniors)
- Young Researchers in Cultural Heritage and Conservation Science

This workshop is organized in the framework of the "POLITEIA" (POLItechnic TEchnology, New Technologies in the Research, Study, Documentation and Access to the Information for Cultural Heritage Objects and Monuments) research project, Action KRIPIS, project No MIS-440204 (2015 SEEN 1210020) that was funded by the General Secretariat for Research and Technology, Ministry of Education, Greece and the European Regional Development Fund (Secentral Operational Program: Competitiveness and Entrepreneurship, NSRF 2007-2013) European Commission.



INTERNET SITES

ANTHROPOLOGICAL INDEX ONLINE

We are pleased to inform you about recent developments regarding the Anthropological Index Online (AIO), the bibliographic service offered by the RAI in conjunction with the Anthropology Library and Research Centre at the British Museum.

The Anthropological Index Online (AIO) is published by the Royal Anthropological Institute (RAI) in cooperation with Anthropology Library and Research Centre at the British Museum. It is an index to articles in journals taken by the Library and to films held at the Royal Anthropological Institute. The Library, which incorporates the former RAI library, holds some 4,000 periodical titles (1,500 current) covering all branches and areas of anthropology. Nearly 800 journals, published in more than 40 languages, are indexed on a continuing basis. Records cover 1957 to the present.

The Anthropological Index Online has received generous financial support from the William Buller Fagg Charitable Trust. The retrospective online conversion of earlier records was made possible by grants from the Getty Foundation, ESRC (UK), the Mellon Trust, the Pilgrim Trust and the Marsh Christian Trust. The main work of the conversion, completed in 2000, was undertaken by the UK Higher Education Digitisation Service (HEDS).

AIO is an essential research tool for anyone interested in any of the anthropological subfields and cognate disciplines. It indexes articles of anthropological nature in all major languages published in nearly 800 titles from around the world.

As part of our commitment to provide free and unrestricted access to the RAI's comprehensive journal collection, AIO has recently undergone a revamp to its website with the aim of making searches through the database easier and slimmer.

This upgrade was also planned in anticipation of an imminent expansion of AIO's features, which at present include: article and films searches, personalised bibliographic lists produced in various formats, statistics about journal articles published in the four subfields, and customised bibliographies created upon request.

AIO team warmly encourages you to browse and make full use of AIO, which is accessible following the weblink below:

<https://aio.therai.org.uk/>

We sincerely hope that this new version of AIO is favourably met by you and your fellow colleagues.

Most sincerely,
Max Carocci, MA PhD

Managing Editor
Anthropological Index Online

The Royal Anthropological Institute of Great Britain and Ireland Anthropology Library
and Research Centre Department of Africa, Oceania and the Americas The British
Museum Great Russell Street London WC1B 3DG

Tel: +44 (0)20 7323 8010

Email: aio@therai.org.uk

ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

OXFORD JOURNAL OF ARCHAEOLOGY,
VOLUME 34, ISSUE 1 PAGES 1 - 108,
FEBRUARY 2015

The latest issue of Oxford Journal of Archaeology is available on Wiley Online Library

Original Articles

Revisiting Old Friends: The Production, Distribution and Use of Peterborough Ware in Britain (pages 1–31) Vincent Ard and Timothy Darvill Article first published online: 17 JAN 2015 | DOI: 10.1111/ojoa.12046

An Absolute Chronological Framework for the Central-Eastern European Eneolithic (pages 33–43) Maciej Mateusz Wencel Article first published online: 17 JAN 2015 | DOI: 10.1111/ojoa.12047

Telling Stories: The Mycenaean Origins of the Philistines (pages 45–65) Guy D. Middleton Article first published online: 17 JAN 2015 | DOI: 10.1111/ojoa.12048

Iron Age Saunas of Northern Portugal: State of the Art and Research Perspectives (pages 67–95) Marco V. García Quintela and Manuel Santos-Estévez Article first published online: 17 JAN 2015 | DOI: 10.1111/ojoa.12049

Exponential Decline in the Dispersal of Stone Artefacts in Roman Britain: Further Expressions of Trade (pages 97–108) J.R.L. Allen Article first published online: 17 JAN 2015 | DOI: 10.1111/ojoa.12050

Please visit the site: <http://onlinelibrary.wiley.com/doi/10.1111/ojoa.2015.34.issue-1/issuetoc>

FEATURES OF COMMON SENSE GEOGRAPHY: IMPLICIT KNOWLEDGE STRUCTURES IN ANCIENT GEOGRAPHICAL TEXTS

Bryn Mawr Classical Review 2015.01.20

Klaus Geus, Martin Thiering (ed.), *Features of Common Sense Geography: Implicit Knowledge Structures in Ancient Geographical Texts*. Antike Kultur und Geschichte, Bd 16. Berlin; Münster; Wien; Zürich; London: LIT Verlag, 2014. Pp. 376. ISBN 9783643905284. €59.90.

Reviewed by Brian Turner, Portland State University (brian.turner@pdx.edu)

Modern scholars, it seems safe to say, know far more about the geography of the ancient world than any of the ancients themselves, even more than such luminaries as Ptolemy, Strabo, or Pliny, definitely more than someone like Aristophanes' Strepsiades. Of course, in this context 'more' directly implies the precision of modern geographic science, cartography and toponymic orthography.¹ 'More' necessarily forces modern assumptions and expectations on the Greeks and Romans and is why their ability to manage without the use of maps needs frequent repeating.² *Common Sense Geography*, the combined effort of a research group within the TOPOI Excellence Cluster,³ usefully challenges such modern expectations. The diverse group of scholars, including ancient historians, philologists, geographers, archaeologists, linguists, and other experts, show that our understanding of the ancients' ideas about space, their Raumbilder, depends upon the interaction between their "language, culture, and cognition" (309).

The volume's fourteen chapters are divided into four subsections. In general, the first (untitled) and fourth ("Conclusions & Perspectives") define the concept of common sense geography and illuminate the theoretical terminology and methodological models that underpin it, while the second ("Themes & Topics") and third ("Authors & Texts") offer various case studies employing the precepts of common sense geography. There are individual chapter bibliographies as well as a cumulative bibliography, an index of ancient sources and a general index. Scattered throughout are useful images, figures, and maps.

Two multi-authored introductory chapters (one by Geus and Thiering; the other by Dan, Geus and Guckelsberger) explain that common sense geography concerns a community's consensus about the knowledge of their world's physical environment. Implicit, and therefore hard to describe, it is the shared and intuitive information (as opposed to scientific) that allows "normal" (25) individuals (i.e. not expert geographers) to describe and navigate their world (33). Ubiquitous because of its pragmatism, it is both relevant and accessible to its audience, a fact that limited the widespread development of more scientific representations (25). The editors also categorize common sense geography along a spectrum that includes "intuitive" geography such as that employed by seafarers, "scholarly" geography such as that appearing in Herodotus or Pliny the Elder, and "fully reasoned" geography which, for the ancients at least, reached its apogee with Ptolemy.

Thiering, in the volume's final chapter, explains common sense geography through the lens of cognitive linguistics and cognitive psychology. In short, he offers various categories of analysis, questions, and terminologies that illuminate the mental models formed by the Greeks and Romans. Unsurprisingly, it is by far the most sophisticated chapter, and although the editors defend its placement at the end of the volume as a sort of “‘aha’ experience” (14), readers uninitiated in gestalt theory or figure/ground asymmetries may find it beneficial to read it both before and after the case studies which frequently illustrate the theory, even if only by implication.

The volume's second section (“Themes & Topics”) includes five contributions that employ thematic approaches to illustrate the utility and indeed prevalence of common sense geography. Arnaud, for example, neatly describes how ancient mariners navigated without the use of instruments but instead relied upon implicit knowledge structures “to form cognitive maps for orientation” (40). These structures included the ability to estimate distance through duration, course through astronomy and to a certain extent wind direction, and location through a cognitive series that understood a sequence of places lying on the same parallel or route. The mariners' necessary emphasis on a particularly important port, like Caralis in Sardinia, could leave later geographers assuming that it was both the easternmost and southernmost point of the island (63). Thus, this mariners' geography, this common sense geography that consisted of limited linear sections designed for the practical necessity of travel, significantly affected the ‘cartographic’ geography that developed later. Poiss next argues that common sense geography can illuminate a mental model based on a bird's-eye view which, although often dismissed, is readily recognized in poetic similes describing the territorial purview of the gods, in historical descriptions of battles, and in geographic descriptions of cities and towns. Chiaï then illustrates how effectively the island and the associated concept of insularity were employed as cognitive categories to define and compartmentalize the Mediterranean and even civic space. Bianchetti shows how political concerns could undermine scientific geography in favor of a common sense geography that in this case viewed Britain as an *alter mundus*, another world. Finally, Bekker-Nielsen, in a clearly organized and developed chapter, compares what he calls hard and soft spaces in the Roman world. The former are often determined from the ‘top down’ while the latter from the ‘bottom up’. Whether a determinant of citizenship, coastal rights, or political boundaries between or within provinces, he illustrates how the Romans often attempted to impose hard spaces – definite divisions – where soft spaces – determined by human interaction – were more prevalent and powerful. His enlightening discussion ought to be read alongside Nicolet's still important study concerning the Romans' need to impose geographic organization(s) in the early imperial period.⁴

Four chapters next address issues of common sense geography in specific texts. Geus catalogues the various implicit structures for distance in Herodotus and other Greek sources. In short, he convincingly illustrates that Herodotus and his contemporaries had no standard way to calculate a distance or average. Rather, our sources relied on their own judgment to select a distance from available sources or to construct another based on their own mental model of common sense geography. Dan then argues that in Xenophon's *Anabasis* geography served almost as a character, a fierce and unfamiliar enemy that the Greeks needed to conquer. The Greek text betrays different levels of spatial thinking and modeling that can be equated to different ranks in society, from the intuitive geography of the uneducated soldiers through the reasoned geography of the elite and literate officers. As a result both hodological and bird's-eye views are present, a

mishmash of common sense geographies that render the work both “complex and accessible” (183) and consequently more representative of the various ways the Greeks, at least, could perceive an otherwise unknown world. Next, Florentina Badalanova Geller reassesses traditional interpretations of the so-called Babylonian mappamundi currently located in the British Museum and argues that it could have served as a sort of geographic master-model, or at any rate an illustration of such a Vorlage (202), upon which the biblical description of the Garden of Eden was based. It is argued, then, that this tradition, alongside a healthy dose of contemporary cultural imperatives, affected other late antique and medieval illustrations of Mesopotamia. Markham Geller concludes the section on authors and texts with a clever discussion illuminating the origins of Berossos’ *Babyloniaka*. Employing the concepts of common sense geography, principally the identification of cultural assumptions and cognitive linguistics, Geller shows that Berossos’ text better illustrates Babylonian rather than Greek traditions. He argues therefore that the geography was originally written in Aramaic for an Aramaic speaking audience, and that the author probably never even travelled to Kos, but rather that his works and therefore his influence were transmitted and translated there.

Alongside Thiering’s theoretical essay discussed above, the volume’s final section (“Conclusions & Perspectives”) includes Guckelsberger’s chapter emphasizing that although the technical skill to conduct something approaching scientific geography existed, common sense geography was an efficient and adequate (enough) way to locate specific geographic locations. However useless these locations (points) may be for the rendering of an accurate map, they allowed (usually) for the practical needs of daily life (241). Finally, Ilyushechkina, Görz, and Thiering posit the creation of a semi-automatic computational tool to catalogue and categorize basic expressions of orientation and geography found in the written ancient sources. These computations should help identify universally understood concepts of common sense geography. The decision to focus on an English translation of Dionysius Periegetes proves the potential of the project, even if there is lingering suspicion that something may be lost from the Greek original.⁵

So much for the sequential, chapter-by-chapter (hodological?), summary of the volume’s contents; now for an admittedly brief bird’s-eye evaluation of its significance to our growing understanding of geography and worldview in the ancient Mediterranean world. First, many of the authors (but see especially Poiss, Dan, and even Badalanova Geller) challenge the dominance of the hodological (linear and uni-dimensional) worldview so prevalent in modern scholarship. While there is no reason to surrender completely this model, these studies, alongside others,⁶ usefully illustrate that the ancient worldview was much more complicated and varied than is often assumed. Second, a number of the contributions (especially Bianchetti, Bekker-Nielsen, Dan and Geller) show how common sense geography recognizes and emphasizes the interconnection between politics and geographic knowledge. Political concerns as much, and even more than some sort of scientific curiosity, guided both the collection and presentation of such knowledge. Finally, all the contributions (but especially those by Arnaud, Guckelsberger, and Geus) illustrate the simple practicality inherent in common sense geography. Whether it be political considerations that determined spatial awareness, or the mental maps that guided travel, common sense geography reveals a distinct adherence to practicality, even if, as Bekker-Nielsen demonstrates, severe contradictions between expectation and reality could arise.

The editors (and many of the contributors) admit that Common Sense Geography is by no means a final word, but rather is designed to spark further research, and so it should. Collectively, they have illustrated the potential of their interdisciplinary research program to challenge prevailing assumptions and illuminate the ancient worldview. In short, the authors demonstrate that modern expectations of precision and accuracy were both unexpected and unnecessary in antiquity. Recognizing this fact will only improve our view of the ancient worldview. There is, nevertheless, room to expand the scope of the question, or at any rate, the breadth of the source material. Considering the volume's focus on cognitive linguistics it is perhaps appropriate, if not necessary, that texts and textual analysis dominate the contributions, but other items of evidence, especially in the material record, deserve increased attention. In a brief footnote, for example, the editors state the need for further work on two potentially illustrative categories of evidence, Roman military diplomata and portable sundials.⁷ As illustrated elsewhere, maps or at least geographic images, however incomplete their survival or fuzzy their reconstructions, may also provide a fruitful area of further study.⁸ Cicero correctly bemoaned the difficult task of writing geography (Ad. Att. 2.4; 2.6). Like Atticus we should continue to encourage further research, and thankfully, unlike Atticus, we can expect results.

Notes:

1. See for example Talbert, R., ed., *The Barrington Atlas of the Greek and Roman World* (Princeton 2000) and Pleiades, the digital gazetteer that offers both precise coordinates and orthographies for ancient places.
2. See Brodersen's contribution in Dueck, D. *Geography in Classical Antiquity* (New York 2012), 99-110.
3. Those interested in the present volume's themes should also see the contributions collected in Geus, K. and Rathmann, M., eds., *Vermessung der Oikumene*, (Berlin 2013).
4. Nicolet, C., *Space, Geography, and Politics in the Early Roman Empire*, trans. Hélène Leclerc (Ann Arbor 1991).
5. Readers should now also consult Lightfoot, J. (ed.), *Dionysius Periegetes: Description of the Known World: With Introduction, Text, Translation, and Commentary*, (Oxford 2014).
6. See, for example, Talbert, R., "Rome's Provinces as a Framework for World-View," in *Roman Rule and Civic Life: Local and Regional Perspectives*, ed. L. de Ligt et al., (Amsterdam 2004), 21-37.
7. Note 1 on page 7. For forthcoming studies on these topics see Talbert, R., *Roman Portable Sundials: The Empire in Your Hand* (Oxford, forthcoming) and Turner, B., "Limitless Empire: The Public Commemoration of Soldiers' Origins," in *Roman Frontier Studies: Proceedings of the XXII International Limes Congress in Ruse, Bulgaria, 2012*, ed. Lyudmil Vagalinski et al. (forthcoming).
8. Note especially Rochberg, F., "The Expression of Terrestrial and Celestial Order in Ancient Mesopotamia," in *Ancient Perspectives: Maps and Their Place in Mesopotamia, Egypt, Greece, and Rome*, ed. Richard Talbert (Chicago 2012), 9-46. Her conclusion's reference to cognitive psychology would not be out of place in the current volume.

Please visit the site: <http://bmcr.brynmawr.edu/2015/2015-01-20.html>

THE ORIGINS AND USE OF THE POTTER'S WHEEL IN ANCIENT EGYPT

Author: Sarah Doherty. x+140 pages; illustrated throughout in black & white with two colour plates. 131 2015 Archaeopress Egyptology 7. ISBN 9781784910600. £29.00

The invention of the wheel is often highlighted as one of humankind's most significant inventions. Wheels do not exist in nature, and so can be viewed entirely as a human-inspired invention. Machinery too, was relatively rare in the ancient world. The potter's wheel is arguably the most significant machine introduced into Egypt, second only perhaps to the drill, the loom and the bellows for smelting metal. In Predynastic Egypt (c3500 B.C.), the traditional methods of hand-building pottery vessels were already successful in producing pottery vessels of high quality on a large scale for the domestic market, so it would seem that the potter's wheel was a rather superfluous invention. However, the impact of this innovation would not just have affected the Egyptian potters themselves learning a new skill, but also signalled the beginnings of a more complex and technologically advanced society.

Despite many years work on the technology of pottery production it is perhaps surprising that the origins of the potter's wheel in Egypt have yet to be determined. This present project seeks to rectify this situation by determining when the potter's wheel was introduced into Egypt, establishing in what contexts wheel thrown pottery occurs, and considering the reasons why the Egyptians introduced the wheel when a well-established hand making pottery industry already existed.

This book is due to be published late January/early February 2015, priced £29.00. To record your interest please email patrick@archaeopress.com Sorry this product is currently not available to order online.

Please visit the site:

<http://archaeopress.com/ArchaeopressShop/Public/displayProductDetail.asp?id=%7b62A0CB01-F9AA-4A8B-800C-2B61E76FF3D0%7d>

THE CAMBRIDGE PREHISTORY OF THE BRONZE AND IRON AGE MEDITERRANEAN

A. Bernard Knapp and Peter van Dommelen (eds) The Cambridge Prehistory of the Bronze and Iron Age Mediterranean.

New York: Cambridge University Press.

Hardback (ISBN-13: 9780521766883)

- 223 b/w illus. 57 maps 11 tables

- 688 pages

- Size: 279 x 216 mm

- Weight: 2.17 kg

- Also available in Adobe eBook

- Published January 2015

- \$195.00

The Cambridge Prehistory of the Bronze and Iron Age Mediterranean offers new insights into the material and social practices of many different Mediterranean peoples during the Bronze and Iron Ages, presenting in particular those features that both connect and distinguish them. Thirty-eight contributors discuss in depth a range of topics that motivate and structure Mediterranean archaeology today, including insularity and connectivity; mobility, migration, and colonization; hybridization and cultural encounters; materiality, memory, and identity; community and household; life and death; and ritual and ideology. The volume's broad coverage of different approaches and contemporary archaeological practices will help practitioners of Mediterranean archaeology to move the subject forward in new and dynamic ways. Together, the essays in this volume shed new light on the people, ideas, and materials that make up the world of Mediterranean archaeology today, beyond the borders that separate Europe, Africa, and the Middle East.

Contents

1. A little history of Mediterranean island prehistory; 2. Inside out? Materiality and connectivity in the Aegean archipelago; 3. Early island exploitations: productive and subsistence strategies on the prehistoric Balearic Islands; 4. Islands and mobility: exploring Bronze Age connectivity in the South-Central Mediterranean; 5. Sicily in Mediterranean history in the second millennium BC; 6. Late Bronze Age Sardinia: acephalous cohesion; 7. Corridors and colonies: comparing fourth-third millennia BC interactions in Southeast Anatolia and the Levant; 8. The Anatolian context of philia material culture in Cyprus; 9. Bronze Age European elites: from the Aegean to the Adriatic, and back again; 10. Greece in the Early Iron Age: mobility, commodities, politics, and literacy; 11. Before 'the gates of Tartessos': indigenous knowledge and exchange networks in the Late Bronze Age far west; 12. Colonizations and cultural developments in the central Mediterranean; 13. The Iron Age in South Italy: settlement, mobility, and culture contact; 14. Migration, hybridization, and resistance: identity dynamics in the Early Iron Age Southern Levant; 15. Cultural interactions in Iron Age Sardinia; 16. Myth into art: foreign impulses and local responses in archaic Cypriot sanctuaries; 17. Mobility, interaction, and power in the Iron Age Western Mediterranean; 18. Sensuous memory, materiality, and history: rethinking the 'rise of the palaces' on

Bronze Age Crete; 19. Beyond iconography: meaning-making in Late Bronze Age Eastern Mediterranean visual and material culture; 20. Changes in perceptions of the 'other' and expressions of Egyptian self-identity in the Late Bronze Age; 21. The lure of the artifact? The effects of acquiring Eastern Mediterranean material culture; 22. Stone worlds: technologies of rock-carving and place-making in Anatolian landscapes; 23. Rethinking the late Cypriot built environment: households and communities as places of social transformation; 24. Households, hierarchies, territories, and landscapes in Bronze Age and Iron Age Greece; 25. Connectivity beyond the urban community in central Italy; 26. Long term social change in Iron Age northern Iberia (ca.700–200 BC); 27. Who lives there? Settlements, houses, and households in Iberia; 28. Landscapes and seascapes of Southwest Iberia in the first millennium BC; 29. Domestic and settlement organization in Iron Age Southern France; 30. Beyond the general and the particular: rethinking death, memory, and belonging in Early Bronze Age Crete; 31. From the nineteenth century to the twenty-first: understanding the Bronze argaric lifecourse in the Mediterranean 'far west'; 32. Crossing borders: death and life in second millennium BC southern Iberia and North Africa; 33. An entangled past: island interactions, mortuary practices, and the negotiation of identities on Early Iron Age Cyprus; 34. The violence of symbols: ideologies, identity, and cultural interaction in central Italian cemeteries; 35. The Early Bronze Age Southern Levant: the ideology of an aniconic reformation; 36. Ritual as the setting for contentious interaction: from social negotiation to institutionalized authority in Bronze Age Cyprus; 37. Cult activities among central and north Italian protohistoric communities; 38. Ritual and ideology in Early Iron Age Crete: the role of the past and the east.

Contributors:

John F. Cherry, Thomas P. Leppard, Carl Knappett, Irene Nikolakopoulou, Damià Ramis, Davide Tanasi, Nicholas C. Vella, Anna Maria Bietti Sestieri, Emma Blake, Raphael Greenberg, Giulio Palumbi, Christoph Bachhuber, Michael L. Galaty, Helena Tomas, William A. Parkinson, John K. Papadopoulos, M. Ruiz-Gálvez, Tamar Hodos, Massimo Osanna, Shlomo Bunimovitz, Zvi Lederman, Carlo Tronchetti, Derek B. Counts, Jaime Vives-Ferrándiz Sánchez, Yannis Hamilakis, Marian H. Feldman, R. Gareth Roberts, Morag M. Kersel, Ömür Harmanşah, Kevin D. Fisher, Lin Foxhall, Corinna Riva, Joan Sanmartí Grego, Helena Bonet-Rosado, Consuelo Mata-Parreño, Alonso Rodríguez Díaz, Maria Carme Belarte, Despina Catapoti, Sandra Montón-Subías, Katina Lillios, Sarah Janes, Mariassunta Cuzzo, Yuval Yekutieli, Jennifer M. Webb, Alessandro Guidi, Mieke Prent

Please visit the site:

<http://upbo.com/us/catalogue/catalogue.asp?isbn=9780521766883>

EUROPEAN JOURNAL OF ARCHAEOLOGY, **VOLUME: 18, NUMBER: 1 (FEBRUARY 2015)**

The above issue is now available online at:

<http://www.maneyonline.com/toc/eja/18/1?ai=v7&ui=1yc&af=T>

This special issue of European Journal of Archaeology focuses on Turkey.

Editorial

Robin Skeates

European Journal of Archaeology, Vol. 18, No. 1: 1-3.

<http://www.maneyonline.com/doi/abs/10.1179/1461957114Z.000000000105?ai=v7&ui=1yc&af=T>

Bone or Flesh: Defleshing and Post-Depositional Treatments at Körtik Tepe (Southeastern Anatolia, PPNA Period)

Yilmaz Selim Erdal

European Journal of Archaeology, Vol. 18, No. 1: 4-32.

<http://www.maneyonline.com/doi/abs/10.1179/1461957114Y.00000000072?ai=v7&ui=1yc&af=T>

Current Research and New Evidence for the Neolithization Process in Western Turkey
Eylem Özdoğan

European Journal of Archaeology, Vol. 18, No. 1: 33-59.

<http://www.maneyonline.com/doi/abs/10.1179/1461957114Y.00000000079?ai=v7&ui=1yc&af=T>

An Overview of the Western Anatolian Early Bronze Age

Erkan Fidan, Deniz Sari and Murat Türkteki

European Journal of Archaeology, Vol. 18, No. 1: 60-89.

<http://www.maneyonline.com/doi/abs/10.1179/1461957114Y.00000000070?ai=v7&ui=1yc&af=T>

The Hittites and their Geography: Problems of Hittite Historical Geography

Metin Alparslan and Meltem Doğan-Alparslan

European Journal of Archaeology, Vol. 18, No. 1: 90-110.

<http://www.maneyonline.com/doi/abs/10.1179/1461957114Y.00000000075?ai=v7&ui=1yc&af=T>

Conflict and Interaction in the Iron Age: The Origins of Urartian–Assyrian Relations

Kemalettin Köroğlu

European Journal of Archaeology, Vol. 18, No. 1: 111-127.

<http://www.maneyonline.com/doi/abs/10.1179/1461957114Y.00000000080?ai=v7&ui=1yc&af=T>

From Constantinople to Istanbul: The Residences of the Venetian Bailo (Thirteenth to Sixteenth Centuries)

Aygül Ağır

European Journal of Archaeology, Vol. 18, No. 1: 128-146.

<http://www.maneyonline.com/doi/abs/10.1179/1461957114Y.0000000082?ai=v7&ui=1yc&af=T>

The Oxford Handbook of African Archaeology

Baumanova Monika

European Journal of Archaeology, Vol. 18, No. 1: 147-150.

<http://www.maneyonline.com/doi/abs/10.1179/146195714X13820028180603?ai=v7&ui=1yc&af=T>

La Arqueología Funeraria desde una Perspectiva de Género

Marta Cintas Peña

European Journal of Archaeology, Vol. 18, No. 1: 151-154.

<http://www.maneyonline.com/doi/abs/10.1179/146195714X13820028180766?ai=v7&ui=1yc&af=T>

Lateglacial and Postglacial Pioneers in Northern Europe

Hein B. Bjerck

European Journal of Archaeology, Vol. 18, No. 1: 154-157.

<http://www.maneyonline.com/doi/abs/10.1179/146195714X13820028180801?ai=v7&ui=1yc&af=T>

Jade. Grandes haches alpines du Néolithique européen. Ve et IVe millénaires av. J.-C.
(Jade. Large Alpine Axeheads in Neolithic Europe. 5th-4th Millennia BC)

Carlos P. Odriozola

European Journal of Archaeology, Vol. 18, No. 1: 158-161.

<http://www.maneyonline.com/doi/abs/10.1179/146195714X13820028180649?ai=v7&ui=1yc&af=T>

The Levantine Question: Post-Palaeolithic Rock Art in the Iberian Peninsula—El problema ‘Levantino’. Arte rupestre postpaleolítico en la Península Ibérica

Lara Bacelar Alves

European Journal of Archaeology, Vol. 18, No. 1: 161-165.

<http://www.maneyonline.com/doi/abs/10.1179/146195714X13820028180847?ai=v7&ui=1yc&af=T>

Rethinking the North Italian Early Neolithic

Robin Skeates

European Journal of Archaeology, Vol. 18, No. 1: 165-169.

<http://www.maneyonline.com/doi/abs/10.1179/146195714X13820028180522?ai=v7&ui=1yc&af=T>

The First Farmers of Central Europe: Diversity in LBK Lifeways

Heiner Schwarzberg

European Journal of Archaeology, Vol. 18, No. 1: 169-172.

<http://www.maneyonline.com/doi/abs/10.1179/146195714X13820028180568?ai=v7&ui=1yc&af=T>

Settlement in the Irish Neolithic: New Discoveries at the Edge of Europe

Ian Armit

European Journal of Archaeology, Vol. 18, No. 1: 173-176.

<http://www.maneyonline.com/doi/abs/10.1179/1461957115Z.0000000000109?ai=v7&ui=1yc&af=T>

Ancient Economies of the Northern Aegean: Fifth to First Centuries BC

Mark L. Lawall

European Journal of Archaeology, Vol. 18, No. 1: 176-180.

<http://www.maneyonline.com/doi/abs/10.1179/146195714X13820028180685?ai=v7&ui=1yc&af=T>

Perceptions of the Prehistoric in Anglo-Saxon England: Religion, Ritual and Rulership in the Landscape

Adrián Maldonado

European Journal of Archaeology, Vol. 18, No. 1: 180-184.

<http://www.maneyonline.com/doi/abs/10.1179/146195714X13820028180720?ai=v7&ui=1yc&af=T>

Copyright 2015 Maney Online. All Rights Reserved.

EΙΔΗΣΕΙΣ - NEWS RELEASE

ANCIENT MIDDLE EAST SHIPWRECKS SHED LIGHT ON SHIPBUILDING HISTORY, BY AGATA BLASZCZAK-BOXE

Archaeological excavations in Turkey that began in 2004 have yielded a unique historical treasure — 37 shipwrecks from the Byzantine Empire, eight of which are now described in a new report.

The shipwrecks were discovered at a site called Yenikapi, in Istanbul, in what was a port of the ancient city, then called Constantinople. The ships date back to the fifth to 11th centuries, and are in exceptionally good condition, archaeologists say.

"Never before has such a large number and types of well-preserved vessels been found at a single location," said study author Cemal Pulak, of the Institute of Nautical Archaeology at Texas A&M University.

The eight shipwrecks highlighted in the new report, which date from the seventh to 10th centuries, show that the shipbuilders at the time were using a more complex process than previously thought, according to the researchers.

Each of the ships the researchers examined in the report incorporated elements characteristic of two ship-building methods. In one method, the shell of a ship was built first, and in the other, the ship's skeleton was constructed first, and then the planks were attached. The researchers' analysis showed that a transition from a shell-first to a skeleton-first approach was already well underway by the seventh century.

"It is through meticulous and time-consuming detective work that we slowly begin to understand how these ships were built, modified, overhauled and used," Pulak told Live Science. "By such means, we try to understand the minds of the shipbuilders and their design and conceptualization processes, in order to better comprehend the history of science and engineering."

Of the eight ships that the researchers examined for the report, six were classified as "round ships," which means that they were propelled primarily or entirely by sail. The length of the round ships ranged from 26 to 48 feet (8 to 14.7 meters), and they were between 8 and 16 feet (2.5 and 5 m) wide.

The other two ships the researchers examined were galleys — long, oared ships, about 100 feet (30 m) long and 13 feet (4 m) wide. Among all of the 37 shipwrecks discovered at Yenikapi, there were a total of six Byzantine galleys, "notably the first shipwrecks of this type discovered from the Byzantine period," the researchers wrote in their report.

Previously, Byzantine galleys were known only from books and artwork dating to the time period, and such sources tend to be difficult to interpret. Therefore the well-

preserved remains of these vessels at Yenikapi play a crucial role in archaeologists' study of Byzantine ships, the researchers said.

Until recently, much of the information about Byzantine ships had come from the several medium-size seagoing ships that had been excavated in the Mediterranean, Pulak said. "Yenikapi has yielded a wide array of small rowboats, fishing boats, utility vessels and even naval ships, all directly from Constantinople itself, the capital of the Byzantine Empire," he added.

A large museum in Istanbul is being planned to exhibit many of the wrecks, Pulak said. But it could take several years to restore the timbers of each ship's hull, he said.

Please visit the site: <http://www.livescience.com/49272-byzantine-shipwrecks-turkey-shipbuilding-history.html>

3 CHEERS FOR THE ONION

Deep in the archives of Yale University's Babylonian Collection lie three small clay tablets with a particular claim to fame - they are the oldest known cookery books. Covered in minute cuneiform writing, they did not give-up their secrets until 1985, nearly 4,000 years after they were written.

The French Assyriologist and gourmet cook Jean Bottéro - a combination only possible in France, some might say - was the man who cracked them. He discovered "a cuisine of striking richness, refinement, sophistication and artistry" with many flavours we would recognise today. Especially one flavour.

"They seem obsessed with every member of the onion family!" says Bottéro.

Mesopotamians knew not just their onions, but also their leeks, garlic and shallots.

And this devotion to the humble bulb is shared by most subsequent cooks too - rare is the cookery book that that is onion-free.

It's the world's most ubiquitous foodstuff. The UN estimates that at least 175 countries produce an onion crop, well over twice as many as grow wheat, the largest global crop by tonnage.

And unlike wheat, the onion is a staple of every major cuisine - it's arguably the only truly global ingredient.

"We think that based on genetic analysis onions came from central Asia, so they are already far field by the time the Mesopotamians are using them. There's also very early evidence of their use in Europe back to the Bronze Age," says food historian Laura Kelley, author of *The Silk Road Gourmet*.

"They are a very pretty flower, so it could be someone thought, 'These are gorgeous,' and then found they were also nutritious. They are very, very easy to grow... There's a very good chance of success and very few pests."

Without doubt, onions would have been traded along the Silk Road as far back as 2,000BC, around the time the Mesopotamians were writing down their onion-rich recipes, Kelley says.

Today, though, there is little global trade in onions. About 90% are consumed in their country of origin. This may be why, in most parts of the world, onions generally escape much notice.

China and India dominate production and consumption - between them they account for about 45% of the world's annual production of more than 70 million tonnes.

Neither country is among the top onion-eating nations, however, measured by the quantity of onions eaten per head of population. The global champion in this regard is Libya, where in 2011 each person ate, on average, 33.6kg of onion, according to the UN.

"We cook up onions with everything," a Libyan friend tells me. Some even consider macaroni or couscous with onion the national dish.

Kelley points out that a lot of West African cultures eat "huge amounts of onions", though none of them makes it into the UN's top 10.

"There's a Senegalese dish called Yassa, which has a huge amount relative to the amount of meat or veg - it's onions with onions," she says. The Senegalese ate 21.7kg per head in 2011, according to the UN data, more than twice as much as Britons, who got through around 9.3kg per head.

The French, whom the British like to think of as big onion eaters, in fact made do with a modest 5.6kg each.

One country where onions do make headlines, is India - if the price goes up too fast, there will be trouble.

Within a month of being sworn-in as India's new Prime Minister in May, Narendra Modi's government intervened to stop onions being exported too cheaply, fearing a rise in domestic prices. Four years ago the government of the day halted all exports, and even imported onions, to prevent street protests.

"There is no established causal relationship, but anecdotally it is true that onion price spikes have become important election issues from time to time," says Pranjul Bhandari, HSBC's Chief India Economist.

Perhaps the most notable impact was in 1998, when the defeat of the governing BJP party in Delhi state elections was put down to the rise in onion prices.

Graph of onion-eating nations

The reason for their political importance is that onions form "an integral part of almost every Indian household's life", according to Bhandari.

"Barring a few exceptions, no Indian meal is complete without onions as an ingredient. As a result, changes in the price of onions are felt every day by the common man," she says.

In the UK, an onion shortage is less likely to cause disturbances, but growers go to some lengths to ensure a steady supply throughout the year.

"Harvest will run through July to September - we know they are ready when they fall over," says Sam Rix, a third-generation onion farmer, growing, packing and supplying onions near Colchester in Essex.

"The onions are stored in warm air at 28C for three weeks to dry them and to help them develop that golden colour. Then they are gradually cooled down to around zero degrees," he says.

"Eleven weeks after harvest the onions will naturally want to grow. It's a race against time to prevent that."

The bulbs are then kept chilled at fridge-like temperatures in warehouses about the size and height of a secondary school sports hall for months on end.

Although this isn't cheap, it helps ensure that something like 90% of the crop gets to market.

Improvements in storage, and the breeding of increasingly hardy varieties means that producers like Rix are now within reach of a tantalising goal - being able to store onions right through until the following year's harvest begins.

He imported onions - from New Zealand and Spain - for just three weeks of the year.

Harvesting onions at the Rix farm

The packing operation, meanwhile, works 363 days out of 365, closing only for Christmas Day and Easter Sunday.

There is a small spike in demand at Christmas - perhaps because few turkey stuffings are made without an onion, or perhaps simply because people eat more at Christmas than at other times of year.

But it turns out that bigger spikes in British onion demand coincide with other religious festivals - Diwali and Eid.

As you might expect, the world's most global ingredient is also its most multicultural.

Mesopotamian Wildfowl Pie

Laura Kelley, author of the Silk Road Gourmet, has cooked some of the recipes in the Babylonian cuneiform cookery book, including this pie.

The original ingredients are: Fowl, water, milk, salt, fat, cinnamon, mustard greens, shallots, semolina, leeks, garlic, flour, brine, roasted dill seeds, mint and wild tulip bulbs, says Kelley.

See **Laura Kelley's** **step-by-step** **cooking** **guide:**
<http://www.silkroadgourmet.com/mesopotamian-wildfowl-pie/>

Please visit the site: <http://www.bbc.com/news/magazine-30549150> [Go there for pix and sidebars]

ANCIENT AMULET DISCOVERED WITH CURIOUS PALINDROME INSCRIPTION, BY OWEN JARUS

An ancient, two-sided amulet uncovered in Cyprus contains a 59-letter inscription that reads the same backwards as it does forwards.

Archaeologists discovered the amulet, which is roughly 1,500 years old, at the ancient city of Nea Paphos in southwest Cyprus.

One side of the amulet has several images, including a bandaged mummy (likely representing the Egyptian god Osiris) lying on a boat and an image of Harpocrates, the god of silence, who is shown sitting on a stool while holding his right hand up to his lips. Strangely, the amulet also displays a mythical dog-headed creature called a cynocephalus, which is shown holding a paw up to its lips, as if mimicking Harpocrates' gesture. On the other side of the amulet is an inscription, written in Greek, that reads the same backwards as it does forwards, making it a palindrome. It reads:

IAEW
BAΦPENEM
OYNOΘIΛAPI
KNIΦIAEYE
AIΦINKIPAA
IOONYOME
NEPΦABW
EAI

This translates to "Iahweh(a god) is the bearer of the secret name, the lion of Re secure in his shrine."

Researchers have found similar palindromes elsewhere in the ancient world writes Joachim Śliwa, a professor at the Institute of Archaeology at Jagiellonian University in Kraków, Poland, in an article recently published in the journal *Studies in Ancient Art and Civilization*.

Śliwa notes that the scribe made two small mistakes when writing this palindrome, in two instances writing a "ρ" instead of "v."

The amulet was discovered in the summer of 2011 by archaeologists with the Paphos Agora Project. Led by Jagiellonian University professor Ewdoksia Papuci-Władyka, this team is excavating an ancient agora at Nea Paphos, and uncovered this amulet during their work. Agoras served as gathering places in the ancient world.

Amulets like the one found at Nea Paphos were made to protect their owners from danger and harm, Papuci-Władyka told Live Science in an email.

Christians and pagans

During the 5th and 6th centuries, Cyprus was part of the Eastern Roman Empire. The Roman Empire had split in two during the 4th century, with Cyprus falling under control of the east. When the Western Roman Empire fell during the 5th century, the Eastern Roman Empire continued to flourish and became what is sometimes called the Byzantine Empire.

By the 5th century, Christianity was the official religion of the Eastern Roman Empire, and as time went on, traditional polytheistic (also called pagan) practices came under tighter restrictions and bans. Nevertheless, some people continued to practice the old beliefs, worshipping the traditional gods.

This amulet adds to evidence that people practiced traditional, polytheistic beliefs on Cyprus for an extended time, Papuci-Wladyka said. She notes that a structure called the Villa of Theseus has a mosaic with pagan elements that was likely repaired as late as the 7th century A.D.

It "rather seems that Christian and pagan religions coexisted in Paphos in times of [the] amulet being in use," Papuci-Wladyka told Live Science in an email.

Strange iconography

Despite that coexistence, the amulet has several unusual features that suggest its creator didn't fully understand the mythological characters depicted.

"It must be stated that the depiction is fairly unskilled and schematic. It is iconographically based on Egyptian sources, but these sources were not fully understood by the creator of the amulet," Śliwa wrote in the journal article.

For instance, rather than sitting on a stool, Harpocrates should be sitting on a lotus flower, with legs drawn up, Śliwa said. Additionally, the dog-headed cynocephalus should not be mimicking Harpocrates. In "the classic version, the cynocephalus faces Harpocrates with paws raised in adoration," Śliwa wrote. "We can find no justification for the cynocephalus's gesture of raising its right paw to its lips in a manner similar to Harpocrates."

Even stranger is the fact that Harpocrates and the cynocephalus have crisscrossing lines on their bodies, which suggest the ancient artist thought these figures should be mummified along with Osiris. While the cynocephalus can be shown with mummy bandages, Harpocrates is not supposed to have them. Mummy bandages have "no justification in the case of Harpocrates," Śliwa wrote.

Please visit the site: <http://www.livescience.com/49239-ancient-amulet-palindrome-inscription.html> [Go there for pix]

TOP TEN UNDERWATER DISCOVERIES OF 2014, BY APRIL HOLLOWAY

Out of all the amazing archaeological discoveries made each and every day around the world, those that emerge from the depths of the ocean are among the most captivating. There is something about the underwater world that captures our imagination – perhaps it is the curiosity and intrigue about what else may lie beneath the surface, or the idea that entire cities may be hidden on the ocean floor, out of sight and out of reach. Fortunately, underwater discoveries are not always out of reach and every year more incredible findings are made thanks to advancing technology in the field of marine archaeology. Here we present ten remarkable marine discoveries of 2014.

10. Shipwreck found in Japan believed to be from 13th century Mongol invasion

During the 13th century, the Mongols, led by Kublai Khan, grandson of Genghis Khan, attempted two major invasions of Japan in 1274 and 1281 AD. However, on both occasions, a massive typhoon obliterated the Mongol fleet, forcing the attackers to abandon their plans and fortuitously saving Japan from foreign conquest. The Japanese believed the typhoons had been sent from the gods to protect them from their enemies and called them Kamikaze ('divine wind'). This year, archaeologists found one of the Mongol ships off Takashima island in Nagasaki Prefecture.

The ship was found using sonar equipment, lying 14 metres below the surface, about 1.7 kilometres away from another Mongolian warship that was discovered in 2011. The wreck is comprised of port and starboard structures near the bow of the ship, with preserved planks of wood that are around 11 metres long. Divers also found stone ballast, and archaeologists are hoping that the ship's keel lies underneath. "We plan to clarify details like its structure, size and origin by excavating further," said Yoshifumi Ikeda, a professor of archaeology at the university who is leading the research effort. "It's well preserved, so we expect it to carry a significant load of cargo like porcelains and weapons."

9. 2,000-year-old shipwreck and sacrificial altar found near Aeolian Islands

An archaeological team equipped with a mini-submarine made a spectacular discovery while exploring in deep water around the Aeolian Islands of Pantelleria, Lipari and Panarea – a 2,000-year-old sunken ship, complete with dozens of amphorae, plates, bowls, and anchors. One of the most exceptional discoveries was a well-preserved sacrificial altar on a pedestal containing decorative carvings of waves. While historical sources have referred to sailors making sacrifices to the gods to ensure a safe journey or to give thanks for having navigated a difficult passage, this is one of the first examples of an altar on a ship that may have been used for such purposes.

Thrilled with the results, the Superintendent of the Sea, Sebastiano Tusa, said [translated]: "I have seen and touched dozens of ancient and modern wrecks in my long career as an archaeologist, but to be able to reach a wreck of a ship sunk 2,000 years ago, which is in the dark and in the silence of 130 feet deep, gave me an indescribable

feeling.” The wreck, along with the recovered artifacts, are currently undergoing further analysis to further understand the origin, destination, and life on board the ancient ship.

8. 7,500-year-old underwater village may have been oldest olive oil production center in the world

An excavation site off of Haifa, Israel, revealed a 7,500-year-old water well and Neolithic village, 5 meters (16 feet) underwater due to prehistoric sea-level rise, drowning out what may have been the oldest olive oil production center of the world.

The well is thought to have supplied fresh water to the village. According to Flinders University maritime archaeologist Jonathan Benjamin, “Water wells are valuable to Neolithic archaeology because once they stopped serving their intended purpose, people used them as big rubbish bins.” Once sea levels began to rise the fresh well water became salty, and the villagers used it instead for their refuse, throwing in animal bones and food scraps.

Benjamin notes that the location may have been the oldest olive oil production center of the world, based on previous excavations. A study in the Journal of Archaeological Science describes the thousands of crushed olive stones and early olive-oil production technology found in pits at the prehistoric site in the 1990s.

7. 2,700-year-old Phoenician shipwreck discovered in Maltese waters

A group of divers discovered a Phoenician shipwreck dating back to 700 BC off the coast of Gozo island in Malta. It is a unique and immensely important finding as it is the oldest known shipwreck in the central Mediterranean, it is among the oldest and most complete Phoenician ships ever recovered, and it will serve to shed light on inter-regional trade and exchange in antiquity.

To date, researchers from France, the United States, and Malta have recovered 20 lava grinding stones, weighing some 35kg each, and 50 amphorae of seven different types, which suggests the ship had visited different harbours. Based on the cargo, scientists believe the ship was sailing from Sicily to Malta to sell its cargo when it sank.

The Phoenician civilization, which lasted from 1550 BC to 300 BC, was based in present-day Tyre in Lebanon. They travelled across most of the Mediterranean, not as conquerors but as traders. The strategic location of the Malta in the Mediterranean made the islands a safe refuge for the Phoenicians during their long sea voyages.

6. The discovery of 11,000-year-old relics in Sweden

Earlier this year, Swedish divers made a unique and rare discovery in the Baltic Sea – Stone Age artifacts left by Swedish nomads dating back 11,000 years. Björn Nilsson, archaeology professor at Södertörn University, and his team, have been given resources by the Swedish National Heritage Board to conduct a three-year excavation below the water’s surface in Hanö, a sandy bay off the coast of Skåne County. While excavations are still underway, so far, they have uncovered a number of remnants that are believed to have been discarded in the water by Swedes in the Stone Age, objects which have been

preserved thanks to the lack of oxygen and the abundance of sediment rich in organic matter at the bottom of a eutrophic lake.

It is extremely rare to find evidence from the Stone Age so unspoiled. Buried 16 metres below the surface, Nilsson uncovered wood, flint tools, animal horns and ropes. Among the most notable items found include a harpoon carving made from an animal bone, and the bones of an ancient animal called aurochs, the ancestor of domestic cattle, the last of which died off in the early 1600s.

5. Unprecedented exploration of Antikythera wreck yields new treasures

In the first underwater exploration of its kind, a Greek and international team of divers and archaeologists used a new high-tech exosuit to reach deep waters in which the world-renowned Antikythera wreck had lain for two thousand years. Their investigation proved that remnants of the ship's luxury cargo has survived for millennia on the sea floor as new treasures have been retrieved from the depths. The rescued antiquities include tableware, ship components, and a giant bronze spear that would have belonged to a life-sized warrior statue.

During investigations between September 15 and October 7, 2014, researchers created a high-resolution 3D map of the site. Divers then recovered a series of finds which prove that much of the ship's cargo is indeed still preserved beneath the sediment. "Components of the ship, including multiple lead anchors over a metre long and a bronze rigging ring with fragments of wood still attached, prove that much of the ship survives," said the Woods Hole Oceanographic Institution in a media release. "The finds are also scattered over a much larger area than the sponge divers realized, covering 300 meters of the seafloor. This together with the huge size of the anchors and recovered hull planks proves that the Antikythera ship was much larger than previously thought, perhaps up to 50 meters long."

Archaeologists believe there are many more items from the cargo still to be found and remain hopeful of finding additional parts to the Antikythera mechanism, or other automata. They will be returning to the site next season to continue explorations.

4. Fabled lost ship of Sir John Franklin's expedition found in the Arctic

On September 6, Canada's prime minister, Stephen Harper, announced that one of the fabled lost ships of Sir John Franklin's expedition had been found off Hat Island, south-west of King William Island. The ships HMS Erebus and Terror, which sailed from England in the summer of 1845, were aiming to chart the north-west passage. They disappeared into what is now the Canadian Arctic. Stranded in the ice north-west of King William Island in the summer of 1846, the ships were abandoned by the surviving officers and men in the spring of 1848. There were no survivors.

The wooden ship was found sitting upright on the sea bed in a depth of 11 metres. The vessel appeared to be almost intact, although the masts are missing. More artifacts will undoubtedly emerge soon and hopefully reveal the mystery of the ships' disappearance.

3. 13,800-year-old Haida site found underwater in Canada

Marine archaeologists in Canada discovered an ancient site dating back 13,800 years underwater near the Haida Gwaii Archipelago in British Columbia, Canada. The site, consisting of a stone weir – a man-made channel used to corral fish – was once on dry land and had been inhabited by the Haida people.

In Haida folklore, there is an old flood tale that tells of how the people were forced to move by floodwaters, and how their people came to be dispersed in the New World.

The oldest artifact ever found previously in Canada came from near the same weir site, in Gwaii Hanaas National Park Preserve from 12,700 years ago. The latest finding therefore constitutes the oldest ever evidence of human habitation in Canada.

2. 4,000-year-old sunken ship found in Turkey is among oldest in the world

An excavation at the port of Urla underwater archaeological site in Turkey revealed a sunken ship that is believed to date back 4,000 years. The surprising discovery is the oldest known shipwreck ever found in the Mediterranean, and is also among the oldest known shipwrecks worldwide.

The port of Urla, which served the ancient Greek settlement of Klazomenai, sunk following a natural disaster, probably an earthquake, in the 8th century BC, making the area popular for underwater research. Numerous sunken ships have already been found in Urla, ranging from the 2nd century BC to the Ottoman period. Uncovering a ship that is believed to date back to around 2,000 BC, is incredibly rare and significant and an important milestone for archaeology.

1. Underwater discovery in submerged Mexican cave provides glimpse of First Americans

Divers were mapping submerged caves in Mexico's Eastern Yucatan Peninsula around 12 miles north of the city of Tulum, when they came across the most complete skeleton of its age ever found in the Americas, dating back between 12,000 and 13,000 years old. The ancient skeleton, which has been named "Naia" (ancient Greek for 'water nymph'), belongs to an adolescent girl who fell more than 100 feet to her death nearly a half mile inside an elaborate network of caves that were largely dry at the end of the Pleistocene era.

The skeleton contains both the craniofacial features of ancient Paleoamericans and mitochondrial DNA possessed by later Native Americans. This suggests that the differences in features between Paleoamericans and modern Native Americans may be the result of evolutionary changes over a period of some 9,000 years, rather than being the result of separate migrations from south-east Asia or even Europe.

Please visit the site: <http://www.ancient-origins.net/news-general/top-ten-underwater-discoveries-2014-002516#sthash.1ZvIbMET.dpuf>

TOMB OF PREVIOUSLY UNKNOWN PHARAONIC QUEEN FOUND IN EGYPT

Czech archaeologists have unearthed the tomb of a previously unknown queen believed to have been the wife of Pharaoh Neferefre who ruled 4,500 years ago, officials in Egypt said Sunday.

The tomb was discovered in Abu Sir, an Old Kingdom necropolis southwest of Cairo where there are several pyramids dedicated to pharaohs of the Fifth Dynasty, including Neferefre.

The name of his wife had not been known before the find, Antiquities Minister Mamdouh al-Damaty said in a statement.

He identified her as Khentakawess, saying that for the "first time we have discovered the name of this queen who had been unknown before the discovery of her tomb".

That would make her Khentakawess III, as two previous queens with the same name have already been identified.

Her name and rank had been inscribed on the inner walls of the tomb, probably by the builders, Damaty said.

"This discovery will help us shed light on certain unknown aspects of the Fifth Dynasty, which along with the Fourth Dynasty, witnessed the construction of the first pyramids," he added.

Miroslav Barta, who heads the Czech Institute of Egyptology mission who made the discovery, said the tomb was found in Neferefre's funeral complex.

"This makes us believe that the queen was his wife," Barta said, according to the statement.

An official at the antiquities ministry said the tomb dated from the middle of the Fifth Dynasty (2994-2345 BC).

Archaeologists also found around 30 utensils, 24 made of limestone and four of copper, the statement added.

Please visit the site:

<http://english.ahram.org.eg/NewsContent/9/40/119476/Heritage/Ancient-Egypt/Tomb-of-previously-unknown-pharaonic-queen-found-i.aspx>

OSIRIS TOMB DISCOVERED IN LUXOR - A SYMBOLIC TOMB OF THE GOD OSIRIS HAS BEEN DISCOVERED AT AL-GORNA ON LUXOR'S WEST BANK, BY NEVINE EL-AREF

A Spanish-Italian archaeological mission has discovered a complete symbolic tomb of the god Osiris with multiple shafts and chambers at Al-Gorna necropolis on Luxor's west bank.

Minister of Antiquities Mamdouh Eldamaty told Ahram Online that the discovery is important because the newly discovered tomb is a small version of the design of the Osirion found in Abydos in the Upper Egypt city of Sohag.

Abdel Hakim Karar, head of Antiquities of Upper Egypt, explains that the newly discovered tomb can be dated to the 25th Dynasty and consists of a large hall supported with five pillars. Its northern wall has a hall with a rock-hewn staircase that leads down to a funerary complex where an Osiris statue is found in the core of a vaulted chapel.

To the west of the chapel, said Karar, a funerary hall is found decorated with a relief depicting ancient Egyptian gods holding knives in order to protect the dead.

At the opposite side of the Osiris statue is another staircase leading to a nine metre deep shaft that leads to another chamber that has a seven metre deep shaft with two rooms full of debris.

María Milagros Álvarez Sosa, head of the mission, said that part of the tomb was initially discovered by archaeologist Philippe Virey in the 1880s and some attempts were made to sketch out the main structure in the 20th century. However, it was not until recently that the full extent of the structure was discovered through excavation.

The funerary complex will continue to be explored and the chambers cleared of debris in the autumn of this year.

Please visit the site:

<http://english.ahram.org.eg/NewsContent/9/40/119421/Heritage/Ancient-Egypt/Osiris-tomb-discovered-in-Luxor.aspx>

ATLANTIS' LEGENDARY METAL FOUND IN SHIPWRECK, BY ROSSELLA LORENZI

A team of divers recovered nearly 40 ingots off the sea floor near Sicily, from a ship that was lost in the sixth century.

Gleaming cast metal called orichalcum, which was said by Ancient Greeks to be found in Atlantis, has been recovered from a ship that sunk 2,600 years ago off the coast of Sicily.

The lumps of metal were arriving to Gela in southern Sicily, possibly coming from Greece or Asia Minor. The ship that was carrying them was likely caught in a storm and sunk just when it was about to enter the port.

"The wreck dates to the first half of the sixth century," Sebastiano Tusa, Sicily's superintendent of the Sea Office, told Discovery News. "It was found about 1,000 feet from Gela's coast at a depth of 10 feet."

BLOG: Atlantis Found Off Brazil? Erm...

He noted that the 39 ingots found on the sandy sea floor represent a unique finding.

"Nothing similar has ever been found," Tusa said. "We knew orichalcum from ancient texts and a few ornamental objects."

Indeed orichalcum has long been considered a mysterious metal, its composition and origin widely debated.

According to the ancient Greeks, it was invented by Cadmus, a Greek-Phoenician mythological character. The fourth century B.C. Greek philosopher Plato made orichalcum a legendary metal when he mentioned it in the Critias dialogue.

Describing Atlantis as flashing "with the red light of orichalcum," he wrote that the metal, second only in value to gold, was mined in the mythical island and was used to cover Poseidon's temple interior walls, columns and floors.

Today most scholars agree orichalcum is a brass-like alloy, which was made in antiquity by cementation. This process was achieved with the reaction of zinc ore, charcoal and copper metal in a crucible.

Analyzed with X-ray fluorescence by Dario Panetta, of TQ - Technologies for Quality, the 39 ingots turned to be an alloy made with 75-80 percent copper, 15-20 percent zinc and small percentages of nickel, lead and iron.

"The finding confirms that about a century after its foundation in 689 B.C., Gela grew to become a wealthy city with artisan workshops specialized in the production of prized artifacts," Tusa said.

According to Enrico Mattievich, a retired professor of physics who taught at the Federal University of Rio de Janeiro (UFRJ), the ingots are not properly made from orichalcum.

"It appears they are lumps of latone metal, an alloy of copper, zinc and lead," he told Discovery News.

Mattievich, who has led a number of studies in physics applied to mineralogy, paleontology and archaeology, is one of the scholars who disagree on the brass-like nature of orichalcum.

While other scholars equated the mysterious metal to amber and to other copper based alloys, Mattievich believes orichalcum has its roots in the Peruvian Andes and in the Chavín civilization that developed there from 1200 B.C. to 200 B.C.

According to the scholar, who claimed in his book "Journey to the Mythological Inferno" that the ancient Greeks had discovered America, a metallic alloy "with fire-like reflections" similar to Plato's description was found in a set of metallic jaguars of Chavin style, which turned to be made of 9 percent copper, 76 percent gold and 15 percent silver.

Whatever the origins and nature of orichalcum, Tusa's team plans to excavate the shipwreck and bring to light the entire cargo.

"It will provide us with precious information on Sicily's most ancient economic history," Tusa said.

Please visit the site: <http://news.discovery.com/history/archaeology/atlantis-legendary-metal-found-in-shipwreck-150106.htm>

POLLUTION TURNING THE TAJ MAHAL YELLOW, BY AMIT BHATTACHARYA

Breakingnews, Heritage, India, South Asia 8:00 PM India's white marvel, the Taj Mahal, is slowly turning brownish-yellow because of air pollution, says an Indo-US study which also identifies the pollutants responsible for the effect.

It says Taj is changing colour due to deposition of dust and carbon-containing particles emitted in the burning of fossil fuels, biomass and garbage. The study confirms what has been suspected for long — that Agra's poor air quality is impacting India's most celebrated monument.

The research was conducted by experts from US universities — Georgia Institute of Technology and University of Wisconsin — as well as Indian Institute of Technology, Kanpur and Archaeological Survey of India. The paper was published in the Environmental Science & Technology journal in December.

The findings can lead to targeted strategies to curb air pollution in and around Agra and more effective ways to cleanse the marble surface of the 366-year-old mausoleum, which remains by far the most visited man-made structure in the country with footfalls of more than 6 million in 2013.

The researchers first analysed air samples at the site for roughly a year using filters and found high concentrations of suspended particles that could potentially discolour Taj's surface.

Clean marble samples were then placed at various points on the monument accessible only to ASI staff. After two months of exposure, the samples were analysed using electron microscope and X-ray spectroscopy.

The pollutants deposited on the marble were identified through these investigations. Researchers found 3% of the deposits to be black carbon, around 30% organic carbon (or brown carbon) and most of the rest dust. Black carbon is emitted by vehicles and other machines that burn fossil fuels. Brown carbon is typically released through burning of biomass and garbage, a common practice in the region.

S N Tripathi of IIT Kanpur, one of the authors, said the team then used a novel approach to estimate how these deposited particles would impact light reflecting off the marble surface. "We found that black carbon gives a greyish colour to the surface while the presence of brown carbon and dust results in yellowish-brown hues," he said.

"Results indicate that deposited light absorbing dust and carbonaceous particles are responsible for the surface discolouration of the Taj Mahal," the study concludes.

Since 2008, ASI has been trying to fight the yellowing of the monument by giving it a clay pack treatment using the lime-rich Fuller's earth (Multani mitti) to clean the marble surface. Researchers are now keen on studying the efficacy of this method and finding ways of improving it.

"Now that we know what's causing the yellowing, the focus should now shift to undoing the effect," Tripathi said.

Please visit the site: <http://archaeologynewsnetwork.blogspot.gr/2015/01/pollution-turning-taj-mahal-yellow.html#.VLFdT3vJ6f9>

TABUN CAVES AND USE OF FIRE

Israeli cave may prove when humans began using fire According to new Israeli study conducted at Tabun Cave in north, humans began routinely using fire about 350,000 years ago - much later than other studies suggest.

A new Israeli study, conducted in the Tabun Cave in northern Israel, has revealed that humans began routinely using fire about 350,000 years ago - helping to pin down one of the most important developments in human history which has had hazy findings up until now. Follow Ynetnews on Facebook and Twitter According to Science Magazine, the study, which looked at artifacts from the Tabun Cave, about 24 kilometers south of Haifa, examined flint tools, used for cutting and scraping, and flint debris, to help determine when exactly the usage of fire by humans began.

Unique cave discovered, to be opened for visitors in one month; officials mapping the cave, considering how to protect the site. Full story The cave documents 500,000 years of human history, enabling researchers to see a change in behavior patterns over a long span of time. "Tabun cave is unique in that it's a site with a very long sequence," Ron Shimelmitz, an archeologist at the University of Haifa and co-author of the newly released study, told Science Magazine. "We could examine step by step how the use of fire changed in the cave," said Shimelmitz.

To understand when the use of fire became an integral part of the lives of ancestral humans, the researchers examined flints from about 100 layers of sediment in the lowermost 16 meters of the cave deposits. In layers older than 350,000 years, nearly none of the flints showed signs of being burned. However, in every layer afterwards, several flints showed signs of being exposed to fire. Researchers began seeing red or black coloration, cracking, and small round depressions where fragments (known as pot lids) flaked off from the stone. As wildfires are uncommon in caves, the researchers determined that the findings must point to fires controlled by ancestral humans. Furthermore, the increasing frequency of the burnt flints seemed to point to the time when the ancestral humans learned to control fire, by either kindling it or by maintaining fire from wildfires that occurred naturally.

The new findings made by the Israeli researchers were also consistent with data collected from several nearby archeological sites. Studied individually, the other sites did not provide much information about when humans began to master fire because they did not represent a massive time span like that of the Tabun Cave, or were not well dated. Therefore, the long, detailed record of the Tabun Cave helps give the findings more context. The findings from the research conducted at the Tabun Cave suggest that ancestral humans along the eastern Mediterranean began to learn how to control fire at around the same point in time, said Shimelmitz. While earlier ancestral humans may have used fire from time to time, they most likely did not use it daily, the researchers revealed in the December issue of the Journal of Human Evolution. The time frame established by the researchers is also consistent with findings at European archeological sites, according to Science Magazine. In 2011, researchers dated the routine use of fire to between 400,000 and 300,000 years ago. Along with the new research from the Tabun Cave, data suggests that ancient humans did not master fire until hundreds of thousands of years after they spread out into colder climates.

Earlier sites have shown evidence of fire use but they are rare and difficult to interpret, according to Paola Villa, a co-author of the 2011 study and researcher at the University of Colorado Museum of Natural History. Thus, the new Israeli study may not end the debate about when exactly humans began routinely using fire. Richard Wrangham of Harvard University thinks that human ancestors mastered fire much earlier than 350,000 years ago. Wrangham argues that humans started cooking food about 2 million years ago and credits fire for beginning the evolution of larger brains – all of which happened long before the burnt flints were dated in the Tabun Cave. Wrangham still calls the Israeli findings "exciting" but he is not convinced by the historical sequence of the Israeli archeological site, Science Magazine reported.

According to Wrangham, the Tabun Cave may have been used to gather materials or butcher animals while cooking may have been saved for open-air sites. "We clearly need more information," said Wrangham. Yet, both Wrangham and Shimelmitz agree that no matter when fire began being used by humans routinely, it gave humans major advantages such as cooking, warmth, light, and safety from predators. The seemingly miraculous gifts fire gave to humans led Shimelmitz to determine that "there's a reason people think we got fire from the gods."

Please visit the site: <http://www.ynetnews.com/articles/0,7340,L-4602990,00.html>

ANCIENT EGYPTIAN FORTRESS **UNEARTHED IN SINAI FOUNDATION OF** **THE FORTRESS DISCOVERED AT TELL** **HABOA, BY RANY MOSTAFA**

The 3,000 year-old ruins and foundations of the largest known fortress in Egypt were unearthed at the ancient fortified city of Tell Habua near the Suez Canal, said Antiquities Minister Mamdouh al- Damaty Saturday. The fort, also known as the Wall of the Prince, was part of a defensive line in the form of a series of fortresses and military cities. The fortress is one of other fortifications that have been discovered earlier in the site of Tell Habua, the old Tharu, as mentioned in the inscriptions of Pharaoh Seti I at Karnak temple, describing the Horus Military Route, said Damaty.

“The discovery is significant as it reflects the details of the ancient Egyptian military history. It is a model example of Ancient Egypt’s military architecture, as well as the Egyptian war strategies through different ages, for the protection of the entirety of Egypt,” chief of the excavation team archaeologist Mohammed Abdel-Maqsood told The Cairo Post Saturday.

The new discoveries corresponded to the inscriptions of the Way of Horus found on the walls of the Karnak Temple in Luxor which illustrated the features of 11 military fortresses, of which only 5 have been discovered, that protected Egypt’s eastern borders.

The Horus Military Route is a long road of fortifications that protected Egypt’s eastern front from invaders. It was a key starting point for military campaigns during Egypt’s New Kingdom period (1580 B.C. – 1080 B.C.), former head of the Supreme Council of Antiquities Abdel Halim Nour el-Din told The Cairo Post Saturday.

The Horus Route extends for 350 kilometers, starts from Tharu, located about two miles northeast of present day Qantara and ends at Egypt’s border city of Rafah, according to Nour el-Din. “The route was fortified by two parallel walls, followed by 11 fortresses acting as early alert points before the arrival of any conquering army to the strategically located Tharu Fortress. In the same area there was an economic society, indicating that it had been a commercial and customs zone where taxes were collected before reaching the Delta,” he added.

During the Middle Kingdom Period (2000 B.C. and 1700 B.C), Egypt’s military reached as far as the Tigris and Euphrates River, and supported its position with a long chain of heavily fortified settlements at the most vulnerable points in the trade route from the east, he added.

Please visit the site: <http://www.thecairopost.com/news/132836/travel-antiquities/ancient-egyptian-fortress-unearthed-in-sinai>

EGYPTIAN COFFIN CONSERVATION **PROJECT – ORIENTAL INSTITUTE,** **UNIVERSITY OF CHICAGO**

The Oriental Institute recently received a grant from the Antiquities Endowment Fund of the American Research Center in Egypt (ARCE) to conserve an important ancient Egyptian coffin in our collection (OIM E12072). The First Intermediate Period (ca. 2064 BC) coffin of the commander and scribe of the army troops Ipi-ha-Ishutef was purchased by James Henry Breasted in Cairo in 1923. It is an excellent example of the coffin maker's art, being constructed of large planks of what was assumed to be cedar from Lebanon. The outside is inscribed with funerary texts invoking offerings for the soul of Ipi-ha-Ishutef. A pair of wedjat eyes allowed the soul of the deceased to see the rising sun, a symbol of eternal rebirth. The interior is painted with a colorful scene of weapons, jewelry, food, and supplies for the soul of the deceased in the afterlife. The decoration also includes the representation of a door that allowed his spirit to leave the dark realm of the coffin to enjoy offerings left in the tomb. Unlike contemporary coffins inscribed with what are known as the Coffin Texts, the lid of this example bears an earlier composition known as the Pyramid Texts.

The coffin, a prior museum "highlight object," was displayed in the Egyptian Hall until the 1996 gallery closure to prepare for the major refurbishment project and the creation of the new Joseph and Mary Grimshaw Egyptian Gallery. When the coffin was removed from display and transferred to storage, it was realized that a program of conservation would be required to stabilize its fragile wooden structure and its painted surface. Due to the vertical nature of the coffin walls, some fragments of pigment are literally hanging off these surfaces. Our commitment to dedicate adequate funding and staff time to carry out this conservation treatment on the coffin motivated us to make the recent funding request to the Antiquities Endowment Fund. We're very grateful to have ARCE's support — this organization mainly provides grants for cultural heritage and preservation projects in Egypt itself, but it also supports conservation projects on Egyptian collections in American museums.

The grant will allow conservator Simona Cristanetti to work on the coffin in the Oriental Institute's conservation laboratory. The first stage (in preparation at the time of writing) is to move the coffin from our Organic Storage to the conservation laboratory, where it can be fully documented and conserved (fig. 3). Prior to conservation treatment, the coffin will be carefully analyzed using a variety of scientific techniques. The information we hope to gain from these analyses will add to the growing body of information on the organic and chemical compositions of pigments used in ancient Egypt. The coffin conservation project follows a study of the wood of the coffin done at the Laboratory of Tree Ring Research at the University of Tucson. In the 1930s, cores of the wood were sent to Tucson. Now, after more than three quarters of a century, a study, headed by Sturt Manning and Pearce Paul Creasman, aided by Oriental Institute doctoral candidate Kathryn Bandy, has been published in the *Journal of Archaeological Science* (vol. 46, 2014). Their study verified that the coffin is made of cedar, and it assigned a date of 2081–2064 BC to the last extant tree rings. The final report will include a description of the coffin and its iconography, its conservation, and an analysis of the wood and

pigments. A report on the current conservation project will also be published in the ARCE Bulletin.

Once the conservation treatment of the coffin has been completed, it will be displayed in the Joseph and Mary Grimshaw Egyptian Gallery positioned near the Ptolemaic mummy of Petosiris and the Third Intermediate Period cartonnage of Meresamun, giving our visitors a vivid illustration of the evolution of coffin design. We look forward to welcoming back commander Ipi-ha-Ishutef's coffin in the summer of 2015!

By Jack Green, Oriental Institute Museum Chief Curator Excerpt from Oriental Institute News & Notes Quarterly Newsletter, Issue 224, Winter 2015

Please visit the site:

<https://oi.uchicago.edu/museum-exhibits/bts-coffin-conservation-project>

Go there for images, or download the article as a pdf:

https://oi.uchicago.edu/sites/oi.uchicago.edu/files/uploads/managed/slideshows/Green%20Coffin%20Conservation%20Project%20%28News_Notes%20Winter%202015%29.pdf

EXPEDITION TO IDALION, CYPRUS, EXPLORES ANCIENT SANCTUARIES

Archaeologists focus on two ancient religious sanctuaries and an industrial site.

An archaeological team is investigating three key sites at the location of ancient Idalion in Cyprus, where excavations are continuing to uncover new features and finds dating as far back as the Bronze Age in an ancient city that was the most important of ten city kingdoms on Cyprus during the 6th and 7th centuries BCE.

At the first site, which defines the remains of the Hellenistic period Sanctuary of Adonis, archaeologists uncovered evidence of 11th century BCE occupation. The discoveries were made as a part of their investigation of earlier phases of habitation at the site. The finds have pointed to possible influence or connection with cultures and belief systems in the Levant, especially during the 1st millennium BCE.

"There are multiple indicators that the cult of Adonis at Idalion was closely related to the first millennium BCE religion of ancient Israel," wrote Dr. Pamela Gaber and colleagues in a summary of the recent excavations.* Gaber is Project Director of the excavations, currently with Lycoming College, Williamsport, Pennsylvania. She and her teams have been excavating at Idalion since 1987.

The second site, known as the "Sanctuary of the Paired Deities", has also been identified as a religious center. Gaber and colleagues have been excavating there since 2002, uncovering stone altars and ash pits and a pair of standing stones and limestone figures. "During the 2012 season we took out the standing stones and found the remains of a pair of standing wooden columns, apparently destroyed during the conquest of Idalion [by the Kitians] around 450 BCE," stated Gaber, et al., in their summary.*

In 2015 Gaber plans to continue investigating this sanctuary, along with the Sanctuary of Adonis, hoping to gain a clearer picture of its meaning, significance, and use. The third site is thought to be a possible industrial installation, as in 2013 they uncovered evidence pointing to an early dyeing industry that continued on into the Hellenistic period.

The ancient remains of Idalion in central Cyprus have seen on-and-off archaeological excavations since the early 20th century, but the most significant excavations took place under Einar Gjerstad from 1927 to 1931, from which eight volumes of scholarly reporting were published. Gjerstad was followed by Lawrence Stager and Anita Walker of the Joint American Expedition to Idalion from 1971 to 1980, which produced two volumes. Gaber's expedition has continued investigations, clarifying and adding to the work done previously and opening up new investigations with new questions about Idalion and life in Cyprus in the centuries BCE.

Idalion is best known historically as a major center of copper trade beginning in the 3rd millennium BCE. It was one of 11 cities in Cyprus listed on the Stele of Sargon (707 BCE) and considered the most important of the ten Cypriot kingdoms listed on the tablet of the Assyrian king Esarhaddon (680-669 BCE).

More information about Idalion, the excavations and how one can participate can be found at the project website.

Please visit the site: <http://popular-archaeology.com/issue/winter-01012015/article/expedition-to-idalion-cyprus-explores-ancient-sanctuaries>

HOW TO RECREATE A SLOPPY ANCIENT GREEK DRINKING GAME, BY MEGAN GANNON

More than 2,000 years before the invention of beer pong, the ancient Greeks had a game called kottabos to pass the time at their drinking parties.

At Greek symposia, elite men, young and old, reclined on cushioned couches that lined the walls of the andron, the men's quarters of a household. They had lively conversations and recited poetry. They were entertained by dancers, flute girls and courtesans. They got drunk on wine, and in the name of competition, they hurled their dregs at a target in the center of the room to win prizes like eggs, pastries and sexual favors. Slaves cleaned up the mess.

"Trying to describe this ancient Greek drinking game, kottabos, to my students was always a little bit difficult because we do have these illustrations of it, but they only show one part of the game - where individuals are about to flick some dregs at a target," said Heather Sharpe, an associate professor of art history at West Chester University of Pennsylvania. "I thought it would be really great if we could actually try to do it ourselves," said Sharpe.

So, with a 3D-printed drinking cup, some diluted grape juice and a handful of willing students, Sharpe did just that. She found out that it wasn't impossible to get the hang of kottabos, but the game did require a skilled overhand toss. She presented her findings this past weekend (Jan. 8 to 11) here at the annual meeting of the Archaeological Institute of America.

Raise your glass

Ancient texts and works of art indicate that there were two ways to play kottabos. In one variation, the goal was to knock down a disc that was carefully balanced atop a tall metal stand in the middle of the room. In the other variation, there was no metal stand; rather, the goal was to sink small dishes floating in a larger bowl of water. In both versions, participants attempted to hit their target with the leftover wine at the bottom of their kylix, the ancient equivalent of a Solo cup.

The red-and-black kylixes had two looped handles and a shallow but wide body - a shape that perhaps was not the most practical for drinking but lent itself to playful decoration.

Big eyes were sometimes painted on the underside on kylixes so that the drinker would look like he was wearing a mask when he took a hefty sip. And the relatively flat, circular inside of the cup, called the tondo, often carried droll or risqué pictures that would be slowly revealed as the wine disappeared. The tondo of one kylix at the Museum of Fine Arts in Boston bears the image of a man wiping his bottom. Another drinking cup at the same museum shows a man penetrating a woman from behind with the caption "Hold still."

Other paintings on kylixes were quite self-referential, with scenes of revelers playing kottabos. Based on those ancient illustrations, Sharpe had assumed that to play the game, you would swirl the dregs in the kylix and flick them at the target, almost as if you were doing a forehand throw with a Frisbee. But her experiment showed that that was not the most winning technique. [Coolest Archaeological Discoveries of 2014]

Re-enacting a symposium

Sharpe collaborated with Andrew Snyder, a ceramics professor at West Chester University. He initially made three replica kylixes out of clay, but Sharpe was worried about breaking them during the game. Snyder had just acquired a 3D printer (a MakerBot Replicator 2), so they made a lighter, more durable, plastic kylix at a slightly smaller scale.

The team made mock-up kottabos targets to play both variations of the game. For their andron, Sharpe and her colleagues used one of the art department's drawing rooms (which had a linoleum floor for easy cleanup), and they grabbed a couple padded benches to serve as their couches. Instead of wine, they used watered-down grape juice.

To achieve the best results in kottabos, the participants had to loop a finger through one handle of the kylix and toss the juice overhand, as if they were pitching a baseball. Sharpe said that playing the game proved to be challenging, but she was amazed that some of her students started to hit the target within 10 to 15 minutes.

"It took a fair amount of control to actually direct the wine dregs, and interestingly enough, some of the women were the first to get it," Sharpe told Live Science. "In some respects, they relied a little bit more on finesse, whereas some of the guys were trying to throw it too hard."

Elite Greek women wouldn't have taken part in symposia, but there are some indications that the courtesans, called hetairai, would have played kottabos with the men.

"Another thing we quickly realized is, it must have gotten pretty messy," Sharpe said. "By the end of our experiment we had diluted grape juice all over the floor. In a typical symposium setting, in an andron, you would have had couches arranged on almost all four sides of the room, and if you missed the target, you were likely to splatter your fellow symposiast across the way. You'd imagine that, by the end of the symposium, you'd be drenched in wine, and your fellow symposiasts would be drenched in wine, too."

Sharpe would eventually like to attempt to play kottabos with real wine, to fully understand how the game would devolve as the participants got tipsy.

"It would be fun to actually experiment with wine drinking," Sharpe said. "Of course, this was a university event, so we couldn't exactly do it on campus. But really, to get the full experiment, it would be interesting to try it after having a kylix of wine, or after having two kylixes of wine."

Editor's note: This article was updated at 2:30 p.m. ET on Thursday to correct Heather Sharpe's title. She is an associate professor, not an assistant professor.

Please visit the site: <http://www.livescience.com/49441-greek-drinking-game-kottabos-recreated.html>

ARCHAEOLOGISTS MAKE UNIQUE DISCOVERIES IN EGYPT

A team of archaeologists in Egypt has made a number of exceptional discoveries, including a stela – a relief design carved into a stone wall – with what are believed to be 2500-year-old inscriptions. The project is led by Maria Nilsson from Lund University in Sweden.

“What is unique about the stela is that it shows the gods Amun-Ra and Toth together. These two deities are rarely represented together”, says Maria Nilsson. “We believe that the combination is related to a connection with the moon. Our research indicates the existence of a previously unexamined moon cult”, she continues.

The international Swedish-led research project, the Gebel el Silsila Survey Project, has been underway since 2012 and involves around 15 researchers. Gebel el Silsila is a stone quarry outside the city of Aswan, 850 km south of Cairo. The quarry supplied the stone for sites such as Luxor and other temple constructions in southern Egypt.

Another interesting find is that of two physical obelisks made of sandstone, abandoned in their original location due to a crack which appeared during the stone-cutting process. Researchers were familiar with the famous obelisks present in the Aswan quarry, but Maria Nilsson’s team has now found two more.

A different, but somewhat related find includes two engraved obelisks are represented in an image inside the famous monument of the Speos of Horemheb.

“What is spectacular about this find is that the scene is visible through a second scene which was engraved on top of it, and through stylistic comparisons we believe the underlying scene, showing a boat transporting obelisks, to be from the early 18th dynasty, possibly from the time of the famous female pharaoh Hatshepsut”, explains Maria Nilsson.

Previous research teams that have worked in the quarry have thought that the location did not contain any significant Prehistoric remains.

“We have found over 60 Rock Art sites with the flint tools used there, and documented around 5000 quarry marks and 800 texts since we started in 2012. We have refuted previous observations and thereby re-written the history of the location”, says Maria Nilsson.

Besides the head of the research team, Maria Nilsson, two other researchers from Lund University have taken part in the fieldwork of the previous autumn – Stefan Lindgren at Lund University’s Humanities Laboratory and Giacomo Landeschi from the Department of Archaeology and Ancient History. They have worked with photographic technology that generates 3D reconstructions of monuments. This technology allows us to interpret the remains in various lights and from various angles, making it easier to discover details that are not visible to the naked eye.

The objectives of the project in Gebel el Silsila include comprehensively documenting, categorising and analysing engravings (quarry markings) for the first time to find out more about who was responsible for these markings and why they were created.

“For people in Antiquity, this was more than a mere workplace. Religion was a natural part of their lives and everything they did was protected by the gods. The stelae, the engraved reliefs, are an example of an offering by the workers of the time to the gods, partly as an expression of gratitude that nobody was injured during the work”, says Maria Nilsson.

What happens next?

“Many more discoveries remain to be made. For example, we would like to find stone carving tools in order to learn more about the workers”, says Maria Nilsson, who is looking forward to a further 20 years or so of research in the area, as long as the funding lasts.

Please visit the site: <http://www.lunduniversity.lu.se/article/archaeologists-make-unique-discoveries-in-egypt> [Go there for pix]

URARTIANS USED JEWELRY ACCORDING TO STATUS

Jewelry used by women and men in the Urartian era provide detailed information about social class differences, Van Yüzüncü Yıl University Head of Archaeology Department Associated Professor Rafet Çavuşoğlu has said.

Artifacts and jewelry from the Urartian Kingdom 3,000 years ago, unearthed during excavations in the eastern province of Van, shed light on the mentality of life style and management of the era.

Çavuşoğlu, who has been working on Urartian civilization for 21 years and examining these artifacts, said that as well as agriculture and stockbreeding, the Urartians were developed in metal embroidery, too.

"The Urartians used jewelry such as rings, bracelets, earrings and etc. that we use today. But their use was different then. Jewelry showed class differences in Urartian culture. There are also differences between men's jewelry with women's," he added.

Please visit the site: <http://www.hurriyetdailynews.com/urartians-used-jewelry-according-to-status-.aspx?pageID=238&nID=76781&NewsCatID=375>

TOMB OF HUY, RULER OF NUBIA UNDER TUTANKHAMUN, TO BE OPENED TO THE PUBLIC, BY APRIL HOLLOWAY

The tomb of Amenhotep Huy, ruler of Lower Nubia Kush under king Tutankhamun, is to be opened to the public for the first time following extensive restorations. The tomb is famous for its spectacular wall paintings.

Amenhotep, called Huy, was a viceroy of Nubia. The Lower Nubian Kush was a province of Egypt from the 16th century BC to eleventh century BC. During this period it was ruled by a viceroy who reported directly to the Egyptian Pharaoh. The viceroy was appointed directly by the Egyptian king and usually bore the titles "overseer of the southern lands" and "king's son of Kush". It is believed that the Egyptian 25th dynasty were descendants of these viceroys and so were the dynasties that ruled independent Kush until the fourth century AD.

Huy was the son of a lady named Werner. His father is not known. Huy was married to Taemwadjsy, chief of the harem of Amun and of the Harem of Nebkheperure (Tutankhamun). They had a son named Paser. Huy succeeded the viceroy Tuthmosis, who served under the pharaoh Akhenaten.

Huy ruled under Tutankhamun, and would have been responsible for organizing construction on Tutankhamun's behalf, as well as being responsible for military operations in the region of Nubia. The viceroy would bring tribute personally to the pharaoh they served under.

The tomb of Amenhotep Huy, which is located at Qurnet Marei on Luxor's west bank, consists of a court and a burial chamber, and is well known for the colorful and detailed paintings that adorn the walls of the tomb.

"Although it is a small tomb it has very distinguished wall paintings," Aly El-Asfar, head of the central administration of Upper Egypt, told Ahram Online.

"[T]he images depict figures painted in Nubian attire walking behind a chariot driven by a light brown figure, a black rider painted in traditional Nubian garb, and pulled by a cow. Walking before the chariot are more Nubian figure," writes Ahram Online. "Hunting scenes similar to those found in Tutankhamun's tomb are also depicted on walls as well as scenes showing Huy being greeted by high priests and among his family."

The tomb of Huy has undergone three years of restoration work and will be opened to the public in mid-December.

Please visit the site: <http://www.ancient-origins.net/news-history-archaeology/tomb-huy-ruler-nubia-under-tutankhamun-be-opened-public-002389> [Go there for pix]

ANCIENT GOLDEN ARTEFACTS FOUND IN ALMATY

Excavations of a burial mound in Alatau district of Almaty have uncovered unique golden artifacts, Tengrinews reports citing the City Department of Culture.

Archaeological research was conducted by an expedition from the museum of history of Almaty in the burial mound of Kok Kainar. Three historical artefacts were found. One of them is a golden figurine of a feline predator.

"It is made of two pressed embossed plates connected into a single sculptural figurine. It can be referred to as a "playing kitten" for its pose. Dated back to the 4th century BC, the figure probably represented an element of a magical composition of a headwear. The artifact was found in the mound number 2 of Kok Kainar burial," the Department said.

The second finding is a golden plate with a picture of a bird. "The plate depicts a bird of prey, its head turned to the left, with a large beak, and wings unfolded. The bird is depicted against the background of strawberries. This image is treated as a heraldic symbol," the Department explained.

The last finding was a bronze mirror with a handle and a round bronze disc with a protrusion. The disk of the mirror and the ring are soldered together. This artifact was found in the burial mound number 1 and dates back to period from the 2nd century BC and the 2nd century AD.

All of these artefacts are kept in the Museum of History.

Please visit the site: <http://en.tengrinews.kz/science/Ancient-golden-artefacts-found-in-Almaty-258428/> [Go there for pict]

MORE ON TEL HABUWA (EGYPT) **DISCOVERIES, BY NEVINE EL-AREF**

Military fortresses in Tel Habuwa, the tomb of a previously unknown queen in Abusir and a relief showing quarry work in ancient Egypt are among important new discoveries in Egypt.

Ancient Egypt was one of the earliest, longest-lasting and most influential civilisations in world history. Its achievements captured the imagination of the whole world. Various mysteries have surrounded its origins, beliefs, system of medicine, irrigation and agricultural production techniques, as well as the mathematics that enabled the ancient Egyptians to build awe-inspiring structures such as the Pyramids, the Sphinx, obelisks, monumental temples and painted tombs.

The civilisations of ancient Egypt are still revealing many of their achievements: four important discoveries were made last week in Upper and Lower Egypt, at the end of the winter archaeological season.

In Tel Habuwa in Ismailiya, Egyptian excavators stumbled upon important Middle Kingdom military fortifications called the Al-Amir Wall. The site was mentioned in a papyrus relating the flight of the vizier Senuhi out of Egypt during the reign of the pharaoh Amenhotep III but unearthed only last week.

"It is a very important discovery, not only because it reveals structures that archaeologists knew about from ancient Egyptian documents but had never found, but also because it highlights the country's military and defensive system during the ancient Egyptian era," Minister of Antiquities Mamdouh Eldamaty told Al-Ahram Weekly.

He said that the Al-Amir Wall fortifications were spread along 1,500 feddans of land and included mud-brick fortresses with defensive trenches and barricades to prevent military attacks on Egypt. Each fort was in a strategic location and separated from others by the ancient Pelusium branch of the Nile, he added.

Mohamed Abdel-Maqsood, coordinator of the development project for archaeological sites along the new Suez Canal Corridor, said that a number of the fortresses date to the Hyksos period, while others belong to the Middle and New Kingdoms.

They were of different designs, he said, adding that some of them had 25-metre-thick walls and wave breakers to protect them during the Nile flood and from the Mediterranean Sea. "Tel Habuwa overlooked the Pelusium branch of the Nile from the south and the Mediterranean Sea from the north," Abdel-Maqsood said.

A harbour and customs unit has been identified on the southern side, a point that connected the Nile with the Mediterranean Sea, he added. "The customs unit is important because it highlights the fact that Tel Habuwa was not only an important military area on Egypt's eastern frontiers but also a major trading point during the Middle Kingdom," Abdel-Maqsood said.

Elsewhere in Egypt, near the Memphis necropolis, a Czech archaeological mission led by Miroslav Barta uncovered the tomb of a Fifth Dynasty queen called Khentkawess III, believed to be a previously unknown wife of the pharaoh Raneferef.

The discovery was made on the southeast side of the Raneferef pyramid complex at the Abusir necropolis southwest of Cairo, where several pyramids and tombs dedicated to royal figures from the ancient Egyptian Fifth Dynasty are located.

"It is an important discovery that will rewrite the history of the Fifth Dynasty," Eldamaty said, adding that this was the first time that the name of this queen had appeared in a discovery. "Queen Khentkawess III was unknown until the discovery of her tomb," he said, adding that two previous queens with the same name had already been identified.

The different names and titles of the present queen were inscribed on the tomb's inner walls by the builders, saying that she was the "wife of the king" and the "mother of the king," he added.

According to Barta, the discovery "will help shed light on unknown aspects of the Fifth Dynasty, which along with the Fourth Dynasty witnessed the construction of the first pyramids in Egypt." He added that the discovery also indicated the important place held by women in the palace life of the time.

"More studies need to be carried out in order to reveal more about the family of this previously unknown queen," Barta said. Preliminary studies suggest that if the queen died during the reign of the pharaoh Neuserre, as a stamp with his name inside the tomb suggests, she was probably the mother of the pharaoh Menkawhur, a descendant of Neuserre.

Kamal Wahid, head of Giza antiquities, said that the layout of the tomb was similar to those found in the Abusir necropolis. Its upper section is made of mastaba and includes a small offertory chapel, while its lower part includes the burial shaft and a deep well. A collection of 24 limestone pots was unearthed inside the tomb along with four copper tools.

The area of Abu Sir, close to the esplanade of the Pyramids at Giza, was part of the necropolis of the ancient city of Memphis. The most important monuments in Abu Sir are the temples of the sun and the funerary complex of the Pyramid of Sahura, along with places of worship and the tombs of noble personages from the time.

Meanwhile, at the Gorna necropolis on the west bank of the Nile at Luxor, a Spanish-Italian archaeological mission has discovered a complete symbolic tomb of the god Osiris with multiple shafts and chambers.

Eldamaty described the newly discovered tomb as interesting because it is a smaller version of a design of a similar tomb found in Abydos near the Upper Egyptian city of Sohag.

Abdel-Hakim Karar, head of antiquities for Upper Egypt, said that the newly discovered tomb could be dated to the 25th Dynasty and consists of a large hall supported by five

pillars. Its northern part includes a rock-hewn staircase that leads down to a funerary complex where an Osiris statue was found in the core of a vaulted chapel, he said.

To the west of the chapel is a funerary hall, decorated with reliefs depicting ancient Egyptian gods holding knives in order to protect the dead. Opposite the Osiris statue is another staircase that leads to a nine-metre shaft that connects to another chamber with a seven-metre shaft and two rooms filled with debris.

Maria Milagros Alvarez Sosa, head of the mission, said that part of the tomb was earlier discovered in the 1880s by the archaeologist Philippe Virey. Some attempts had been made to sketch out the main structure in the 20th century. However, it was not until recently that the full extent of the structure was discovered through excavation.

The funerary complex will continue to be explored and the chambers cleared of debris in the autumn of this year.

Finally, in the sandstone quarries of Gebel Al-Silsila, north of the Upper Egyptian city of Aswan, Swedish excavators from Lund University have stumbled upon a rare Late Period stone relief depicting an unidentified ancient Egyptian king presenting offerings to the gods Thoth and Amun-Re.

Eldamaty told the Weekly that the relief is in a poor state of conservation, but the carving on it can be seen. The relief is rare because the gods are portrayed together, he said. Thoth was the ancient Egyptian god of wisdom and is depicted with the body of a man and the face of an ibis, while Amun-Re was the king of the gods.

The mission also unearthed a sphinx-shaped statue similar to those found at the avenue of sphinxes in Luxor, as well as another relief showing two obelisks being cut and transported on a boat from the quarry to the Karnak temples. Eldamaty said that this relief highlights quarrying work during the ancient Egyptian era.

Maria Nilsson, head of the Swedish mission, said that more than 60 rock-art sites have been found on both sides of the Nile. The sites date from the Epipalaeolithic, Predynastic and early Dynastic periods. She said that the present discovery is the result of an epigraphic and archaeological survey mission by Lund University. "We think that the site belongs to the early 18th Dynasty, possibly to queen Hatshepsut," Nilsson said.

The Al-Silsila quarry was one of the biggest quarries in ancient Egypt, with blocks from it being used in the construction of the Karnak and Luxor temples, as well as the Ramessium in Luxor.

Please visit the site: <http://weekly.ahram.org.eg/News/10130/47/More-discoveries.aspx>

ANCIENT PIECE OF LEATHER FOUND IN BURNT CITY, BY ADAM STEEDMAN THAKE

A Bronze Age piece of leather adorned with drawings has been discovered. The artefact was found during recent excavations at the 5200-year-old Burnt City, known as Shahr-e Sukhteh in Persian, in south-eastern Iran.

It is incredibly uncommon to find organic material from over 5,000 years ago; environmental factors decay delicate items, causing them to rapidly deteriorate over time. As such, the leather found in the Burnt City is an incredibly rare discovery.

“Due to extensive corrosion, some experts and the archaeologists are trying to save the leather,” the lead archaeologist, Professor Seyyed Mansur Sajjadi, told the Research Centre for Cultural Heritage.

Unfortunately, no more details have yet been revealed about the artefact.

The current season of excavations has also uncovered ruins of a structure in an urban area of the Burnt City. Supported by nine buttresses, the structure has two walls, each a metre thick.

“The signs of fire are clearly seen in some rooms of the building,” Sajjadi stated. He also revealed that the team had discovered a small adjoining room in the building which contained pieces of plain and coloured textiles. It is presumed this smaller chamber would have been used as a place for conducting sacrifices, the textiles could well have contained offerings.

The Burnt City became registered on UNESCO’s World Heritage List last June. It is located 57 kilometres from the town of Zabol in Sistan-Baluchestan Province.

Since archaeological work began at the site in 1967, the Burnt City has revealed some amazing information about the earliest urban settlements. Covering 151 hectares, the Burnt City was one of the world’s largest cities at the very beginning of the urban era. To the west of the city is a gargantuan graveyard, measuring 25 hectares. The graveyard contains over 25,000 ancient graves, providing an insight into just how large the Burnt City’s population had been.

The city had first appeared around 3,200 BCE, and was burnt down three times before finally being abandoned in 1800 BCE, hence the moniker. The reasons for its rise and unexpected fall still remain a mystery.

The newly found decorated leather is just one of the remarkable discoveries that have been made at the site. Artefacts recovered during excavations have displayed peculiar incongruities with nearby contemporary civilisations. In December, a beautiful marble cup was discovered with completely unique decorations. Other notable discoveries have included: a 10-centimetre ruler, accurate to half a millimetre; the earliest example of an artificial eyeball; and an earthenware bowl bearing the world’s oldest known example of animation.

It has been speculated that the distinctive discoveries at the Burnt City may provide concrete evidence of a civilisation east of prehistoric Persia that was independent of ancient Mesopotamia.

Ancient Mesopotamia, corresponding to modern-day Iraq, Kuwait and north eastern Iran, is widely considered to be the cradle of western civilisation. If it is the case that the Burnt City had developed free from Mesopotamian influence, it could mean that the early urban era was a lot more metropolitan than previously thought. If Mesopotamia was simply one of many city-based civilisations from 5,000 years ago, we will need to rethink the origins of our urban living.

Please visit the site: <http://www.newhistorian.com/ancient-piece-leather-found-burnt-city/2718/>

EGYPT: MUMMY MASK FOUND TO CONTAIN 'OLDEST KNOWN GOSPEL' FROM FIRST CENTURY AD, BY MARY-ANN RUSSON

A papyrus fragment taken from this ancient Egyptian mummy mask could well be the oldest copy of a gospel known to exist

Archaeologists believe they may have found the oldest copy of a gospel ever known to exist, inscribed on a fragment of papyrus used to make an Ancient Egyptian mummy mask.

The ancient papyrus fragment contains a text from the Gospel of Mark and was written in first century AD prior to the year 90. So far, the oldest surviving copies of the gospel date back to the second century, which would make the new find at least 10 years older.

Pharaohs and nobility in Ancient Egypt might have been able to afford funerary masks made from gold but ordinary people usually could only afford mummy masks made from linen or papyrus.

Add to that, under the Roman rule of Egypt (30 BC-619 AD), Egyptian influences were being phased out by the Romans and indigenous Egyptians were considered to be on the lowest rung of society, far below Romans and Greeks, so the people were very poor.

Nevertheless, some traditions remained and at times, mummy masks would be made from recycled sheets of papyrus as the material was very expensive.

Mummy masks made from valuable papyrus

Now a team of archaeologists at Acadia Divinity College in Wolfville, Nova Scotia are taking mummy masks apart, using a special technique to remove the glue on the masks that does not harm the ink on the sheets of papyrus.

The researchers have discovered hundreds of new texts using this method, including philosophical writing and copies of stories by Homer, an important ancient Greek poet.

A papyrus fragment from the Gospel of Thomas written in Greek, which dates back to the third century AD(British Library)

"We're recovering ancient documents from the first, second and third centuries. Not just Christian documents, not just biblical documents, but classical Greek texts, business papers, various mundane papers, personal letters," Craig Evans, a professor of New Testament studies at Acadia Divinity College told Live Science.

The researchers are analysing the mummy mask texts in order to discover how biblical texts were copied and whether there were any alterations to the Gospel of Mark over time.

"We have every reason to believe that the original writings and their earliest copies would have been in circulation for a hundred years in most cases — in some cases much longer, even 200 years," Evans said.

"A scribe making a copy of a script in the third century could actually have at his disposal [the] first-century originals, or first-century copies, as well as second-century copies."

Anger over taking apart mummy masks

Although Evans' discovery is not insignificant, there are many scholars in the archaeology world who disagree with dismantling ancient mummy masks to access the papyrus texts.

There are also concerns Evans' work is not grounded in fact. Questions posed to him about where the mask came from and carbon dating have gone largely unanswered, as the Acadia Divinity College professor said he and his team are subject to a nondisclosure agreement until the papyrus is officially published.

Evans confirmed to Live Science the owners of the funerary masks do not want to be known and the only reason he can even mention the first-century gospel fragment is because a member of his team leaked some of the information in 2012.

"Here's a guy getting so excited about finding a first-century manuscript of a first-century text that he's totally oblivious to the destruction of archaeological material it entails," wrote Paul Barford, an English archaeologist living in Warsaw in his blog about private artefact collecting and heritage issues.

"By the way, they generally did not accompany sarcophagi. Getting the mask off the wrapping was usually accompanied by the destruction of the whole mummy."

Fears of improper research done by Christian apologists

Separate to archaeology is the field of Christian apologetics, whereby people seek to present a rational basis for the Christian faith against objections.

Apart from trying to prove miracles and defending authorship and dates of biblical books, Christian apologists often analyse ancient historical artefacts for connections to Christianity. Many archaeologists allege they obtain these items privately through unscrupulous means.

Roberta Mazza, a lecturer in Classics and Ancient History at the University of Manchester, has been trying to find out whom the papyri belongs to but has so far been unsuccessful.

Until the papyrus has been published, scholars and archaeologists will not be able to prove or disprove Evans' work.

In her blog, she wrote of Evans' talk at the 2014 Apologetics Canada conference: "These people are not doing any good service to the public and to our cultural heritage patrimony."

"The audience who attend their talks are told fantasy stories on the retrieval of papyrus fragments and their date, and on the quest for Christian original texts."

"Apologists' speeches are not only misinformed, but can even encourage more people to buy mummy masks on the antiquities market and dissolve them in Palmolive soap."

Brice Jones, a doctoral candidate in religion at Concordia University, is concerned apologists often have "no scholarly credentials" and this is part of the problem with private collecting, which denies the world's people their heritage by hiding away artefacts that should be displayed publicly for study and enjoyment.

In his blog, he wrote: "The scholarly community needs to be more and more aware of these practices, how these artefacts are being used, and the religious agendas behind it all."

Please visit the site: <http://www.ibtimes.co.uk/mummy-mask-found-contain-oldest-known-gospel-first-century-ad-1484086>

ARCHAEOLOGISTS INVESTIGATE ANCIENT GREEK TEMENOS ON BLACK SEA ISLAND - POSSIBLE EVIDENCE OF LOST TEMPLE OF APOLLO UNCOVERED

A team of archaeologists are discovering new finds on a tiny island just off the Black Sea coast near Sozopol, Bulgaria-finds that may shed additional light on the location and features of a lost temple to Apollo erected by Archaic Greeks in the late 6th century BCE.

Epigraphic sources document that a temple to Apollo was raised on an island near the ancient Greek colony of Apollonia Pontica, which is located near present-day Sozopol. But there has been no evidence to suggest where the temple was actually located-until recently, when an archaeological team under the direction of Kristina Panayotova of the National Institute of Archaeology and Museum, Bulgarian Academy of Sciences, unearthed a fragment of East Greek pottery with an inscription dedication to Apollo.

The ancient temple was famous for another reason: It was here, in front of the temple, where a colossal 13-meter high bronze statue of Apollo was raised and dedicated to the Apollo letros (the Healer), the patron deity of Apollonia Pontica.

"In 72 BCE the Romans under Marcus Lucullus sacked the city and the colossal sculpture was taken to Rome as a trophy," state Panatoyova and colleagues in a summery of their excavations project on the island. "It was exhibited for several centuries on the Capitoline Hill."* It has been lost to the world since the advent of the Christian era, as has the exact location of the temple.

Panayotova's teams have been conducting excavations at the site since 2009, and have thus far uncovered evidence of Greek settlement here going back as far as the 7th century BCE and a late 6th-early 5th century BCE Archaic Greek temple complex which may be the lost temple of Apollo. Other finds included remains of a temple from the 4th century BCE Hellenistic period; an ancient Greek tholos; an ancient Greek copper foundry; an early Byzantine basilica and necropolis; two ritual pits from the Archaic period containing numerous artifacts; several early Christian 5th century CE graves; structures dated to the Archaic period; and many other finds.

Apollonia Pontica is considered among the earliest urban Greek settlements on the Western Black Sea coast. The city acquired its name in honor of its patron deity, Apollo, and was founded by the philosopher Anaximander and Miletian colonists around 610 BC., becoming an important center of trade between ancient Greece and Thrace. Strong, prosperous and independent for centuries, it was finally conquered by the Roman legions under Marcus Lucullus in 72 BCE. The city thereafter became known as Apollonia Magna, or Great Apollonia. Its name was changed to Sozopol during the Christian period in the 4th century CE.

Panayotova and colleagues plan to return to continue excavations at the site in 2015, and will be operating a field school for students and volunteers. "The Field School Season

2015 envisions excavations at the top of the island, in the area of the Archaic and Classical Greek and Hellenistic temples, Ancient Greek copper foundry and the Early Christian basilica and necropolis, where the excavations from 2012 take place," state Panayotova and colleagues.* More information about Apollonia Pontica and the field school can be obtained at the project website.

Please visit the site: <http://popular-archaeology.com/issue/winter-01012015/article/archaeologists-investigate-ancient-greek-temenos-on-black-sea-island>

MORE PROGRESS MADE TOWARD LEARNING CONTENTS OF HERCULANEUM SCROLLS, BY NICHOLAS WADE

Researchers have found a key that may unlock the only library of classical antiquity to survive along with its documents, raising at least a possibility of recovering vanished works of ancient Greek and Roman authors such as the lost books of Livy's history of Rome.

The library is that of a villa in Herculaneum, a town that was destroyed in A.D. 79 by the eruption of Mount Vesuvius that obliterated nearby Pompeii. Though Pompeii was engulfed by lava, a mix of superhot gases and ash swept over Herculaneum, preserving the documents in a grand villa that probably belonged to the family of Lucius Calpurnius Piso Caesoninus, the father-in-law of Julius Caesar.

Though the hot gases did not burn the many papyrus rolls in the villa's library, they turned them into cylinders of carbonized plant material. Many attempts have been made to unroll the carbonized scrolls since they were excavated in 1752. But all were highly destructive, and scholars eventually decided to leave the scrolls alone in the hope that better methods would be invented. More than 300 scrolls survive more or less intact, with many more fragments.

Researchers led by Vito Mocella, of the Institute for Microelectronics and Microsystems in Naples, Italy, now say that for the first time, they can read letters inside the scrolls without unrolling them. Using a laserlike beam of X-rays from the European Synchrotron in Grenoble, France, they were able to pick up the very slight contrast between the carbonized papyrus fibers and the ancient ink, soot-based and also made of carbon.

The contrast has allowed them to recognize individual Greek letters from the interior of the roll, Dr. Mocella's team reported on Tuesday in the journal *Nature Communications*. "At least we know there are techniques able to read inside the papyri, finally," Dr. Mocella said in an interview. His team is considering several ways to refine the power of their technique.

"If the technology is perfected, it will be a real leap forward," said Richard Janko, a classical scholar at the University of Michigan who has translated some of the few scrolls that can be read.

The Mocella team's work is the second recent advance in reading the Herculaneum scrolls. In 2009, Brent Seales, a computer scientist at the University of Kentucky, succeeded in delineating the physical structure of a Herculaneum scroll by X-ray-computed tomography, a process similar to a CT scan. The layers of papyrus wound up inside the scroll are highly ruffled and irregular because the hot gases liberated all the water from the fibers as well as carbonizing them.

The Mocella team's method visualizes letters free floating inside the scroll, but each letter will need to be assigned to its correct place on Dr. Seales's surface before the letters can

form words. Dr. Seales and Dr. Mocella worked with Herculaneum scrolls acquired by Napoleon in 1802 and belonging to the Institut de France in Paris.

"This is absolutely a major step forward," Dr. Seales said of the Mocella report. "These guys are focused on showing the imagery with best contrast. But to really read the papyrus, you need to untangle its surface, which is the active area of my work."

Classical scholars are particularly interested in the physicists' progress because of the chance of uncovering lost works of Latin and Greek literature. Piso's grand villa - which is the model for the Getty Villa, part of the J. Paul Getty Museum in Los Angeles - is thought to have probably contained a large and wide-ranging library, much of which may still exist in unexcavated portions of the building.

"It would have been odd for a villa of this sort not to have had a major library," Dr. Janko said. "So this technology, when perfected, does open the way to rediscovering a lot more ancient literature."

The scrolls that have been opened pertain mostly to Greek philosophy and contain several works by Epicurus and his adherent Philodemus. But the library may also have had a Latin section. This could contain some of the many lost works of Roman history and literature. Even the texts of known works would be of great interest.

"For a scholar, it would be wonderful to have a manuscript of Virgil written in his lifetime because what we have are medieval manuscripts which have suffered many changes at the hands of copyists," said David Sider, a professor of classics at New York University.

Please visit the site: <http://www.nytimes.com/2015/01/21/science/more-progress-made-toward-learning-contents-of-herculaneum-scrolls.html>

KING TUT'S BURIAL MASK HAS BEEN **"IRREVERSIBLY DAMAGED",** **BY GEORGE DVORSKY**

The most famous archaeological relic in the world has been damaged during a botched cleaning attempt. After being knocked off, the blue and gold braided beard on King Tut's burial mask was "hastily" glued back on with an inappropriate adhesive, damaging the item even further.

Brace yourselves, folks. This story is all kinds of messed up. As The Associated Press is reporting, it appears that the beard was quickly glued back on by curators at the Egyptian Museum in Cairo with epoxy, an "irreversible material" that's completely unsuitable for a restoration effort of this importance. Conservators at the museum revealed the incident yesterday.

Frustratingly, the story isn't entirely clear because three of the museum's curators are offering conflicting accounts. It's not known when the incident happened, or whether the iconic beard was accidentally knocked off or removed because it was loose. What we do know, however, is that the curators were "ordered" from above to fix it quickly and that epoxy was used. All three curators refused to give their names for fear of professional reprisals. From the AP report:

"The mask should have been taken to the conservation lab but they were in a rush to get it displayed quickly again and used this quick drying, irreversible material," the conservator added.

The conservator said that the mask now shows a gap between the face and the beard, whereas before it was directly attached: "Now you can see a layer of transparent yellow."

But the story gets worse. It appears that the curators inadvertently got some of the epoxy on the face of the mask - and they used a spatula in an effort to get it off, damaging the relic even further:

Another museum conservator, who was present at the time of the repair, said that epoxy had dried on the face of the boy king's mask and that a colleague used a spatula to remove it, leaving scratches. The first conservator, who inspects the artifact regularly, confirmed the scratches and said it was clear that they had been made by a tool used to scrape off the epoxy.

Egypt's Antiquities Ministry and the museum administration are not responding to media requests, but one of the conservators said an investigation is currently underway.

Please visit the site: <http://io9.com/king-tuts-burial-mask-has-been-irreversibly-damaged-1681085211>

ARCHAEOLOGISTS WANT EGYPTIAN OFFICIALS CHARGED FOR DAMAGE TO TUTANKHAMEN'S BURIAL MASK, BY ROBERT MACKEY

A tourist visiting the Egyptian Museum in Cairo last August snapped an image of two workers who appeared to be doing impromptu repair work on the ancient burial mask of Tutankhamen.

Outraged over what appears to be serious damage to one of Egypt's ancient treasures — scratches and a layer of glue on the golden burial mask of Tutankhamen — a group of Egyptian archaeologists said on Friday that they planned to file charges against officials at the state-run Egyptian Museum in Cairo.

Monica Hanna, an archaeologist with the group, Egypt's Heritage Task Force, confirmed the damage during a visit to the museum on Friday and told Agence France-Presse that officials must be held responsible.

Three of the museum's conservators confirmed to The Associated Press this week that workers had been ordered to do impromptu repair work on the mask some months ago, after the boy king's blue and gold braided beard came loose as workers replaced a light bulb in its case, and a hasty decision was made to glue it back on using epoxy, which might be impossible to remove.

"The mask should have been taken to the conservation lab," the conservator said, "but they were in a rush to get it displayed quickly again and used this quick-drying, irreversible material."

A conservator who witnessed the repair work said that the scratches on the mask were made by a colleague who used a spatula to pry off excess epoxy splattered on the chin during the process.

Jackie Rodriguez, a tourist who visited the museum last Aug. 12, provided The A.P. with what she said was a photograph of two men carrying out the repair work while the gallery was open. "The whole job did look slapstick," she said. "It was disconcerting given the procedure occurred in front of a large crowd and seemingly without the proper tools."

The director of the museum, Mahmoud el-Helwagy, dismissed reports last year that the mask had been damaged, but said to the BBC on Friday that an error in the application of the adhesive material might have been made during restoration work on the 3,300-year-old relic.

Ms. Hanna, who studies the preservation of mural paintings in the Theban Necropolis, drew attention to the damage on Twitter this week, sharing what she said was a recent image of the mask in which the epoxy was plainly visible.

Discussing the challenge of preserving Egypt's heritage in 2013, Ms. Hanna suggested that the government of former President Hosni Mubarak was to blame for alienating the public. "The main bulwark to protect the monuments should be the Egyptian people themselves and not the laws, but the problem is that Egyptians do not feel a relationship with their monuments," she said.

"For more than 30 years, especially in the recent 10 years under Zahi Hawas, Egyptians were kept away from their heritage," she added, referring to the former antiquities minister. "He used to order all museums and tourist attractions to be closed during feasts and public holidays to protect the monuments from being vandalized by Egyptians. During his time, the general public started to firmly believe that the monuments belong to the government and foreign tourists, but not to them. They started to believe that Egyptology is a foreign science they see on National Geographic, not a local one."

Egypt's current minister of antiquities, Mamdouh el-Damaty, also denied reports in the local news media late last year that the mask had been damaged.

Ms. Hanna suggested on Twitter that the minister was aware of the damage at the time and had moved to cover it up.

On social networks, Egyptian bloggers mocked the repair work and the government, sharing images of the golden-headed pharaoh asking for his beard to be shaved off, so as not to be confused for an Islamist. Bloggers also made a joke of the restoration work as it might appear in a conservation manual.

The Cairene blogger who writes as Zeinobia, however, suggested that the incident might undermine efforts for the return of Egyptian artifacts held in museums in other countries.

"I do not know what to say, but what happened to King Tut's mask is just a symbol what is happening to Egypt now," she said. "They claim that they are fixing whereas they are damaging it permanently. I feel more than sad."

Please visit the site:

<http://www.nytimes.com/2015/01/24/world/middleeast/archaeologists-want-egyptian-officials-charged-for-damage-to-tutankhamens-burial-mask.html>

POST-TRAUMATIC STRESS 'EVIDENT IN 1300BC', BY JAMES GALLAGHER

Evidence of post-traumatic stress disorder can be traced back to 1300BC - much earlier than previously thought - say researchers.

The team at Anglia Ruskin University analysed translations from ancient Iraq or Mesopotamia.

Accounts of soldiers being visited by "ghosts they faced in battle" fitted with a modern diagnosis of PTSD.

The condition was likely to be as old as human civilisation, the researchers concluded.

Prof Jamie Hacker Hughes, a former consultant clinical psychologist for the Ministry of Defence, said the first description of PTSD was often accredited to the Greek historian Herodotus.

Referring to the warrior Epizelus during the battle of Marathon in 490BC he wrote: "He suddenly lost sight of both eyes, though nothing had touched him."

But Prof Hughes' report - titled Nothing New Under the Sun - argues there are references in the Assyrian Dynasty in Mesopotamia between 1300BC and 609BC.

Ghosts

In that era men spent a year being toughened up by building roads, bridges and other projects, before spending a year at war and then returning to their families for a year before starting the cycle again.

Prof Hughes told the BBC News website: "The sorts of symptoms after battle were very clearly what we would call now post-traumatic stress symptoms.

"They described hearing and seeing ghosts talking to them, who would be the ghosts of people they'd killed in battle - and that's exactly the experience of modern-day soldiers who've been involved in close hand-to-hand combat."

A diagnosis and understanding of post-traumatic stress disorder emerged after the Vietnam War. It was dismissed as shell shock in World War One.

Prof Hughes said: "As long as there has been civilisation and as long as there has been warfare, there has been post-traumatic symptoms. It's not a 21st Century thing."

Please visit the site: <http://www.bbc.com/news/health-30957719>

RED SEAT NUMBERS FOUND ON ROME'S COLOSSEUM, BY ROSSELLA LORENZI

Traces of red painted numbers have been found on the arches of Rome's Colosseum during the ongoing \$33 million restoration work aimed at repairing damage suffered by the 2,000-year-old monument since the Middle Ages.

Similar to today's stadium seating systems, the numbers - written according to the system used in ancient Rome, using letters of the Latin alphabet such as X, L, V, I - stood on the entrance gate arches, allowing an easier access to the seats.

First carved in the travertine stones, the numbers were then painted in red, so that people could easily see them from a distance.

There were 76 public numbered entrances, plus four special un-numbered gates. Two were reserved to the emperor, senators, magistrates, wealthy patricians, and the Vestal Virgins, priestesses responsible for maintaining the sacred fire within the Temple of Vesta. A gate was used for the dead - gladiators and wild beasts - while another was used by gladiators parading prior to the beginning of the combats.

The numbered entrance gates were the first step of a complex crowd control system which allowed tens of thousands of spectators to smoothly enter the amphitheater and quickly find their seat.

"The 50,000 spectators had a ticket that said which numbered gate arch they were supposed to enter. Inside the arena, there were other numbers to help people access their seats, which were assigned according to social class," the monument director Rossella Rea said.

Although entrance was free for all, a strict plan regulated where one could seat on the amphitheater's four levels of seating.

The best seat belonged to the emperor who sat in the first tier in the Emperor's Box; the first level was also reserved to senator, magistrates and Vestal Virgins. On the second tier sat the upper class, on the third the ordinary Roman citizens, while women and the poor stood or sat on wooden benches in the fourth, top tier.

The traces of red painted numbers represent an "exceptional finding," according to Rea.

"It was believed the paint would not have survived at all," Rea said.

Deriving from iron oxide and clay minerals, the red color could be used without any binding material.

"As the color could withstand two-three years, it had to be periodically applied on the carved numbers," restorer Cinzia Conti, said.

Commissioned by the Emperor Vespasian in A.D. 72, the Colosseum was opened by his son Titus in A.D. 80 with 100 days of gladiatorial bouts, beast battles and public executions.

It was the largest building in Rome, covering a little over half an acre and standing 164 feet high against the Roman skyline.

It continued to provide the ancient Romans "panem et circenses" - bread and circuses - until shows were banned in the fifth century, about 40 years before the fall of the Roman Empire.

Rea's team expects to find other traces of colored numbers inside the monument as the restoration proceeds.

Please visit the site: <http://news.discovery.com/history/archaeology/red-seat-numbers-found-on-romes-colosseum-150123.htm> [Go there for Video and pict.]



A GRAECO-ROMAN NECROPOLIS WAS UNCOVERED DURING ILLEGAL EXCAVATIONS IN ALEXANDRIA, BY NEVINE EL-AREF

Illegal excavations carried out by tombs raiders underneath a residential house in Alexandria have uncovered a Graeco-Roman necropolis.

Minister of Antiquities Mamdouh Eldamaty told Ahram Online that the necropolis, in the Gebel Mahran area, includes a collection of tombs called Likoli, which have holes engraved in a rock-hewn wall.

The tomb raiders unearthed a collection of artefacts including 20 clay lamps, 18 glass bottles and a large number of clay pots.

Eldamaty said the pots give us a view of the pot industry during that period.

The ministry of antiquities is to send an archeological mission to the site to continue excavations and reveal more of these tombs.

The Tourism and Antiquities Police caught the criminal red-handed and they are now under investigations.

Please visit the site:

<http://english.ahram.org.eg/NewsContent/9/41/120807/Heritage/GrecoRoman/GraecoRoman-necropolis-discovered-in-Alexandria.aspx>

AN INNOVATIVE METHOD OF DOCUMENTING SHIPWRECKS

Three shipwrecks lying in the Gulf of Gdańsk have been documented in 3D. This innovative method allows underwater archaeologists to work effectively even with minimal visibility.

The work, carried out by the National Maritime Museum (NMM) in Gdańsk, involves divers who take a large number of pictures of all the elements of the wrecks and their surroundings, at various angles. Then, with the help of specialised software, they are combined to create a photogrammetric, accurate, three-dimensional image of the vessel.

Non-invasive documentation

The method allows for non-invasive, documentation of ships in their place of discovery, and is an alternative to traditional underwater drawing, which is much more time-consuming and usually less accurate.

“Spatial, 3D model of the wreck built on the basis of photograms gives you an opportunity to present its state of preservation and the spatial arrangement of its individual elements” – said Tomasz Bednarz, underwater archaeologist and lead 3D developer of the Undersea Research Department at NMM.

The method was first used in 2013 to document the 19th century wreck called “Porcelanowiec” (porcelain ship) because of the ceramic cargo, mainly porcelain and English earthenware from Staffordshire. Photogrammetry of this ship was the first attempt in Poland and one of the first in the world to prepare a 3D documentation of an underwater archaeological site.

Improved method

This year, the underwater archaeologists used the new method to document “Głazik” (little rock), which is more than 200 years old and carried a cargo of stone. Tomasz Bednarz explained that the documentation method had been improved after last year’s experience with “Porcelanowiec”.

“The 3D model of the wreck was based on more than 6 000 photograms. It is much better quality than last year’s 3D model of Porcelanowiec” – said Tomasz Bednarz. – *“We are pleased that we can create these models even at low water clarity, without loss of quality. Just few feet of visibility is enough to create such a model”*.

Bednarz believes that the models are an excellent form of documenting sites and can be used to monitor the state of preservation of underwater objects and changes therein. An important aspect of the technology is the ability to create animations and virtual shots of underwater sites and their components, also for exhibition and educational purposes.

Since 2013, the method has been simultaneously used and developed by two research centres: the National Maritime Museum in Gdańsk and Texas A&M University ([Gnalic Project – Croatia](#)).

Research carried out in Poland is possible thanks to funding from the Ministry of Culture and National Heritage, both for the last year's "Porcelanowiec" project and the "Głazik" project implemented this year. Currently, the documentation work is underway for another vessel resting in the Gulf of Gdańsk.

[Science and Scholarship in Poland](#)

Please visit the site: <http://www.pasthorizonspr.com/index.php/archives/01/2015/an-innovative-method-of-documenting-shipwrecks>

SKULL FOSSIL OFFERS NEW CLUES ON HUMAN JOURNEY FROM AFRICA, BY JOHN NOBLE WILFORD

Anthropologists exploring a cave in Israel have uncovered a rare 55,000-year-old skull fossil that they say has a story to tell of a reverberating transition in human evolution, at a point when and where some early humans were moving out of Africa and apparently interbreeding with Neanderthals.

The story is of when the Levant was a corridor for anatomically modern humans who were expanding out of Africa and then across Eurasia, replacing all other forms of early human-related species. Given the scarcity of human fossils from that time, scholars say, these ancestors of present-day non-African populations had remained largely enigmatic.

From the new fossil find, which could be closely related to the first modern humans to colonize Stone Age Europe, it appears that these people already had physical traits a bit different from the Africans they were leaving behind and many other human inhabitants along the corridor.

Could this support recent genetic evidence that modern Homo sapiens and their Neanderthal cousins interbred, perhaps in the Middle East and most likely between 65,000 and 47,000 years ago? The discovery team urged caution on the interbreeding issue, but noted anatomical features of the cranium suggesting that some human-Neanderthal mixture had presumably occurred before any encounters in Europe and Asia.

Researchers working in the Manot Cave in western Galilee. Credit Israel HersHKovitz, Ofer Marder & Omry Barzilai, via Reuters The discovery in Manot Cave in western Galilee, made in 2008 and subjected to years of rigorous analysis, was reported on Wednesday in the journal Nature by an international team of researchers led by Israel HersHKovitz of Tel Aviv University. They said this was "the first fossil evidence from the critical period when genetic and archaeological models predict that African modern humans successfully migrated out of Africa and colonized Eurasia."

The researchers further concluded that the Manot specimen "provides important clues about the morphology of modern humans in close chronological proximity to a probable interbreeding event with Neanderthals." They also noted that the shape of the cranium established this as a fully modern human at a time when warmer and wetter conditions were favorable for human migration out of Africa.

In other words, Dr. HersHKovitz said in an interview, the Manot cranium "is the missing connection between African and European populations."

Scientists not involved with the research team praised the "fascinating new fossil" and the cautious interpretation of its broader implications in understanding the early migrations into Eurasia. "This fossil fits previous predictions," said Eric Delson, a paleoanthropologist at Lehman College of the City University of New York, "which is a nice rarity in our field."

Dr. Delson, also a researcher at the American Museum of Natural History, added, "As always, we want more fossils to document variations in and details about this presumed fossil population."

From left, a Neanderthal skull, the Manot cranium and a complete modern human skull on display near the cave in Israel where the Manot cranium was found. Credit Jim Hollander/European Pressphoto Agency In an email, Dr. Delson praised the journal authors "for hitting the mark with their analyses and interpretations, reaching all the possible conclusions one could think of: The partial skull combines a basically modern human form with a few features also found in Neanderthals." In addition, he pointed out, the analysis "supports the similarity of its shapes" to those of modern Africans and early modern humans from Europe, such as the Cro-Magnons.

Continue reading the main storyContinue reading the main storyContinue reading the main story The partial skull, designated Manot 1, is of a fairly small adult individual, its sex undetermined. The distinctive bunlike shape at the base of the skull resembles modern African and European skulls but differs from other anatomically modern humans from the Levant, and is thus a strong clue that these were among the first humans to settle Europe, scientists said.

Dr. Delson agreed that the evidence "makes it possible that this individual is (or is descended from) a 'hybrid' between modern humans and Neanderthals, but as the authors note, such a conclusion cannot be reached from a single fossil, especially as hybrids between species of modern primates usually have some genetically related anatomical oddities."

One concern is that the fossil skull is fairly small, with a somewhat lower braincase capacity than in modern humans. With only one specimen, it is hard to know whether this is normal for the general population, scientists said. And Dr. Delson said it would be interesting to test for DNA in the skull to support its possible hybrid status in a time of overlapping modern human-Neanderthal populations when early humans were making their way, as he phrased it, to "that small zoological backwater of Eurasia known as Europe."

Excavations at Manot Cave are expected to continue through at least 2020, searching deeper for more fossils and artifacts from the migrating people. Israel, Dr. HersHKovitz said, "is like a Swiss cheese, lots of caves everywhere."

Several caves in the vicinity of Manot were occupied for long times by Neanderthals between 65,000 and 50,000 years ago. In this respect, Dr. HersHKovitz said, Manot is an excellent place to search for possible hybrids, but they may be difficult to recognize from surface features. "Only DNA study will solve the problem," he said.

Please visit the site: <http://www.nytimes.com/2015/01/29/science/ancient-skull-adds-new-insight-to-story-of-human-evolution.html> [Go there for pix of skulls]