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Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

- Αύγουστος 2013 -

Painting is silent poetry, and poetry is painting that speaks.
(Plutarch)

Newsletter of the Hellenic Society of Archaeometry

- August 2013 -

Nr. 149

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ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS
FALL AGU2013 SESSION V21: INNOVATIONS
IN ISOTOPE MASS SPECTROMETRY AND
ISOTOPE METROLOGY IN GEOSCIENCES

Dear colleagues,

We would like to draw your attention to the following session at the forthcoming AGU fall meeting (December 9-13, 2013). We would be delighted to have your contribution on relevant research topics to our session. Please feel free to circulate this message to any parties who may be interested.

Session V21: Innovations in isotope mass spectrometry and isotope metrology in geosciences

Isotope mass spectrometry is essential to geochemical research, and recent advances in solution and in-situ technologies and methodologies on AMS, TIMS, MC-ICPMS, SIMS, Noble Gas MS, High Res IR MS, and others have spawned new applications in diverse fields of earth sciences. We invite contributions that emphasize new developments in isotope mass spectrometry, including advances in instrumentation, establishment of isotope reference materials, techniques for high precision ratio determinations, and methods for measuring radiogenic, cosmogenic, and stable isotopes, among others.

Invited Speakers:

Dr. John Eiler, Caltech (clumped isotopes)

Dr. Guillaume Paris, Caltech (S isotopes)

Dr. Pablo Cancio Pastor, Istituto Nazionale di Ottica (INO) - CNR (14CO2 optical detection)

Dr. Hans-Arno Synal, ETH (Low Energy 14C detection)

Please note abstracts are due online **August 6th**. For further information please check out the AGU 2013 [Fall Meeting website](#)

We look forward to seeing you at AGU this December.

Sincerely,

Session conveners:

Chuan-Chou Shen (National Taiwan University, Taiwan, river@ntu.edu.tw)

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**ABSTRACTS SYMPOSIUM 'EXPLAINING
CHANGE IN AEGEAN PREHISTORY', 16-17
OCTOBER 2013, UNIVERSITY OF
GRONINGEN, THE NETHERLANDS**

Dear colleagues,

As announced before, a symposium entitled 'Explaining change in Aegean prehistory', will take place at the University of Groningen, the Netherlands. The symposium is taking place on 16-17 October.

The purpose of the symposium is to understand cycles of change, regression and regeneration from EH III to LH I Aegean, though the focus will be on the southern mainland. Below are the abstracts of the ten speakers.

If you want to attend this symposium, you can register via email: symposium.aegean.prehistory@gmail.com

Please include your name, affiliation and position. Deadline for registration is **September 1, 2013**

Registration costs are only **5 euro**. These can be paid upon arrival

The presentations are also going to be live broadcasted online. A video-link will be send around in due time.

Best wishes,

Corien Wiersma

Long-term developments in Southern Mainland settlement systems from Early Helladic to Late Helladic times as seen through the lens of regional survey

John Bintliff

University of Leiden, The Netherlands and University of Edinburgh, United Kingdom

Regional surface survey offers a partial but complementary picture of developments in Aegean Prehistory to that obtained by excavation. In this paper, I shall offer some thoughts on what survey evidence provides for the Mainland Bronze Age, and suggest models for interpreting these phenomena. Current rethinking of survey evidence raises issues as to how far we really understand yet the density and nature of settlement, which has implications for demographic reconstructions. The issue of regionalism, long ago set as a challenge by Oliver Dickinson, also appears an increasingly useful point for insights. Finally the issues of timescales and the resolution of our evidence need to be cast into the framework of the Braudelian durées, since it is likely that we can offer different kinds of explanations as we choose to broaden or narrow our chronological focus.

Premycenaean pottery shapes of the Central Aegean: A new resource in development

Walter Gauss, Austrian Archaeological Institute in Athens, Greece
Michael Lindblom, Uppsala University, Sweden

Social change in prehistoric societies is analysed through the sequential patterning of material culture. In ceramic studies, this entails the production, distribution and consumption of vessel shapes from various potting traditions. While original perceptions or "understandings" of visual differences and functions between various containers will always be subject to new interpretations, there is a need among scholars to be explicit in what criteria they use when assessing similarities and differences in vessel forms. For want of a native classification, there are several modern typologies of Aegean Bronze Age pottery. While working on the ceramic deposits at Kolonna and Lerna, we have nevertheless noticed the lack of a detailed ceramic typology that accommodates a larger geographical area and a longer time span than what has previously been available. In this presentation, we wish to present a possible solution to this lacuna. It includes a new shape typology for the EBA III-LBA I Southern and Central Greek Mainland and the Cyclades (i.e. the Central Aegean) based on virtually all published instances of wholly or largely complete vessels from these areas.

Social complexity in MBA and LBA Cyclades: A view from Ayia Irini

Evi Gorogianni
Department of Anthropology and Classical Studies, University of Akron, Ohio, USA

The Middle and Late Bronze Age in the Aegean was a dynamic time characterized by the rise of socio-political complexity that resulted in the formation of state level societies on Crete and on the mainland of Greece. Many have argued that the Cyclades played a significant role in these formation processes, acting as mediators of trade and exchange and as facilitators in the exploitation and procurement of important resources and raw materials, commodities that became emblematic of the upper classes in state level polities.

There is and has been great interest in the development of social hierarchies and the rise of palatial societies in this area of the Aegean, and rightfully so, but relatively little has been said about the internal social structure and transformation of the Cycladic communities that were involved in the Pan-Aegean networks of trade and exchange. Hence, the present paper is an attempt to analyze the social structure of these communities and the transformations that ensued due to their involvement and dealings with partners commonly categorized as state level polities. In the absence of mortuary data from the Cyclades, the focus of this investigation is the built environment and material culture of Cycladic communities.

Any investigation of social complexity in the Cyclades must draw on data from the site of Ayia Irini on Kea, since so much of the site has been published and is currently under study. Thus, different areas of the site are compared using categories such as relative percentages of imported goods, different household industries, the size of storage areas, and the presence or absence of elite markers. Assemblages from across the site offer nuances on the internal social dynamics as well as on the interplay between local and regional groups and the regional powers beyond the shores of the island.

Tradition and transformation in the burial record of Pre- and Protopalatial Crete

Borja Legarra Herrero
University College London, United Kingdom

A detailed look at the mortuary record of the early 2nd millennium BCE on Crete reveals that traditional views of social differentiation becoming increasingly marked in the tombs do not correspond with the available evidence. Indeed, there are major problems to identify elite burials in the communal cemeteries of the period. New buildings, a change in the deposition of burial goods and novel funerary procedures did not lead to the stronger manifestation of a social hierarchy. This fact seems incompatible with current models of Cretan state formation that emphasise elite agency and social mechanisms of differentiation such as emulation and conspicuous consumption of exotica.

The presentation aims to explain better the actual patterns identified in the mortuary data by using alternative theoretical paradigms that highlight the role of broader populations in social change. The presentation will investigate in particular the fact that social change on Crete seems to be negotiated through traditional arenas such as long-lived cemeteries and that thousand-year old burial customs were combined with innovations in funerary rituals to create change. I will argue that the major dynamics seen at the beginning of the Middle Bronze Age on Crete were only possible by rooting new ideologies to traditional beliefs, and by using social inclusive mechanisms rather than exclusive ones. A consequence of this shift of perspective is that the agency of change needs to be widened to include the majority of Cretan populations, which in turn, has profound implications for our understanding of further socio-political developments during the Protopalatial and Neopalatial periods.

Feasting, hospitality, and exchange relationships: Exploring the dynamics of Bronze Age social structures through reciprocity

Daniel J. Pullen
Department of Classics, Florida State University, Tallahassee, Florida, USA

Feasting activities have been proposed for many contexts in the Aegean Bronze Age, but two criticisms that have been leveled at these identifications are the lack of clear criteria used to identify a feast in contrast to the daily consumption of food and drink, and the lack of critical understanding of the social dynamics behind the activity. Scale is one criterion often used, but Jerry Rutter has suggested that small-scale consumption by a limited number of participants, even as few as two individuals, can be indicative of the social consumption of food or drink, when utilizing specialized vessels or in certain definable contexts. Ultimately feasting, the communal consumption of food and drink, and hospitality, the sharing of food and drink among a limited number of participants, are social activities that involve the social dynamics of exchange between individuals and are a reflection of how social relationships are structured into social organization, whether within or outside of the context of kin relationships.

Reciprocity encompasses the social dynamics of any exchange between individuals and how these social relationships form the structure of social organization. Reciprocity is often categorized as generalized, balanced, or negative. Manipulation by individuals (or elites) of reciprocity through strategies such as asymmetrical exchange relationships or competitive generosity lead to indebtedness of one exchange partner to the other, and this indebtedness can be institutionalized into hierarchical social structures.

Sofia Voutsaki has suggested that social structure in the early Middle Helladic period is based on kinship, while that of the Late Helladic IIIB is based on status differentiations controlled by palatial elites. In this paper I examine feasting and hospitality diachronically from the Early Helladic to the Late Helladic to identify the changing nature of the exchange relationships generated and how those are manifested in the evolution of social structure.

**The temporal slicing and dicing of Minyan Culture:
Some speculative extensions of Corien Wiersma’s 2013 tripartite schema**

Jeremy B. Rutter

Department of Classics, Dartmouth College, Hanover, New Hampshire, USA

A brief review of the chronological terminology used to describe what Roger Howell (1973) termed “Minyan culture” precedes an evaluation of the principal characteristics of the three major temporal units into which Corien Wiersma (2013) has divided it for the purposes of her detailed survey of shifts in settlement location, organization, and architecture across some six centuries. For Early Helladic III (ca. 2200/2150 - 2050/2000 BCE), the evidence for a period of exceptional population mobility is explored. For the following Middle Helladic I-II phases (ca. 2050/2000 – 1750/1720 BCE), why a period that witnessed more robust dwellings and more permanent settlements likewise featured vastly increased quantities of funerary data as well as much more abundant evidence for both intercultural and intracultural exchange is investigated. Finally, during the Middle Helladic III through Late Helladic I phases (1750/1720 – 1600/1580 BCE), significant relocations of cemeteries, the emergence of wealthy elites in numerous different regions of the mainland, and the proliferation of readily distinguishable regional schools of finely decorated tablewares attest to increasing competition for status and power that is the immediate precursor of the process of “Mycenaeanization” emanating from the Argolid by the end of the period. The chronological schema chosen by Wiersma for her survey of domestic architecture enables a clearer interpretation of the data currently available to us than do more traditional schemes of relative chronology based purely on ceramics. Moreover, this schema corresponds well with subdivisions of the Middle Helladic era based principally on funerary evidence, such as those espoused by Sofia Voutsaki and Helene Whittaker.

A society in flux: Social change in the MH period in the Argolid

Sofia Voutsaki

Groningen Institute of Archaeology, The Netherlands

To be announced

‘Early Helladic III: a non-monumental but revitalized social arena?’

Erica Weiberg

Uppsala University, Sweden

Abstract: Some periods of prehistory can be defined as more “monumental” than others, i.e. more efforts were during these times put into the architectural appearance of space. The disappearance of the Corridor Houses, the observable pinnacle of the EH II

architectural achievements, has had a considerable impact on the interpretations of the time thereafter, when this architectural feature was no longer a part of the architectural repertoire. Based on the degree of visibility and pervasiveness of the archaeological material, the centuries following the end of the Early Helladic II period on the Greek Mainland could indeed be deemed rather insignificant. Beyond issues of monumentality and visibility, however, many things seem to have been stirring, indications of non-insignificant activity, also in areas such as the NE Peloponnese where the differences from EH II appear especially forceful. The appearance of regional styles, an often raised characteristic of EH III, could in itself be argued to be one significant result of intensified activities, in a new revitalized social arena, unrestrained at this point by the strong and wide-reaching agenda of the EH II period that promoted concordance rather than individuality. Certainly there were areas on or closely associated with the Greek mainland that appear to have comprised a greater degree of entrepreneurship than others. These (such as Aegina and Kythera) may be said to develop at the expense of other nearby areas (such as Argolid and Laconia), but it could also be argued that their apparent prosperity would not have evolved if not in intense interaction with their surroundings. In the presentation I will draw together contexts from the EH III mainland for a discussion on issues of scale, human resourcefulness and the reformulation of social agendas during times of change.

**Urbanism in the prehistoric southern Aegean:
A comparative perspective on scale, differentiation and integration**

Todd Whitelaw
University College London, United Kingdom

‘Urban’ is an evocative yet vague term, particularly as used by archaeologists: there is an almost inevitable tendency to want to ‘big-up’ one’s own site or culture of interest. Childe’s 1950 paper ‘The Urban Revolution’ is still widely cited and re-expressed (though he was focused principally on the characteristics of state-level societies, rather than urbanism per se), and much archaeological discussion does not move beyond broad generalities. Geographers and urban analysts have their own definitions, but anthropologists, and quite recently, archaeologists, have begun to contribute to defining the characteristics of urbanism in specifically pre-industrial contexts, of more direct relevance to prehistoric examples. In Aegean prehistoric studies, the term has been used quite loosely, and Renfrew’s introduction of the term ‘proto-urban’ expanded these ambiguities considerably.

In this paper, various comparative perspectives will be explored to try better to define the nature and significance of urbanism in the prehistoric Aegean. Comparisons will be made with other Bronze Age cultures of the Eastern Mediterranean, and sites from Crete, the Cyclades and the southern Mainland spanning the Bronze Age will be considered, focusing on scale, differentiation and integration. LBA sites on Crete contribute the most detail to the picture, given the large-scale exposure of several sites in the early twentieth century, which have been augmented by more limited strategic investigations at these and other sites in recent decades. In contrast, the primary focus of excavation on the mainland on LBA tombs, palaces and citadels provides limited comparable evidence, potentially biasing any comparative assessments. Providing yet another challenge, is it appropriate to consider small Cycladic communities of several hundred inhabitants urban, because they display characteristics also seen in more arguably urban contemporary communities on Crete? Given such ambiguities in both definition and

evidence, does the concept of urbanism carry much relevance for the analysis and understanding of Aegean communities and societies?

**Building the Bronze Age.
Architectural and social change on the Greek Mainland from EH III to LH I**

Corien Wiersma
Groningen Institute of Archaeology, The Netherlands

The EH III and early MH period of southern Mainland Greece are characterized by small-scale egalitarian communities. For this reasons, relatively little research has been devoted to this period. Research that has been carried out especially focused on explaining the collapse of the EH II society and material change during EH III, thereby focusing on ceramics. The domestic architecture has received little consideration, except for the introduction of the apsidal house shape. The Mainland societies developed rapidly in terms of social complexity towards the end of the MH and during LH I, and as a result, much more scholarly attention was paid to this phenomenon.

In this paper, I outline the main results of my PhD research on the analysis of EH III, MH and LH I domestic architecture. First a summary of the most important patterns raised by the analysis are given, such as on house shape, house size, number of rooms, architectural homogeneity and variety, and change through time. In the second part, I concentrate on explaining these patterns. This will include a discussion of how communities were likely to have been socially organized, how and why social organization changed over time and how this is reflected in the domestic architecture.

Important issues that are going to be raised for the study of this period, are for example the suggestion that the social body of EH III societies was fragmented compared to EH II societies; that signs of social and economic change were already hinted at during MH I and MH II; and that the overall small and problematic data set of houses does have research potential in archaeological studies.

INTERNATIONAL CONFERENCE ON
NATURAL SCIENCES AND TECHNOLOGY IN
MANUSCRIPT ANALYSIS CENTRE FOR THE
STUDY OF MANUSCRIPT CULTURES,
HAMBURG, 4 - 6 DECEMBER 2013

Outline

In recent years, manuscript analysis has received increasing support from methods based on natural sciences and technology. This conference will bring together scientists engaged in this interdisciplinary work and provide a forum for discussion and for presenting new methods and results. Contributions are solicited for original research work illuminating the role of natural sciences and technology in manuscript analysis, for example in areas such as:

- Recovering lost writing
 - Image analysis of visual manuscript features
 - Material analysis of writing material
 - Cutting edge techniques
- The conference will be hosted by the Centre for the Study of Manuscript Cultures (CSMC) at the University of Hamburg, registration will be free. The program will be structured around focus areas and consist of invited talks, contributed talks and poster sessions.

Call for Papers

The conference will consist of invited talks, contributed talks and poster sessions. Abstracts will be reviewed by the International Advisory Board members who will make recommendations for oral or poster presentations. Deadline for paper submission is August 31, 2013. Please note the instructions for authors of abstracts.

For submitting your abstracts, please use the email address:
manuscript-cultures [at] uni-hamburg.de

Oral presentations

The lecture hall is equipped with a digital projector and a PC (MS Windows 7, Office 2010). It is recommended that you use Power Point.

Presentations can have an aspect ratio up to 16x10.

- Contributed oral presentations will have a gross duration of 30 min that breaks down to 20 min for presentation and 10 min for discussion.
- Invited oral presentations have a gross duration of 60 min that breaks down to 45 min for presentation and 15 min for discussion.

Poster presentations

Poster panels are suitable for A0 posters.

Important Dates

31.08.13 Submission of Extended Abstract (2 pages)

30.09.13 Notification of Acceptance

04.11.13 Deadline for conference registration

04.-06.12.13 Conference

Invited Speakers

Roger Easton (Rochester Institute of Technology, N.Y., USA) Doris Oltrogge (University of Applied Sciences, Cologne, Germany) Daniel Stoekl Ben Ezra (EPHE-Sorbonne, Paris, France) Lior Wolf (Tel Aviv University, Israel)

Conference Chair

Michael Friedrich (Director of CSMC, University of Hamburg, Germany) Oliver Hahn (BAM Federal Institute for Materials Research and Testing, Berlin, Germany)

Programme Committee

Christian Brockmann, European Languages and Literature, University of Hamburg, Germany Oliver Hahn, Material Sciences, BAM, Berlin, Germany Ira Rabin, Material Sciences, BAM, Berlin, Germany Bernd Neumann, Department of Informatics, University of Hamburg, Germany

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Programme

The programme will be available in October 2013.

Registration

Participation in the conference is free of charge and visitors are welcome.

Please register at

http://www.manuscript-cultures.uni-hamburg.de/register_natural_sciences.html

BYZANTIUM AND BRITISH HERITAGE
CONFERENCE 2013: BYZANTINE
INFLUENCES ON THE ARTS & CRAFTS
MOVEMENT, 4-7 SEPTEMBER 2013, STRAND
CAMPUS, KING'S COLLEGE LONDON

We are pleased to announce that booking is now open for our forthcoming conference:

4-7 September 2013, Strand Campus, King's College London

This conference, organised by the British School at Athens in conjunction with the Centre for Hellenic Studies opens a dialogue between specialists on the Byzantine world and on the Arts and Crafts Movement in order to set into context an important, if short-lived, episode in Anglo-Hellenic relations at the turn of the 20th century.

This dialogue will be articulated around the architects who created the Byzantine Research Fund Archive, a unique collection of architectural drawings and photographs of numerous monuments across the Byzantine world, held in the Archive of the British School at Athens. Educated and trained in the traditions of the Arts and Crafts Movement (1880-1930) these architects developed highly successful practices, undertaking major commissions for buildings, furniture and fittings across Britain and the Empire. Their work, uniting as it does distinctively a British design tradition with Byzantine arts and crafts, represents a highly significant and under-researched link between Britain and the Hellenic world.

The conference is **free** to attend (4-6th Sept), though there is a small charge for the optional day-excursion (7th Sept) to St Sophia, Bayswater, and Westminster Cathedral in London, and to the Church of the Wisdom of God, Lower Kingswood, Surrey.

For full details of the conference programme, and to book, please visit the Centre for Hellenic Studies website:

<http://www.kcl.ac.uk/artshums/depts/chs/eventrecords/ByzantiumBritishHeritage.aspx>
Or the front page of the British School at Athens website: <http://www.bsa.ac.uk/>

We do hope you will be able to join us.

Kind regards

Amalia Kakassis and Mary Greensted
Conference Organizers
British School at Athens

**Byzantium and British Heritage Conference 2013: Byzantine Influences on the Arts
& Crafts Movement**

Draft Programme

Wednesday 4th September 17.00 – 18.00 Registration **18.00** Conference opening and wine reception

Keynote: J.B. Bullen (University of Reading) “The Byzantine Revival in Europe”

Thursday 5th September

9:00-9:30 Registration and Opening remarks

9:30-11.30 Session 1:

Keynote: Robin Cormack (Courtauld Institute) “Discovery of Byzantium by British visitors to Greece and what they saw”

Amalia Kakissis (British School at Athens) “The Byzantine Research Fund Archive and its network”

Dimitra Kotoula (Byzantine and Christian Museum) “BRF Archive: Arts & Crafts architects recording the Byzantine World”

11:30-12.00 Coffee Break

12:00-13.15 Session 2:

Nikolaos Karydis (University of Kent) “Discovering the Byzantine Art of Building: Lectures at the Royal Institute of British Architects and the London Architectural Society, 1843-1857” Eleni Anna Chlepa (Independent Academic) “The restoration of Byzantine monuments in the 19th and early 20th century in Greece: in search of the anti-restoration movement’s impact”

13:15-14.00 Lunch Break (sandwich lunch provided)

14.00 – 15.45 Session 3:

Simon Green (Royal Comm on the Ancient & Historic Monuments of Scotland) “Byzantinists in Scotland”

Annette Carruthers (University of St. Andrews) “Byzantinists in Scotland”

Ruth Macrides (University of Birmingham) “The Byzantinism of the Third Marquess of Bute”

15:45-16:15 Coffee Break

16:15-17.45 Session 4:

Judy Slinn (Oxford Brooks University) “Edwin Freshfield - antiquarian, Byzantinist, lawyer and patron”

Quentin Russell (Royal Holloway College) “The Greek Community in London in second half of the 19th century”

Late afternoon visit to Westminster tba

Friday 6th September

10:00-12.00 Session 1

Keynote: Shawn Kholucy “The lure of the East to early figures of the Arts & Crafts Movement”

Alan Powers (University of Greenwich) “William R. Lethaby and the Byzantine”

Gavin Stamp (University of Cambridge) “Robert Weir Schultz and the Byzantine”

12-12:30 Coffee Break

12:30-13:45 Session 2

Kostis Kourelis (Franklin & Marshall College, USA) “Ruskin’s Greek Shadow: the BSA and the Byzantine House”

Richard Butler (University of Cambridge) “Walter Sykes George and the Byzantine Research Fund”

13:45-14:30 Lunch Break (sandwich lunch provided)

14:30-16:00 Session 3

Mary Greensted (Independent Academic) “Sidney Barnsley, Byzantium and furniture making” Alec Hamilton (University of Oxford) “Henry Wilson’s churches: Byzantine and beyond” Peter Howell (Independent Academic) “Byzantium in Westminster- J.F. Bentley’s Cathedral”

16:00-16:30 Coffee Break

16:30-17:30 Session 4

Teresa Sladen (Independent Academic) “The Sumptuous Surface: glass, marble and ceramic mosaics in Victorian Britain”

Fabio Barry (University of St. Andrews) “Remaking the Byzantine Aesthetic in 19th-century Britain: Farmer and Brindley, Masons, Sculptors, and Entrepreneurs”

Saturday 7th September Site Tours

10:30-12:30 Saint Sophia Bayswater, London, with Panos Arvanitakis

14:30-16.30 Church of the Wisdom of God, Lower Kingswood, Surrey, with Martin Brandon and Mary Greensted (coach from Bayswater at 13:15, to arrive back at Strand /Temple Station approx. 17:45)

WORKSHOP ON SHARING GEOSPATIAL DATA, OCTOBER 31TH – NOVEMBER 2ND, 2013, BERN, CALLS FOR PAPERS

We cordially invite you to participate in the interdisciplinary scientific workshop “Sharing Geospatial Data - the key to successful interdisciplinary and international collaboration” (www.geosharing.unibe.ch) to be held in Bern, October 31th – November 2nd, 2013. The workshop is intended to tie in with a series of three previous workshops dedicated to interdisciplinary collaboration on geospatial data (www.hi-res.unibe.ch and www.maps.unibe.ch).

The workshop aims at providing an interdisciplinary platform to present and learn about best practise rules for geospatial data exchange, metadata tools and archiving facilities: Discuss the possibilities of geodata transfer and preservation, discover the geodata sharing features of open source CMS Cartaro and ArcGIS, learn about the potential of geodata crowdsourcing and present your own ideas and experiences related to the provision of geodata among disciplines and levels of knowledge. Expert talks, scientific presentations as well as training sessions will enable participants to use innovative and sustainable methods of geodata cooperation.

The workshop invites presentations on current projects or work in progress that focus on geospatial data exchange, metadata compilation or archiving standards or projects that include cooperative use of geospatial data. Furthermore, we also encourage the submission of contributions on geodata outreach and crowdsourcing. You are invited to register and/or submit an abstract (max. 250 words) for an oral or a poster presentation online.

<http://www.geosharing.unibe.ch/content/abstract-submission>
<http://www.geosharing.unibe.ch/content/call-paper>

For further details on the preliminary conference program, trainings, venue&accomodation and other activities please access the workshop website via www.geosharing.unibe.ch.

Important deadlines:

- Submission: September 5, 2013
- Registration: September 30, 2013

Fees are 80 CHF (regular) and 40 CHF (students and University of Bern members).

13TH AMS CONFERENCE, AIX EN PROVENCE, 24-29 AUGUST 2014

Dear all,

the 13th AMS Conference will be organized in Aix en Provence (24-29 AUGUST 2014; Website: ams13.cerege.fr).

If you are interesting in coming to this next AMS conference you can add you email to the dedicated mailing list

Please send a message to : sympa@cerege.fr
subject : subscribe ams13-aix *Your_Name Your_Surname Your_email_Address*

For the organizing committee

Régis Braucher

[AMS-13 in Aix en Provence 24-29 August 2014.](#)

Email: ams13@cerege.fr

AMS13 mailing list: please send a message to sympa@cerege.fr with subject: subscribe ams13-aix

Régis BRAUCHER, Chargé de recherche CNRS

CEREGE - LN2C (Laboratoire National des Nucléides Cosmogéniques)
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The Thirteenth Accelerator Mass Spectrometry (AMS 13) will be held from August 24th to 29th 2014 in Aix en Provence, France.

This first announcement provides information on the conference, on the registration and abstract submission processes. For enquiries, please still go to <http://ams13.cerege.fr/index.htm>! Bookmark this site in your favorite internet browser!

AMS-13 will be preceded by a two days pre-conference workshop to be held from August 22 to August 23, 2014 at the SEOLANE Centre. This workshop will focus on the most recent improvements of the current knowledge of in situ-produced cosmogenic nuclide production rates and on the use of multiple cosmogenic nuclides. (<http://ams13.cerege.fr/Workshops.htm>).

Aix and its surrounding region offer you a simple gift: Provence. Whenever you like, whenever you come, what matters is you. You will always find the landscapes that are loved by people all over the world and views that will take your breath away. The markets with all their flavours, the sunshine with its feast for the senses, the festivals and their thousand magical moments, the latest fashions, and the unique atmosphere of Provence. This means that Aix is very attractive at any time and especially in summer time. We thus recommend booking your accommodation as soon as possible. You will find discounted prices here: <http://ams13.cerege.fr/Accommodation.htm>.

REGISTRATION:

For administrative reasons, your registration will be done in two steps:

- Pre-registration (<http://dr12.azur-colloque.cnrs.fr/preinscription.php?colloque=144&lang=en>)

Once pre-registered, please wait to allow the organizers validating this first step. Then you will be asked to pay your registration.

Note that registration site is already opened! Do not wait for the last minute!

The fees are presented below. To facilitate reimbursement by your administration, a special offer including all expenses (inscription, lunches, coffee breaks, proceedings and Gala dinner) is proposed.

For the Accompanying Persons, the program will depend on the number of participants.

Abstracts are limited to 1500 words, including spaces. To submit, follow <http://ams13.cerege.fr/gestabstracts/index.php>.

At your first visit, press the button “I would like to have one”; you will then receive your Login and Password. Then fill the boxes!

All abstracts will be read by the scientific advisory committee that will attribute an oral presentation or a poster to the submitted contribution.

Concerning the pre-workshop conference, abstracts are limited to 4500 words, including spaces and have to be directly send to ams13@cerege.fr in .rtf, .doc or .tex format.

Elsevier agrees to publish the proceedings of AMS13 conference. This book will also include papers from the pre-workshop conference. Contributions are expected to be submitted from October to December 2014; so start to write the papers ;) !

Last information: for those that are not yet in the AMS13 mailing list, please send an email to sympa@cerege.fr with subject: subscribe ams13-aix@cerege.fr

Good luck and see you soon in Aix en Provence!

22ND RADIOCARBON CONFERENCE, DAKAR, SENEGAL, 13-17 APRIL 2015, CALL FOR SESSIONS

Dear all,

The 22nd Radiocarbon Conference will be held in Dakar (Senegal), from **13 to 17 April 2015**.

We would like to take this opportunity to ask the ¹⁴C community to propose session topics.

Besides the classical topics (calibration, archaeology, oceanography, paleo-climatology), we welcome ideas to create new thematic sessions.

Feel free to outline your proposal. Please send an email to: radiocarbon2015@ucad.edu.sn with a session title; 10-15 lines of text describing the session, 2-3 keywords, and potential conveners.

We will accept proposals until **July 31, 2013**.

The Radiocarbon 2015 committee will organize the scientific program based on your contributions.

All the very best,

The Radiocarbon 2015 committee

Radiocarbon 2015 mailing list: please send a message to: radiocarbon2015@ucad.edu.sn

ADVANCED SHORT TRAINING COURSES IN STRUCTURAL ANALYSIS OF MONUMENTS AND HISTORICAL CONSTRUCTIONS

Dear Colleague,

Please find below information about Advanced short Training Courses in Structural Analysis of Existing Buildings, Monuments and Historical Constructions.

I kindly invite you to disseminate this information to anybody who could be interested in applying.

* * * * *

ADVANCED SHORT TRAINING COURSES IN STRUCTURAL ANALYSIS OF EXISTING BUILDINGS, MONUMENTS AND HISTORICAL CONSTRUCTIONS

The courses integrated in the Erasmus Mundus SAHC Master Course (www.msc-sahc.org) can now be attended separately, without the need to enroll in the Master Course.

These courses are of interest to those interested in the conservation, repair and strengthening of the built heritage, be it monuments, other cultural heritage buildings or existing buildings in general. This includes mainly civil engineers and architects, but also, for some courses, art historians, archaeologists and other interested in cultural heritage buildings, interested in complementing or updating their knowledge with the most recent professional and scientific approaches and techniques.

The attendants can be professionals such as consultants, employees in building contractors, building material producers and suppliers, heritage authorities and others, as well as graduate students (MSc or PhD) enrolled in other programs.

Detailed information can be found in the leaflet (downloadable at [www.msc-sahc.org/upload/docs/Advanced Training Courses SAHC.pdf](http://www.msc-sahc.org/upload/docs/Advanced_Training_Courses_SAHC.pdf)) or by visiting the webpage at www.msc-sahc.org.

For further information, please contact the Secretariat at secretariat@msc-sahc.org.

* * * * *

Yours sincerely,

Paulo B. Lourenco

Courses Coordinator

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

Advisor of the International Conference Series on Structural Analysis of Historical Constructions

HISTORICAL METALLURGY SOCIETY
RESEARCH IN PROGRESS MEETING,
THURSDAY 10TH OCTOBER, 2013,
DEPARTMENT OF ARCHAEOLOGY,
UNIVERSITY OF EXETER,
CALL FOR PAPERS

This meeting is aimed at a wide variety of contributors, from historical and archaeological metallurgists to excavators, historians and economists. If you are working, or have just finished working, on a project related to archaeological or historical metallurgy, we would like to hear from you. We are particularly interested in bringing together contract and public sector archaeologists with academic researchers, and in fostering links between the different disciplines studying metallurgy and related activities. Whether you are a student, a researcher, an interested non-specialist, or a professional excavator, we invite you to meet others working in this field and present your research to an interested community.

Proposals for 10-15 minute oral papers are welcomed from anyone undertaking work in any area of ancient, historical, or industrial metallurgy, and from other researchers whose focus is of relevance to this subject.

The Historical Metallurgy Society offers a prize for the best student research presented at this meeting, all students or recent graduate within 12 months of graduation are eligible.

General enquiries and abstracts can be directed to hms.rip2013@hotmail.com

**9TH INTERNATIONAL SYMPOSIUM ON THE
CONSERVATION OF MONUMENTS IN THE
MEDITERRANEAN BASIN WILL BE HELD IN
3-5 JUNE 2014 IN ANKARA, TURKEY,
INVITATION**

9th International Symposium on the Conservation of Monuments in the Mediterranean Basin will be held in 3-5 June 2014 in Ankara, Turkey following previous symposia in Bari (1989), Geneva (1991), Venice (1994), Rhodes (1997), Seville (2000), Lisbon (2004), Orléans (2007) and Patras (2010) in the name of International Group on the Conservation of Monuments in the Mediterranean Basin (I.G.C.M.M.).

9th International Symposium on the Conservation of Monuments in the Mediterranean Basin will be organised by the Materials Conservation Laboratory, Department of Architecture, Middle East Technical University in Ankara.

The theme chosen for this symposium is “IMPROVEMENTS IN CONSERVATION AND REHABILITATION – INTEGRATED METHODOLOGIES”, with the aim of building up stronger links between the scientific research results and the conservation practice.

The thematic areas of this symposium are:

- physical and (bio)chemical processes in material deterioration
- historical, structural and technological aspects of monuments
- methodologies of damage assessment
- technologies for damage rehabilitation – conservation treatments
- digital techniques for cultural heritage
- management of cultural heritage rehabilitation and conservation
- development of decision making tools for diagnostic studies, rehabilitation technologies of monuments

Kindest regards,

On behalf of organizing committee;
Prof. Dr. Emine N. Caner-Saltik

Please visit the site: <http://monubasin9.org/>

**"HOW LONG IS A CENTURY? LATE
MINOAN IIIB POTTERY: RELATIVE
CHRONOLOGY AND REGIONAL
DIFFERENCES", INTERNATIONAL
WORKSHOP, AEGEAN INTERDISCIPLINARY
STUDIES RESEARCH GROUP (AEGIS),
LOUVAIN-LA-NEUVE, BELGIUM, 24-25TH
OCTOBER 2013**

Dear Colleagues,

We would like to inform the Aegeanet community on a International Workshop organized by the Aegean Interdisciplinary Studies research group (AegIS), that will take place at Louvain-la-Neuve, Belgium, on 24-25th October 2013 : "How long is a century? Late Minoan IIIB pottery: Relative chronology and regional differences".

This international workshop proposes to re-examine the gradual transformation of Cretan society throughout the 13th century BC by concentrating on one aspect of its material culture: the pottery. For this reason, it specifically focuses on bringing together ceramic experts in charge of the study of LM IIIB pottery of different Cretan sites.

Please, find the Program and all information here: <http://www.uclouvain.be/432969.html>

With best regards,

Charlotte Langohr

Dr Ch. Langohr

Chargée de Recherches F.R.S.-FNRS

www.sarpedon.be

www.minoan-aegis.be

Département d'Archéologie et Histoire de l'Art Aegean Interdisciplinary Studies (AEGIS) Centre d'Etudes des Mondes Antiques (CEMA) Institut des Civilisations, Arts et Lettres(INCAL)

Prof. J. Driessen

L3.03.13

Aegis-CEMA-INCAL

Université Catholique de Louvain

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Belgique

Directeur

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<http://uclouvain.academia.edu/JanDriessen>
www.sarpedon.be



SOCIETY FOR AMERICAN ARCHAEOLOGY
ANNUAL MEETING 2014, CYBER-
ARCHAEOLOGY IN THE MIDDLE EAST -
METHODOLOGIES ON THE NEW FRONTIER
OF DIGITAL FIELDWORK,
CALL FOR SESSION PAPERS

Prof. Thomas Levy, Matthew Vincent and myself are organizing a session for the Society for American Archaeology Annual Meeting next April in Austin, TX. The session title is “Cyber-Archaeology in the Middle East - Methodologies on the New Frontier of Digital Fieldwork”.

The proposed abstract follows:

The use of digital methods in archaeology continues to be an increasingly important part of field research. The decrease in cost of different technologies (XRF, FTiR, Advanced Databases, LiDAR, etc.) has coincided with a greater awareness of the utility of digital techniques that have yielded a number of analytical lens’ for the archaeological record. This new frontier is especially evident in research in the Middle East where these technologies are being used to provide a number of new data sets that supplement our knowledge of dating, site formation processes, raw materials sourcing, amongst other important information that, until recently, were not easily accessible. The total lifecycle of this data, from collection techniques, manipulation, curation and dissemination has led to a new set of research methodologies that has produced new avenues for archaeological research. The new data has been useful in both reinforcing old ideas about the past in the Middle East and countering past assumptions leading to new models for our understanding of the past.

This session seeks to look at the different kinds of questions that have arisen from the shift within archaeology to answer age-old questions within the archaeology of the Middle East through the implementation of transdisciplinary (team science) approaches to data acquisition, curation, analyses and dissemination. The use of digital technologies has yielded new answers along with new questions that can best be answered through the combination of a number of different data sources. This includes methods for analysis using tools such as digital chemistry and imaging, data management techniques to help make sense of the new data sets and recently developed environments for presenting research through the web or visualization theaters.

If you would like to present a paper, please send us an expression of interest by Aug 10th. We would like to have full (200 word) abstracts by August 15th so that we are able to finalize the session schedule well in advance of the September 12th SAA deadline.

Aaron Gidding – agidding@ucsd.edu
Matthew Vincent – mvincent@ucsd.edu
Thomas Levy – tlevy@ucsd.edu

ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS

ΕΓΧΕΙΡΙΔΙΟ ΓΙΑ ΤΗΝ ΕΛΛΗΝΙΚΗ ΒΙΒΛΙΟΓΡΑΦΙΑ ΣΤΑ ΓΝΩΣΤΙΚΑ ΑΝΤΙΚΕΙΜΕΝΑ ΤΗΣ ΣΥΝΤΗΡΗΣΗΣ, ΑΡΧΑΙΟΛΟΓΙΑΣ ΚΑΙ ΜΟΥΣΕΙΟΛΟΓΙΑΣ

Αγαπητοί συνάδελφοι,

Ετοιμάζουμε ένα εγχειρίδιο για την ελληνική βιβλιογραφία στα γνωστικά αντικείμενα της συντήρησης, αρχαιολογίας και μουσειολογίας. Παρακαλώ όποιος θέλεις να συμπεριλάβει ελληνική αρθρογραφία του σε αυτή την εκδοτική προσπάθεια στείλτε μου τα πλήρη στοιχεία της έκδοσης (δεν χρειαζόμαστε όλο το κείμενο) που έχετε πραγματοποιήσει ή τα υπό έκδοση άρθρα σας όσο το δυνατόν γρηγορότερα.

Σας ευχαριστώ

Christos Karydis PhD

Assistant Professor (407/80), Preventive Conservation & History of Textiles

A.TEI of Ionian Islands & Aristotle University of Thessaloniki

<http://christoskarydis.blogspot.gr/p/dr.html>

PASIPHAË, CALL FOR PAPERS

Dear colleagues,

"Pasiphae" is a annual International journal containing philological, epigraphic, historical and archaeological studies on the Aegean Civilizations, especially on the Minoan and Mycenaean world.

The journal also welcomes articles on the relations between the Minoan and Mycenaean world and the contemporary Mediterranean civilizations (Cyprus, the Anatolian and Syro-Palestinian coasts, Egypt and Western Mediterranean) as well as papers on the Mycenaean heritage in the Greek world of the 1st millennium B.C.

Six volumes (2007-2012) have been published so far and the seventh one (2013) is forthcoming. For the contents of the first six volumes (2007-2012), see www.libraweb.net/sommari.php?chiave=333.

The journal is presently seeking contributions for the future annual issues. The deadline for submitting manuscripts for the 8th volume (2014) is December 31, 2013.

The contributions must be e-mailed to Anna Sacconi at the following addresses: anna.sacconi@uniroma1.it or sacconi@cisadu2.let.uniroma1.it

For the "Instructions for the preparation of manuscripts", see http://www.libraweb.net/documenti/Guidelines-PASIPHAË_2013.pdf

PASIPHAË. Rivista di filologia e antichità egee Fabrizio Serra Editore, Pisa - Roma

Rivista annuale / A Yearly Journal

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Best regards,

Prof. Anna Sacconi

Dipartimento di Studi Greco-Latini, Italiani, Scenico-Musicali Facoltà di Lettere e
Filosofia Sapienza Università di Roma P.le A. Moro, 5
I-00185 ROMA
E-Mail: anna.sacconi@uniroma1.it or sacconi@cisadu2.let.uniroma1.it

INTERNET SITES

MOUNTAIN MINOANS NOW ACCESSIBLE

Dear friends,

many of the over 300 Minoan mountain sites above Agios Nikolaos - discovered during my PhD work since 2003 - are now accessible via the beginnings of a network of hiking paths that we (the Cultural Club of Kroustas, with the moral only - due to the crisis - support of local authorities and the full encouragement of the archaeological service) have been setting up in the past months. You can now go for a hike on discrete paths in the cool forest high above the bay of Mirabello and experience a landscape first shaped by the Minoans nearly 4000 years ago. With many kilometers of enclosure walls and (unexcavated) ruins with often amazingly well preserved foundations made of big blocks along the way, you can walk on more than 3,5 km of paths already set up - with more to come. Access free!

For detailed information see www.kroustas-park.gr .

With this - executed exclusively by voluntary work until now - project we are trying to protect the antiquities as well as the rare (especially in eastern Crete) forest of pines and oaks. As we are (not for long, we hope) still without funding, there are no solid sign maps set up yet, but you can download an area map on the website. Also, every Sunday between 10.00 and 10.15 I am at the beginning of the paths to show you one (or more ;-)) of the sites in the vicinity - and guide those helpers who have energy and inclination to make more paths!

Hopefully seeing you soon!

Sabine

Dr. Sabine Beckmann
(CEO Kroustas Park Project)

Agios Nikolaos - Crete

mobile: 6937314385

ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

PALEORIENT: ISSUE 39.1, 2013: **THEMATIC ISSUE**

“The Transition from Late Chalcolithic to Early Bronze Age in the southern Levant”
coordinated by E. Braun and V. Roux.

In Memoria: Jean Perrot (G. Dollfus and B. Vandermeersch), Tony Legge (P. A. Rowley-Conwy), and Irene Good (E. and P. T. Barber).

Articles:

1. E. Braun and V. Roux--The Late Chalcolithic to Early Bronze Age I Transition in the Southern Levant: Determining Continuity.
2. E. Braun, E. C. M van den Brink, J. Regev, E. Boaretto and S. Bar--Aspects of Radiocarbon Determinations and the Dating of the Transition from the Chalcolithic Period to Early Bronze Age I in the Southern Levant.
3. E. C. M. van den Brink--A Late Chalcolithic to Early Bronze Age I Progression at the Buchman South Quarter in Modi'in in the Central Piedmont (Shephela) of Israel.
4. V. Roux, E. C. M. van den Brink and S. Shalev--Continuity and Discontinuity in the Shephela (Israel) between the Late Chalcolithic and the Early Bronze I: The Modi'in “Deep Deposits” Ceramic Assemblages as a Case Study.
5. Y. Paz and A. Nativ--A Case for a Post-Ghassulian Entity.
6. A. Golani--The Transition from the Late Chalcolithic to the Early Bronze I in Southwestern Canaan--Ashqelon as A Case for Continuity.
7. J. Vardi and I. Gilead--Chalcolithic-Early Bronze Age I Transition in the Southern Levant: The Lithic Perspective.
8. U. Davidovich--The Chalcolithic-Early Bronze Age Transition: A View from the Judean Desert Caves, Southern Levant.
9. S. A. Rosen--Evolution in the Desert: Scale and Discontinuity in the Central Negev (Israel in the Fourth Millennium BCE).
10. W. Abu-Azizeh--The South-Eastern Jordan's Chalcolithic-Early Bronze Age Pastoral Nomadic Complex: Patterns of Mobility and Interaction.
11. U. Hartung--Some Remarks on the Chronological Position of the Predynastic Settlement at Maadi (Egypt) and its Relations to the Southern Levant.

12. I. Milevski--The Transition from the Chalcolithic to the Early Bronze Age of the Southern Levant in Socio-economic Context.

Recensions/Book Reviews

1. F. Brunet and M. Tengberg: D. R. Harris (ed.) and individual authors, *Origins of Agriculture in Western Central Asia. An Environmental-Archaeological Study*. U. of Penn museum of Archaeology and Anthropology, 2010.
 2. V. Roux: A. Gallay, *Pour une ethnoarchéologie théorique, Mérites et limites de l’analogie ehtnographique*. Paris: Errance, 2011.
 3. F. Hole: O. Aurenche, *Vous avez dit ethnoarchéologue? Choix d’articles (1972-2007)* (Série Archéologique 16), Lyon: Maison de l’Orient et de la Méditerranée, 2012.
 4. T. Watkins: I. Hodder, *Entangled: An Archaeology of the Relationships between Humans and Things*. Chichester: Wiley-Blackwell, 2012.
 5. A. Ronen: *The Earlier Paleolithic of Syria. Reinvestigating the Evidence from the Orontes and Euphrates Valleys* (University of Southampton Series in Archaeology 7). (BAR Int. Ser. 2341; Oxford: British Archaeological Reports, 2012.
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ANCIENT MERCURY-BASED PLATING METHODS: COMBINED USE OF SURFACE ANALYTICAL TECHNIQUES FOR THE STUDY OF MANUFACTURING PROCESS AND DEGRADATION PHENOMENA

Gabriel Maria Ingo *†, Giuseppe Guida ‡, Emma Angelini §, Gabriella Di Carlo †, Alessio Mezzi †, and Giuseppina Padeletti

ABSTRACT

Fire gilding and silvering are age-old mercury-based processes used to coat the surface of less precious substrates with thin layers of gold or silver. In ancient times, these methods were used to produce and decorate different types of artefacts, such as jewels, statues, amulets, and commonly-used objects. Gilders performed these processes not only to decorate objects but also to simulate the appearance of gold or silver, sometimes fraudulently. From a technological point of view, the aim of these workmen over 2000 years ago was to make the precious metal coatings as thin and adherent as possible. This was in order to save expensive metals and to improve the resistance to the wear caused by continued use and circulation.

Without knowledge about the chemical–physical processes, the ancient crafts-men systematically manipulated these metals to create functional and decorative artistic objects. The mercury-based methods were also fraudulently used in ancient times to produce objects such as jewels and coins that looked like they were made of silver or gold but actually had a less precious core. These coins were minted by counterfeiters but also by the official issuing authorities. The latter was probably because of a lack of precious metals, reflecting periods of severe economic conditions.

In this Account, we discuss some representative cases of gold- and silver-coated objects, focusing on unique and valuable Roman and Dark Ages period works of art, such as the St. Ambrogio's altar (825 AD), and commonly used objects. We carried out the investigations using surface analytical methods, such as selected area X-ray photoelectron spectroscopy and scanning electron microscopy combined with energy-dispersive spectroscopy. We used these methods to investigate the surface and subsurface chemical features of these important examples of art and technology, interpreting some aspects of the manufacturing methods and of disclosing degradation agents and mechanisms. These findings may contribute to cultural heritage preservation, thus extending the applicability of the surface analytical techniques.

Please visit the site: <http://pubs.acs.org/doi/abs/10.1021/ar300232e> [Story at <http://tinyurl.com/lzxp8v>]

EΙΔΗΣΕΙΣ - NEWS RELEASE

ANCIENT SPHINX FOUND IN NORTH ISRAEL

Archaeologists in Israel have unearthed a fragment of an ancient sphinx belonging to a pyramid-building pharaoh who is believed to have lived more than 4,000 years ago. The incredible find bears a striking resemblance to such sculptures in Egypt, even bearing the name of an ancient Egyptian king.

"What we found in the last day of the last season, as usually happens in archaeological excavations, is one of the most unique finds in Israel in terms of the archaeology of the Levant," says Dr. Sharon Zuckerman, a lecturer at Hebrew University.

"It is a Sphinx part, the four legs of a Sphinx, an Egyptian Sphinx made in Egypt from Egyptian stone, from granite, bearing the name of one of the Egyptian kings dated to the old kingdom of Egypt."

Zuckerman says the next step was to try to understand how the Sphinx appeared at the Tel Hazor National Park, north of the Sea of Galilee, and to find the rest of the body.

"What we are trying to understand is, first of all, how this Sphinx arrived here and, second of all, and this is the most interesting question, is where is the rest of the statue.

"The statue originally was about more than 1.5 meters (5 feet) long – it was really a monumental statue – so where is its head? Where is its body? We hope we will be able to find it in our excavation of the palace."

It's thought that the sphinx could have arrived either around the beginning of the second century BCE by one of the Canaanite kings who ruled Egypt or after it was sent to the king of Hazor by an Egyptian king in the 14th century BCE, a thousand years after it was engraved.

"This is the only find bearing his name in Egypt and in the Levant, in the Levantine area, so this makes it a very unique find," says Dr. Zuckerman. "The sphinx itself bears inscriptions. It bears the name of the King Mycerinus, or Menkaure, and tells us about the location of the Sphinx originally, which was in one of the temples of the sun God in Heliopolis, a city in Egypt itself."

The sphinx piece was discovered during an excavation in Tel Hazor. Scientists hope they can locate the rest of the sphinx body in further excavations, although some have suggested that the rest of the statue may have intentionally been broken and thrown away.

Please visit the site: <http://www.ynetnews.com/articles/0,7340,L-4403765,00.html>

WHEN LETTUCE WAS A SACRED SEX SYMBOL

Lettuce has been harvested for millenia—it was depicted by ancient Egyptians on the walls of tombs dating back to at least 2,700 B.C. The earliest version of the greens resembled two modern lettuces: romaine, from the French word “romaine” (from Rome), and cos lettuce, believed to have been found on the island of Kos, located along the coast of modern day Turkey.

But in Ancient Egypt around 2,000 B.C., lettuce was not a popular appetizer, it was an aphrodisiac, a phallic symbol that represented the celebrated food of the Egyptian god of fertility, Min. (It is unclear whether the lettuce’s development in Egypt predates its appearance on the island of Kos.) The god, often pictured with an erect penis in wall paintings and reliefs was also known as the “great of love” as he is called in a text from Edfu Temple. The plant was believed to help the god “perform the sexual act untiringly.”

Salima Ikram, Professor of Egyptology at the American University in Cairo who specializes in Ancient Egyptian food explains Min’s part in lettuce history. “Over 3,000 years, [Min's] role did change, but he was constantly associated with lettuce,” she says.

The first of these depictions appeared around 1970-80 B.C. in the The White Chapel of Senusret I, though there may be earlier examples, Ikram says.

This relief from the funerary temple of Ramses III at Medinet Habu depicts the festival of Min. Image courtesy of Flickr user kairoinfor4u.

This relief, from the funerary temple of Ramses III at Medinet Habu, for example, depicts Min’s harvest festival. At the center is a statue of Min. Behind him, a procession of priests holds a small garden of lettuce. Min is also sometimes depicted wearing a long, red ribbon around his forehead that some say represents sexual energy.

“One of the reasons why [the Egyptians] associated the lettuce with Min was because it grows straight and tall—an obvious phallic symbol,” Ikram says. “But if you broke off a leaf it oozed a sort of white-ish, milky substance—basically it looked like semen.”

When the butt of modern Romaine lettuce is cut off, a similar substance oozes from the plant and gives it a bitter flavor. Lettuce’s scientific classification *lactuca sativa*, is derived from the Latin word for milk and shares the same root as lactose, the enzyme found in dairy products. (While we’re talking etymology, raw lettuce dishes known as *herba salata* (“salted greens”) gave rise to the English word “salad.”) Jane Grigson’s *Vegetable Book* provides further options for what the lettuce milk of the “ithyphallic god of increase” may represent:

Lettuce was sacred to him because of the “straight vertical surge” of their growth, milky juice they exude which could be taken as a symbol of mothers milk or semen.

Ancient Egyptians used the lettuce differently than those who would come later. The leaves had a greenish blue color and were often removed from the plant due to their bitter

taste. Instead of being part of a meal, the seeds from the bud of the flowers were harvested and pressed for their natural oils which were used for cooking, medication—even mummification. Lettuce oil was a standard in the Egyptian materia medica and even today is used as a traditional remedy for hair regrowth.

The Greeks and Romans later popularized the leafy veggie as an appetizer during the 81-96 A.D. reign of Domitian. When they first introduced a set order of courses, the meal included a salad at the beginning to stimulate the appetite and also at the end to encourage digestion, according to author Gil Marks. It was still considered a medicinal goldmine by the Greeks and Romans, but for a different reason than the Egyptians—they believed it helped people sleep. Under Domitian’s reign, as the story goes, the ruler would force his guests to eat lettuce before the meal so as to make them struggle to remain awake for the remainder of the visit.

Another interesting lettuce-related story in Ancient Egypt, not for the faint-of-stomach: In Egyptian history there are many battles between the Egyptian deity Horus and Set, the god of the desert. Though the argument was usually over which of the two had the rightful claim to rule Egypt, one rather odd battle involves lettuce. According to Papyrus Chester-Beatty I, as interpreted by Ikram, Set at one point tries to overpower Horus by seducing him and then having intercourse with him. Horus places his hand between his legs, catches Set’s semen and throws it into the river. “Horus [then] tricks Set by basically spurting his sperm and throwing it into a lettuce plant,” Ikram says. Because Set eats the semen-covered lettuce, in the eyes of the gods, Horus was dominant—at least until the next battle.

Please visit the site: <http://blogs.smithsonianmag.com/food/2013/07/when-lettuce-was-a-sacred-sex-symbol/>

ROMAN MOSAICS DISCOVERED IN AMASYA

Archaeological excavations in the Black Sea province of Amasya have revealed 2,000-year-old mosaics with kilim-like motifs that are believed to date back from the Roman period.

The excavations are being carried out by the Amasya Museum Directorate in the Yavru village. Officials said that the mosaics with kilim motifs were “unique.”

Çorum-based Hitit University Black Sea Archaeology Research and Practice Center Deputy Director Associate Professor Esra Keskin said the mosaics that had been found in a palace-like place had a different design when compared to the other artifacts in the same era.

Keskin said the mosaics were surrounded by curbstones. “The eye shapes on the kilim designs of the mosaics still retain their secrets. The mosaics cover an area of 30 square meters and the kilim-like motifs on it show that they might have been the coat of arms of a military unit in the Roman era.”

Please visit the site: <http://www.hurriyetdailynews.com/roman-mosaics-discovered-in-amasya.aspx?pageID=238&nid=50658&NewsCatID=375> [Go there for pict]

FOUND AFTER 10,000 YEARS: THE WORLD'S FIRST CALENDAR, BY DAVID KEYS

Humans had a sophisticated calendrical system thousands of years earlier than previously thought, according to new research.

The discovery is based on a detailed analysis of data from an archaeological site in northern Scotland – a row of ancient pits which archaeologists believe is the world's oldest calendar. It is almost five thousand years older than its nearest rival – an ancient calendar from Bronze Age Mesopotamia.

Created by Stone Age Britons some 10,000 years ago, archaeologists believe that the complex of pits was designed to represent the months of the year and the lunar phases of the month. They believe it also allowed the observation of the mid-winter sunrise – in effect the birth of the new year – so that the lunar calendar could be annually re-calibrated to bring it back into line with the solar year.

Remarkably the monument was in use for some 4,000 years – from around 8,000BC (the early Mesolithic period) to around 4,000BC (the early Neolithic).

The pits were periodically re-cut – probably dozens of times, possibly hundreds of times – over those four millennia. It is therefore impossible to know whether or not they originally held timber posts or standing stones after they were first dug 10,000 years ago. However variations in the depths of the pits suggest that the arc had a complex design - with each lunar month potentially divided into three roughly ten day 'weeks' – representing the waxing moon, the gibbous/full moon and the waning moon.

The 50 metre long row of 12 main pits was arranged as an arc facing a v-shaped dip in the horizon out of which the sun rose on mid-winter's day. There are 12.37 lunar cycles (lunar months) in a solar year – and the archaeologists believe that each pit represented a particular month, with the entire arc representing a year.

The 12 pits may also have played a second role by representing the lunar month. Mirroring the phases of the moon, the waxing and the waning of which takes 29 and half days, the succession of pits, arranged in a shallow arc (perhaps symbolizing the movement of the moon across the sky), starts small and shallow at one end, grows in diameter and depth towards the middle of the arc and then wanes in size at the other end.

In its role as an annual calendar (covering 12 months – one for each pit), a pattern of alternating pit depths suggests that adjacent months may have been paired in some way, potentially reflecting some sort of dualistic cosmological belief system – known in the ethnographic and historical record in many parts of the world, but not previously detected archaeologically from the Stone Age.

Keeping track of time would have been of immense economic and spiritual use to the hunter gatherer communities of the Mesolithic period. Their calendar would have helped

them to pinpoint the precise time that animal herds could be expected to migrate or the most likely time that salmon might begin to run.

But Stone Age communal leaders – potentially including Shamans – may also have used the calendar to give themselves the appearance of being able to predict or control the seasons or the behaviour of the moon and the sun.

The site – at Warren Field, Crathes, Aberdeenshire – was excavated in 2004 by the National Trust for Scotland, but the data was only analysed in detail over the past six months using the specially written software which permitted an interactive exploration of the relationship between the 12 pits, the local topography and the movements of the moon and the sun.

The analysis has been carried out by a team of specialists led by Professor Vincent Gaffney of the University of Birmingham.

“The research demonstrates that Stone Age society 10,000 years ago was much more sophisticated than we had previously suspected. The site has implications for the way we understand how Mesolithic society developed in economic, social and cosmological terms,” said Professor Gaffney.

“The evidence suggests that hunter-gatherer societies in Scotland had both the need and sophistication to track time across the years, to correct for seasonal drift of the lunar year and that this occurred nearly 5000 years before the first formal calendars known in the Near East. In doing so, this illustrates one important step towards the formal construction of time and therefore history itself,” he said.

Please visit the site:

<http://www.independent.co.uk/news/science/archaeology/news/found-after-10000-years-the-worlds-first-calendar-8708322.html#>

"LAST" BYZANTINE CASTLE IN ISTANBUL

The Yoros Castle was a place for defense. It defended the entrance of the Bosphorus and functioned as a military barracks in Ottoman times.

The Yoros Castle was a place for defense. It defended the entrance of the Bosphorus and functioned as a military barracks in Ottoman times. AA Photo Excavations that began in 2012 in Istanbul's remaining Byzantine castle, Yoros, could soon continue in a restricted military zone pending approval from army officials.

“The lower part of the castle is within the borders of the military area, and military housing complexes are there. We want to work in this military area because the castle should be handled as a whole,” said Professor Asnu Bilban Yalçın, who is heading an excavation team of 30 people in collaboration with the Culture and Tourism Ministry and Istanbul University. “The Yoros Castle has historic importance. I believe that we will find many things in the other part. We demand officials give permission for us to work there.”

Yalçın said excavations had started on July 1 this year and that they would work for two months within the castle, which is on the UNESCO World Heritage List. “We started working with an environmental cleaning. It has taken so long. Then we will start archaeological works.”

Speaking about the castle, the professor said it was a place for defense, adding that it defended the entrance of the Bosphorus and functioned as a military barracks in Ottoman times.

She said they had unearthed underground structures from the Ottoman period, objects used in quotidian life by soldiers, as well as stone and bronze cannon balls and plates used to eat food. In this year's excavations, they found a few coins that had been delivered to the Istanbul Archaeology Museums, she added.

Citizens can view works in the castle

Yalçın said ordinary citizens could also view the works in the castle. “Groups visit us and we introduce the excavation area to them. Schools also make demands to come and see the works. We try to teach archaeology to children and give them an appreciation for this field.”

She said the excavation area was quite big. “The Yoros Castle region consists of an area starting from the Anadolu Kavağı neighborhood until Yuşa Hill. Besides the upper castle, there is also a wide lower castle here [in the area currently controlled by the military]. The castle is made up of these two parts and considered as a whole.”

Castle could become a tourist draw

Istanbul Culture and Tourism Director Ahmet Emre Bilgili said excavations were currently continuing in the walls inside the castle.

“There are also walls outside the castle. These walls should also be excavated. This part of Istanbul has magnificent nature and cultural heritage. As the Culture and Tourism Ministry, we want to make use of it. Tourists come to this area. The castle could turn into a center of tourism attraction along with the outside walls and Anadolu Kavağı with environmental arrangement projects,” Bilgili said.

Bilgili said Istanbul Gov. Hüseyin Avni Mutlu had also extended serious support to the works at the site. “With this support, excavations are going strong,” he added.

As for the effects of archaeological excavations in the region’s tourism, Bilgili said: “Archaeological remains are a big heritage underground. The Archaeology Museum’s depots are full now. We, however, are planning a new archaeology museum.”

Please visit the site: <http://www.hurriyetdailynews.com/excavations-at-yoros-castle-to-move-to-military-zone.aspx?pageID=238&nID=50683&NewsCatID=375>

CHINA DISCOVERS SOME OF THE WORLD'S OLDEST WRITING, BY DIDI TANG

Archaeologists say they have discovered some of the world's oldest known primitive writing, dating back about 5,000 years, in eastern China, and some of the markings etched on broken axes resemble a modern Chinese character.

The inscriptions on artifacts found at a relic site south of Shanghai are about 1,400 years older than the oldest written Chinese language.

Chinese scholars are divided over whether the markings are words or something simpler, but they say the finding will shed light on the origins of Chinese language and culture.

The oldest writing in the world is believed to be from Mesopotamia, dating back slightly more than 5,000 years. Chinese characters are believed to have been developed independently.

Inscriptions were found on more than 200 pieces dug out from the Neolithic-era Liangzhu relic site. The pieces are among thousands of fragments of ceramic, stone, jade, wood, ivory and bone excavated from the site between 2003 and 2006, lead archaeologist Xu Xinmin said.

The inscriptions have not been reviewed by experts outside the country, but a group of Chinese scholars on archaeology and ancient writing met last weekend in Zhejiang province to discuss the finding.

They agreed that the inscriptions are not enough to indicate a developed writing system, but Xu said they include evidence of words on two broken stone-ax pieces.

One of the pieces has six word-like shapes strung together to resemble a short sentence.

"They are different from the symbols we have seen in the past on artifacts," Xu said. "The shapes and the fact that they are in a sentence-like pattern indicate they are expressions of some meaning."

The six characters are arranged in a line, and three of them resemble the modern Chinese character for human beings. Each shape has two to five strokes.

"If five to six of them are strung together like a sentence, they are no longer symbols but words," said Cao Jinyan, a scholar on ancient writing at Hangzhou-based Zhejiang University. He said the markings should be considered hieroglyphics.

He said there are also stand-alone shapes with more strokes. "If you look at the composition, you will see they are more than symbols," Cao said.

But archaeologist Liu Zhao from Shanghai-based Fudan University warned that there was not sufficient material for any conclusion.

"I don't think they should be considered writing by the strictest definition," Liu said. "We do not have enough material to pin down the stage of those markings in the history of ancient writings."

For now, the Chinese scholars have agreed to call it primitive writing, a vague term that suggests the Liangzhu markings are somewhere between symbols and words.

The oldest known Chinese writing has been found on animal bones – known as oracle bones – dating to 3,600 years ago during the Shang dynasty.

Please visit the site: http://www.huffingtonpost.com/2013/07/10/china-oldest-writing_n_3574624.html [Go there for pix]

ANCIENT ANCHORS FROM PUNIC WARS **FOUND OFF SICILY, BY ROSSELLA** **LORENZI**

A key episode of the Punic Wars has emerged from the waters near the small Sicilian island of Pantelleria as archaeologists discovered a cluster of more than 30 ancient anchors.

Found at a depth between 160 and 270 feet in Cala Levante, one of the island's most scenic spots, the anchors date to more than 2,000 years ago.

According to Leonardo Abelli, an archaeologist from the University of Sassari, the anchors are startling evidence of the Romans' and Carthaginians' struggle to conquer the Mediterranean during the First Punic War (264 to 241 B.C.).

“They were deliberately abandoned. The Carthaginian ships were hiding from the Romans and could not waste time trying to retrieve heavy anchors at such depths,” Abelli told Discovery News.

Lying strategically between Africa and Sicily, Pantelleria became a bone of contention between the Romans and Carthaginians during the third century B.C.

Rome captured the small Mediterranean island in the First Punic War in 255 B.C., but lost it a year later.

In 217 B.C., in the Second Punic War, Rome finally regained the island, and even celebrated the event with commemorative coins and a holiday.

Following the first conquer in 255 B.C., Rome took control of the island with a fleet of over 300 ships.

“The Carthaginian ships that were stationing near Pantelleria had no other choice than hiding near the northern coast and trying to escape.

To do so, they cut the anchors free and left them in the sea. They also abandoned part of their cargo to lighten the ships and gain speed,” Abelli said.

Indeed, Abelli's team found many jars in clusters of 4-10 pieces near the spectacular Punta Tracino, not far from where the anchors were found.

Two years ago, the same team found 3,500 Punic coins about 68 feet down. Dating between 264 and 241 B.C., the bronze coins featured the same iconography, suggesting that the money served for an institutional payment, possibly to sustain anti-Roman troops.

Carried on a Carthaginian ship headed to Sicily, the money was deliberately left on the bottom of the sea, in relatively low waters, with the hope of recovering it later.

“Near the coins we found a large stone anchor with three holes and a tree trunk. We believe they were signaling the point where the treasure was hidden,” Abelli said.

Underwater research is set to continue until mid-July. The project is founded by Arcus Spa and realized by Pantelleria Ricerche with the Sicily Region Sea Superintendency, the University of Sassari and Messina Coast Guard.

Please visit the site: <http://news.discovery.com/history/archaeology/ancient-anchors-sicily-punic-wars-130703.htm>

MYSTERIOUS TOE RINGS FOUND ON ANCIENT EGYPTIAN SKELETONS

The male ancient Egyptian skeleton lived more than 3,300 years ago and died at the age of 35-40, before ...

Archaeologists have discovered two ancient Egyptian skeletons, dating back more than 3,300 years, which were each buried with a toe ring made of copper alloy, the first time such rings have been found in ancient Egypt.

The toe rings were likely worn while the individuals were still alive, and the discovery leaves open the question of whether they were worn for fashion or magical reasons.

Supporting the magical interpretation, one of the rings was found on the right toe of a male, age 35-40, whose foot had suffered a fracture along with a broken femur above it. [See Images of Skeletons & Toe Rings]

Unique rings in a unique ancient city

Both skeletons were found in a cemetery just south of the ancient city of Akhetaten, whose name means "Horizon of the Aten." Now called Amarna, the city of Akhetaten was a short-lived Egyptian capital built by Akhenaten a pharaoh who tried to focus Egypt's religion around the worship of the sun disc, the "Aten." He was also likely the father of Tutankhamun.

After Akhenaten's death, this attempt to change Egyptian religion unraveled, as his successors denounced him and the city became abandoned. Even so, Anna Stevens, the assistant director of the Amarna Project, said the newly discovered rings are unlikely to be related to the religious changes Akhenaten introduced.

The findings do appear to be the first copper alloy toe rings discovered in ancient Egypt. "I'm not aware of any, but that doesn't mean they don't exist. Bear in mind that if we found something like this in a house, for example, we would have no idea of its purpose," Stevens wrote in an email to LiveScience.

A gold toe ring was previously found on a mummy named Hornedjitef, a priest at Karnak more than 2,200 years ago. The mummy, which resides at the British Museum, has a "thick gold ring on the big toe of his left foot," writes anthropologist Joyce Filer in her book "The Mystery of the Egyptian Mummy" (British Museum Press, 2003). [Images: The Faces of Egyptian Mummies Revealed]

A magical healing device?

The man whose right foot had been injured was likely in great pain when alive.

He "showed signs of multiple antemortem [before his death] fractures, including of several ribs, the left radius, right ulna, right foot (on which the toe ring was found) and

right femur," Stevens wrote. "The fracture of the right femur healed at an angle and must have caused this individual considerable ongoing pain."

[View gallery](#)

This copper alloy ring was found on the second toe of the male's right foot, the same foot that suff ...

The ring was placed on the toe of the injured foot, suggesting perhaps it was intended as a magical healing device of sorts.

"The act of 'binding' or 'encircling' was a powerful magical device in ancient Egypt, and a metal ring, which can be looped around something, lends itself well to this kind of action," Stevens said. "This is a possibility that we will look into further, checking through sources such as the corpus of magico-medical spells that have survived from ancient Egypt, to look for parallels."

However, the skeleton of the second individual with the toe ring, found in 2012, bore no visible signs of a medical condition. Stevens notes that this individual has yet to be studied in depth by bio-archaeologists and its sex is unknown.

Who were they?

The skeletons were wrapped in textile and plant-stem matting, and both burials had been disturbed by tomb robbers.

None of the skeletons in the cemetery were technically "mummified" so to speak. "There is no evidence from the cemetery as a whole of attempts to mummify the bodies, in terms of the removal of internal organs (we quite often find remains of brain within the skulls) or the introduction of additives to preserve tissue (the bodies survive largely as skeletons)," Stevens wrote. "But in a way the wrapping of the bodies within textile and matting is a step towards preserving the shape of the body, and a form of simple mummification."

Figuring out who these individuals were in life is tricky, Stevens said. This cemetery appears to represent a "wide slice" of the city's society. These people were not wealthy enough to get buried in a rock-cut tomb but could afford, and were allowed, the simple burials seen at this cemetery.

"They [the two individuals] probably lived, like most citizens of Amarna, in a small house adjacent to that of a larger villa belonging to one of the city's officials, for whom they provided services and labor in exchange for basic provisions, especially grain," Stevens said.

In the case of the male with multiple fractures, his life appears to have been especially difficult and he also has signs of degenerative joint disease. It "suggests a life [of] labor was more likely for this individual than, say, an existence as a scribe," Stevens said. In both cases, however, the individuals' lives ended with each having a copper alloy ring on one of their toes.

The case of the male individual with the toe ring was published in the most recent edition of the Journal of Egyptian Archaeology. More information on the Amarna Project can be found at www.amarnaproject.com.

Please visit the site: <http://news.yahoo.com/mysterious-toe-rings-found-ancient-egyptian-skeletons-192820350.html>

DUKE UNIVERSITY DISCOVERS THAT LASER CAN BE USED TO EXAMINE ART WITHOUT CAUSING DAMAGE

The pump-probe laser system provides a three-dimensional view of any part of a painting without taking a chip. Researchers can zoom in and out, like looking at a layer cake, and separate colors to see what was originally on the canvas.

Warren explained that the pump-probe laser uses two laser pulses of different colors and varies the delay between the pulses. The first one “pumps” the pigment and the second one “probes” what happened to the energy deposited by the first one.

Other science applications need two well-synchronized lasers, and they also could be used to examine paintings, Warren said. It could have happened a decade ago, but apparently no one thought to do it until he wandered into London’s National Gallery.

The scientists are adjusting the laser wavelengths and looking for more colors than are needed for medical work.

“Biological samples are less complicated than paintings, and we didn’t need to be flexible,” Villafana said. “We had the system set up for the melanoma we were studying, and we didn’t really need to change wavelengths anymore. Now we’ve got God knows how many pigments sitting in a mixture or a layer, and you need to see all of them.”

So far, she’s seen red, blue, yellow, brown and one green. The laser is tuned to the edge of green but “all we would need to do is rearrange some of the optics in there and we could make it put out green light or any color that we want,” Warren said.

Art conservationists also push the scientists, Villafana said.

“Sometimes you want to see if there are previous restorations. Sometimes you want to say, what’s the binder they used here? What thickness was this layer? It’s about coming up with new and different ways to investigate a different problem.”

While the laser system isn’t yet optimal, it is attracting attention from other conservationists, including those who care for the Dead Sea Scrolls, Warren said. They want to know if the pump-probe can let them read what’s in scrolls that are too fragile to unwind. And Brown hopes the laser one day will provide evidence that the Puccio was part of the Vatican altarpiece, perhaps by proving the lapis has the same chemical composition.

“It’s not going to replace other tools, but it gives us different information,” he said.

And it doesn’t have to do everything, said Delaney, of the National Gallery in Washington. “Nothing has to be perfect,” he said. “We’re looking for what can help us

solve problems that we don't have a good way to solve now. And this shows some potential.”

Please visit the site: http://www.washingtonpost.com/national/duke-university-discovers-that-laser-can-be-used-to-examine-art-without-causing-damage/2013/07/04/989e19b6-e4da-11e2-bffd-37a36ddab820_story_1.html

IN ISRAEL, UNEARTHING A BED OF FLOWERS FOR ETERNAL REST, BY EMILY HARRIS

If you died 55,000 years ago in the lands east of the Mediterranean, you'd be lucky to be buried in an isolated pit with a few animal parts thrown in. But new archaeological evidence shows that by about 12,000 years ago, you might have gotten a flower-lined grave in a small cemetery.

An international team of archaeologists led by Dani Nadel, a professor at the University of Haifa who previously found what's believed to be the world's oldest bedding, started excavating burial grounds on Mount Carmel, in what is now Israel, in 2004. The team has unearthed hundreds of Natufian skeletons. Four near the Raqefet Cave high on the hillside contained what Nadel's team believes is the oldest certain evidence of humans using flowers when burying their dead.

"Some of my partners did not believe me in the beginning," Nadel says with a chuckle. But "once you see them, they're all over the place."

What archaeologists saw were patterned impressions in the earth under the skeletons. Some first thought the imprints were chisel marks — the Natufians of the Mesolithic era both dug graves and chiseled them into bedrock. But botanists helped determine that the graves were lined with plants. Among them, sage or mint, identified by square stems.

Nadel says the plants don't appear to be related to preserving the body, but preparing the grave in a purposeful way.

"It's lined, it's prepared, it's colorful," he says. "It added color and fragrance, and probably all those at the funeral were impressed. So it was for the dead and for the living."

The paper describing the findings, prepared for publication in the Proceedings of the National Academy of Sciences, notes that earlier Neanderthal graves in Iraq contained high concentrations of pollen, suggesting flowers may have been used in those burials. But it also calls that evidence questionable because bones of a rodent that habitually buries flower heads were found in the Neanderthal graves too.

The Natufian graves were lined with a simple mud plaster. Flowers covered that, and the bodies placed on top. To preserve impressions of the plant cushion, Nadel says, that mud would have to have been still damp when the burial happened. There may have been more flowers placed on top of the bodies as well, but if so, they left no archaeological evidence behind.

Nadel says the similarity to burial practices today is striking, but cautions there isn't enough evidence preserved to know how frequently or how continuously people used flowers at funerals.

"This doesn't mean that from the Natufians to the 21st century there is a direct, undisturbed link," he says. "It may have come and gone several times or [been] invented several times, or indeed pursued since then until today."

Please visit the site: <http://www.npr.org/2013/07/02/198061142/in-israel-unearthing-a-bed-of-flowers-for-eternal-rest>

SUNKEN SHIPS SEEN IN ANCIENT CITY OF TIEION

Two sunken ships have been seen by fishermen off the ancient city of Tieion in Çaycuma's Filyos district in the Black Sea province of Zonguldak.

With notice that two sunken ships have been seen off the ancient city of Tieion in Çaycuma's Filyos district in the Black Sea province of Zonguldak, officials have applied to the Culture and Tourism Ministry for diving permission and funding.

The head of the Karabük University Archaeology Department and archaeological excavations, Professor Sümer Atasoy said that they had previously known about the sunken ships in the port of the ancient city but could not have determined their place.

Atasoy said they estimated that the ships had sunk after hitting the rocks, and continued: "We are waiting for permission and funding from the relevant ministry. Two ancient ships are in question. It is told that the ships have pots, columns and stones. We don't know how deep they are. When we get the fund and permission, divers will dive to take photos and we will have an idea about their location and depth."

Second AD and 13th BC

Atasoy said after the first examinations, archaeologist divers would continue working, adding, "Underwater archaeology necessitates a different technique. We need to hurry to preserve the sunken ships, which may be from the Roman, Byzantium or Genoese periods between second A.D. and 13th centuries B.C.

Please visit the site: <http://www.hurriyetdailynews.com/sunken-ships-seen-in-ancient-city-of-tieion.aspx?pageID=238&nID=49724&NewsCatID=375>

KÜLTEPE DIGS MAY REVEAL NEW WRITTEN DOCUMENTS

This year the Kültepe archaeological excavations will once again continue in Kayseri. The head of the excavations says the works will particularly focus on an area from the Bronze Age

This year's excavations in Kültepe/Kaniş will continue to find new traces from as many as 5,000 years ago. Hürriyet photo

The archaeological excavations that started in 1948 at the Karum tumulus of the Kültepe/Kaniş province of the central province of Kayseri are still ongoing around 20 kilometers from the Kayseri-Sivas highway. The head of the Kültepe excavations, Professor Fikri Kulakoğlu, told Anatolia news agency some details about the works. "We are planning to work in an area of the Bronze Age, about 5,000 years earlier than today. These studies will be held by a scientific committee consisting of 70 people," Kulakoğlu.

He said the name "Kültepe" had been known since 1871, when the cuneiform tablet, known as the "Cappadocia Tablets," were found. The first excavation in Kültepe was then led by Ernst Chantre from 1893 to 1894. Excavations continued with H. Winckler and H. Grothe in 1906.

Kulakoğlu said the excavations would continue in Karum (Down River), aiming to find traces from as many as 5,000 years ago. "We started our excavations on June 15. Karum has an importance of being the starting point of the Anatolian history, so the excavations need to be conducted even more carefully compared to other cities. In this year, we are planning an opening in the Karum area and the traces of 5,000 years ago from the Bronze Age will be examined. These studies will continue under the control of a scientific commission of 70 people and students from different universities will also join the excavations.

The project will continue for three-and-a-half months. Our biggest aim in these studies is to find traces and tablets from earlier times in the Karum area," he added.

The local municipality supports the excavations. "[Kayseri Mayor] Mehmet Özhasseki has some cultural tours that are beneficial for the introduction of the area, as much as his contributions to the cleaning and excavation of the area. Theater performances are also included in these culture tours. I am really grateful for their efforts because they are realizing activities that are unique in Turkey."

The importance of Kültepe

Kulakoğlu said the changes occurring in Anatolia 5,000 years ago could be observed in the other tumulus and settled areas of Turkey, while on the other hand no other area in Turkey had information even dating back to 2000 B.C. "Besides, this information is not only about Turkey, but also enlightens the dark sides of neighboring countries' histories," he added, without elaborating.

The cuneiform writings of Kültepe are the oldest documents found in the Turkish lands. “For this reason, Kültepe is where Anatolian history begins. There are 25,000 cuneiform writings found in Kültepe up to now. The most important of these documents is the tablet from 2000 B.C., which explains that there were local kingdoms in Anatolia at that time and the Kaniş Kingdom was the most powerful local kingdom in Anatolia. Merchants from Asur, which is 1,000 kilometers away, came to Kaniş to use the natural sources of Anatolia,” explained Kulakoğlu.

The Kaniş, Karum and Kültepe area has a 550 meter diameter and 20 meter height. The settlement in the cumulus is composed of segments from the early Bronze Age, the middle Bronze Age, the Iron Age, and Ancient Greece and Rome.

Please visit the site: <http://www.hurriyetdailynews.com/kultepe-digs-may-reveal-new-written-documents.aspx?pageID=238&nID=49154&NewsCatID=375>

ART OF FRESCO IN SYRIA GOES BACK **11,000 YEARS**

The genuine Syrians' contributions to building the human civilization exceed that of creating the first cuneiform alphabet in the world to contributing to the art of painting on walls, also called frescos.

The oldest wall drawing in the world goes back to the Neolithic (New Stone) Era of around 11 thousand years, which indicates that the identification of this era in the Middle East region, particularly in north Syria, preceded that in Europe.

Frescos found in Syria are among the oldest discovered so far in the Middle East region.

Director of Labs Department at the General Directorate of Archeology and Museums, Dr. Mahmoud al-Sayyed, said the site of Tall Ja'det al-Maghara on the left bank of the Euphrates river in the north was where the oldest frescos discovered in Syria.

Al-Sayyed stressed that those paintings, discovered in 2002, go back 11 thousand years at least, pointing out that the object of the paintings is geometrical as they do not depict neither people nor animals and that the colors used are limited to white, black and red.

A group of wall paintings were found in 1997 on the floor of a house in the archeological site of Tall Halouleh in the Middle Euphrates region. The paintings go to the Neolithic period between 8800-8500 B.C.

The paintings, depicting 23 women, represent the oldest drawing by a man known in the Middle East region. They highlight the role of the Syrian woman and her contribution to the society.

Al-Sayyed also noted that a Neolithic era drawing of ostriches and cranes, painted with the red color on a white background, was found in the archeological site of Tall Baqras on the right bank of the Euphrates River.

With the evolution of the concept of civilization and the emergence of cities, he said, frescos were used in decorating houses, palaces and temples.

An example of those paintings was that one discovered in Tall al-Hariri site at the palace of King Zimri-Lim, King of Mari.

In the Hellenistic and Roman periods, Syria assumed a prominent position in the history of fresco art, according to al-Sayyed.

The most important among wall paintings in these periods, he noted, were those found in Dura-Europos site in the Middle Euphrates region in the southeast of Syria, 35 km away from the Syrian-Iraqi borders.

Please visit the site:

<http://www.syriaonline.sy/?f=Details&catid=22&pageid=6605&g=1>

WAR WAS CENTRAL TO MINOAN CIVILIZATION OF CRETE, CONTRARY TO POPULAR BELIEF

Research from the University of Sheffield has discovered that the ancient civilisation of Crete, known as Minoan, had strong martial traditions, contradicting the commonly held view of Minoans as a peace-loving people.

The research, carried out by Dr Barry Molloy of the University of Sheffield's Department of Archaeology, investigated the Bronze Age people of Crete, known by many as the Minoans, who created the very first complex urban civilisation in Europe.

"Their world was uncovered just over a century ago, and was deemed to be a largely peaceful society," explained Molloy. "In time, many took this to be a paradigm of a society that was devoid of war, where warriors and violence were shunned and played no significant role.

"That utopian view has not survived into modern scholarship, but it remains in the background unchallenged and still crops up in modern texts and popular culture with surprising frequency.

"Having worked on excavation and other projects in Crete for many years, it triggered my curiosity about how such a complex society, controlling resources and trading with mighty powers like Egypt, could evolve in an egalitarian or cooperative context. Can we really be that positive about human nature? As I looked for evidence for violence, warriors or war, it quickly became obvious that it could be found in a surprisingly wide range of places."

Building on recent developments in the study of warfare in prehistoric societies, Molloy's research reveals that war was in fact a defining characteristic of the Minoan society, and that warrior identity was one of the dominant expressions of male identity.

Molloy continued: "The study shows that the activities of warriors included such diverse things as public displays of bull-leaping, boxing contests, wrestling, hunting, sparring and duelling. Ideologies of war are shown to have permeated religion, art, industry, politics and trade, and the social practices surrounding martial traditions were demonstrably a structural part of how this society evolved and how they saw themselves."

Even the famous Mycenaeans, heroes of the Greek Trojan War, took up the Minoan way of war -- adopting its weaponry, practices and ideologies. "In fact," said Molloy, "it is to Crete we must look for the origin of those weapons that were to dominate Europe until the Middle Ages, namely swords, metal battle-axes, shields, spears and probably armour also."

Molloy found a "staggering" amount of violence in the symbolic grammar and material remains from prehistoric Crete. Weapons and warrior culture were materialised variously

in sanctuaries, graves, domestic units and hoards. It could also be found in portable media intended for use during social interactions, for example, administration, feasting, or personal adornment. "There were few spheres of interaction in Crete that did not have a martial component, right down to the symbols used in their written scripts." said Dr Molloy.

Molloy's research looks at war as a social process -- looking at the infrastructural and psychological support mechanisms that facilitated the undertaking of war and the means through which it was embedded in social logic. This approach, argues Molloy, leads to a deeper understanding of war in the Minoan civilisation: "When we consider war as a normative process that had cross-references and correlates in other social practices, we can begin to see warriors and warriorhood permeating the social fabric of Cretan societies at a systematic level.

"The social and institutional components of war impacted on settlement patterns, landscape exploitation, technological and trade networks, religious practices, art, administration and more, so that war was indirectly a constant factor in shaping the daily lives of people in prehistoric Crete...understanding the social aspects of war 'beyond the battle' is essential if we are to better understand how elites manipulated economics, religion and violence in controlling their worlds. By identifying the material results of warrior lifeways in all of their disparity and disorder, we gain insights into what war meant in ancient Crete."

Please visit the site:

<http://www.sciencedaily.com/releases/2013/01/130115101520.htm>

EDIRNE PALACE RESTORATIONS REVEAL OTTOMAN ERA CULTURE

The Edirne Palace restorations are continuing with new cultural assets due to recent excavations. The excavations reveal Ottoman cuisine culture

The findings were cleaned at the excavation sites in order to take them to inventory. Excavations also continue in the water distribution pools. Water grooves, ceramics have also been found. AA photos

The restoration of Edirne Palace, where Ottoman Sultan Mehmet II planned his conquest of Istanbul and which was set on fire by Governor Cemil Pasha before the Russian occupation in 1878, is continuing, daily Sabah has reported.

Mustafa Özer, the head of Edirne “Yeni Saray” excavations, has announced that items such as kitchen utensils that have been found in recent excavations shed light on the Ottoman cuisine culture, referring to Matbah-ı Amire (palace kitchens).

Özer said the excavations in the area between the Matbah-ı Amire and the Tuna River have been ongoing since 2009.

“We think the kitchen utensils that have been found are mostly associated with the Ottoman palace’s kitchen, the Matbah-ı Amire. A huge spoon from the 15th century drew our attention most,” he said, adding that the restoration, documentation and conservation were still continuing alongside the excavations.

The findings were cleaned at the excavation sites in order to take them to inventory.

Excavations also continue in the “su maksemi” (water distribution pools), which was used during the Ottoman period. Some pieces of marble epigraphs that gave clues as to the year of construction of the palace have recently been found. “Our aim is to complete the other pieces of the epigraph to find out which part it belongs to,” Özer said, adding that their expectation was to complete the excavations by the end of September.

Construction of Edirne Palace

The construction of the Edirne Palace began with the order of Sultan Murad II in 1450 on an island between the two reaches of the River Tuna. When the sultan died, construction was left unfinished for a short period time. It was finished by Mehmet the Conqueror and was given the name Saray-ı Cedid-i Amire. In later years, the palace became a magnificent structure, with many additional sections built during the reigns of the Süleyman I (the Magnificent) and Mehmet IV.

However, the palace which was used as an arsenal in the 1874 Ottoman-Russian War, was blasted with the order of Cemil Pasha, the governor of Edirne before the Russian occupation in 1878, in order to prevent the Russians from taking possession of the arsenal. The palace includes 72 different structures with 117 rooms, 18 Turkish baths, eight small mosques, 17 gates, 13 cellars, and 14 mansions. It was ruined almost

completely during the 1878 Russian occupation. Only remnants of the Adalet Mansion, the Kum Mansion Bath, the Cihannüma Mansion (the office of sultans), the Matbah-ı Amire, and the Bab-üs Saade (gate) have survived until today.

Restoration work began in 2009 in the kitchen of the palace, and in 2011 in the Kum Mansion Bath, used by Hürrem Sultan. The restoration of the latter has been finished but the kitchen's restoration has been postponed due to adverse weather conditions in the region. It is scheduled to be completed by the end of the summer.

Water grooves, ceramics and kitchen tools left behind by the Ottoman army in the Balkan Wars have also been found.

Please visit the site: <http://www.hurriyetdailynews.com/edirne-palace-restorations-reveal-ottoman-era-culture.aspx?pageID=238&nID=51402&NewsCatID=375>

ARCHAEOLOGICAL FINDS REVEAL PREHISTORIC CIVILIZATION ALONG SILK ROAD

Archaeologists have unearthed relics that suggest prehistoric humans lived along the Silk Road long before it was created about 2,000 years ago as a pivotal Eurasian trade network.

An excavation project that started in 2010 on ruins in northwest China's Gansu Province has yielded evidence that people who lived on the west bank of the Heihe River 4,100 to 3,600 years ago were able to grow crops and smelt copper, the researchers said.

The site is believed to date back to the Han Dynasty (202 BC - AD 220).

Over the past three years, archaeologists have discovered a variety of copper items, as well as equipment used to smelt metal, said Chen Guoke, a researcher with the Gansu Provincial Institute of Archaeology.

"People back then mainly dealt with red metal. They also began to make alloys," said Chen, who is in charge of the excavation project.

Chen added that a rare copper-smelting mill was also found in the ruins.

"The mill is the earliest of its kind that has been unearthed. It will be of great help for studies of the history of Chinese craftsmanship," said Zhang Liangren, a professor at Northwest University in Xi'an, capital of Shaanxi Province.

The researchers also discovered carbonized barley and wheat seeds, as well as stone hoes and knives used for farming, said Zhang, adding that some adobe houses were also found this year.

The finds indicate that east-west exchanges started prior to the Han Dynasty, as adobe architecture, barley and wheat originated in central and west Asia, according to Zhang.

A series of previous discoveries during the past decade have also provided evidence of the existence of prehistoric civilization along the Silk Road.

From 2003 to 2005, archaeologists excavated the Xihetan ruins in Gansu's city of Jiuquan.

"We were surprised to find a pen for cattle and sheep preserved in the ruins. The find was unprecedented," said Zhao Congcang, another professor at Northwest University.

Footprints of the livestock and their skeletons were also found at the site.

In 2005, researchers from China and Japan completed a three-year excavation project at the Mozuizi ruins in Gansu's city of Wuwei, finding traces of a primitive tribe that lived about 4,500 years ago.

Starting from the ancient city of Chang'an, now known as Xi'an, the ancient Silk Road extends to the Mediterranean region in the west and the Indian subcontinent in the south. Its total length is over 10,000 km, with 4,000 km located within China.

In January, China, Kazakhstan and Kyrgyzstan jointly submitted an application to the UNESCO for adding the Silk Road to the World Heritage List for 2014.

Please visit the site: http://www.globaltimes.cn/content/799018.shtml#.UfJ_mI0qba5

ANCIENT THEATER SET FOR RETURN IN ASSOS

Visitors to the north Aegean will soon be able to enjoy summer festivals and concerts in an ancient setting, as restoration begins on the ancient theater of Assos, in the province of Çanakkale

The ancient theater of Assos is particularly expected to host concerts and festivals during the summer months. AA photos

Antalya's famous Aspendos Theater may soon have some competition from the north Aegean, as cultural authorities in Çanakkale are beginning work to restore the ancient theater in the town of Assos so that it, too, can host concerts like its more famous Mediterranean cousin.

“After we finish the works, it will be possible to hold events for 4,000 to 5,000 people,” said Çanakkale Onsekiz Mart University (ÇOMÜ) Archeology Department Professor Nurettin Arslan, while suggesting that some of the restorations on the ancient theater would be contingent on receiving better funding.

The ancient theater is particularly expected to host concerts and festivals during the summer months.

Noting that there were many architects, archaeologists and academics that have come to Assos to work on the acropolis, Arslan said they would first work on the hills of the ancient site, which is 238 meters above sea level and which features the remains of the Temple of Athena from the Doric Order. Six of the area's original 38 columns are still present at the site.

Many of the buildings in Assos were produced with andesite, a volcanic rock that is very difficult to process but consequently resistant to wear from the elements. The town itself was originally founded in the sixth century B.C. on the site of a dormant volcano.

Many of the older buildings in Assos are in ruins today, but Behramkale (the city's modern name) is still active, Arslan said.

Research projects

The researcher also said the sarcophagi made in the city were very famous in the ancient world and that they were called “flesh-eating sarcophagi” because bodies placed in them rapidly decomposed.

“Sarcophagi produced in Assos were exported to many regions in Anatolia,” the professor added.

As part of the new excavations, archaeologists also plan to reorganize the tomb doors at the necropolis.

Restoration is of critical importance for Assos in the long term, the professor said, adding that there were many well-protected areas at the entrance to the village that will be the focus of excavations.

It is possible to see much of the surrounding area from the ancient Temple of Athena, built on top of a trachyte crag. From the temple, it is possible on a clear day to see nearby Lesbos in the south, Pergamum in the southeast, and Mount Ida of Phrygia in the east. To the north, one can see the Tuzla River, while to the northwest, visitors can glimpse the gate to the city featuring two massive Hellenic columns that still exist today.

Please visit the site: <http://www.hurriyetdailynews.com/ancient-theater-set-for-return-in-assos.aspx?pageID=238&nID=51391&NewsCatID=375>

GRISLY EGYPTIAN MUMMY MYSTERIES UNRAVELED, BY DAN VERGANO

Mummy myths and modern science battle it out in today's studies of the ancient dead of the Kingdom on the Nile.

Mummies and myths go together, with a touch of ghoulish fascination with ancient tombs for added interest, but modern science is shedding a little light on some of our more musty ideas about ancient Egypt's dead.

Even as modern-day Egypt seethes with political turmoil, scholarship into the mortuary practices of that ancient land is enjoying a renaissance.

"Mummification went on in Egypt for more than 3,000 years, and the practice changed at different times and places," says anthropologist Andrew Wade of Canada's University of Western Ontario. "In the past, we would look at one or two mummies and make conclusions, but now we have a lot more non-destructive technology and medical information we can bring to bear on them."

In an upcoming *Journal of Archaeological Science* analysis, Wade and his colleague Andrew Nelson look at radiological scans of 84 ancient mummies from museums worldwide. Their goal: seeking to prove or disprove some of the hoariest (and creepiest), accounts of ancient mummification. Among those ideas was the notion that embalmers removed the brains of dead rulers through the nose and that the practice was limited to royalty and their loyal followers. Another is that the internal organs of the wealthy were removed from mummies. The study and a series of related reports show all of those ideas, long staples of scary mummy stories good for grossing out schoolkids and adults, look a little more complicated when viewed under the X-ray.

Blame some of the confusion on the ancient Greek historian Herodotus, who first filed his accounts of how embalmers preserved the dead along the Nile around 440 B.C. He recounted a description of mummification practices in his historical accounts of a visit to Thebes in Egypt, of which he wrote, "There is no country that possesses so many wonders, nor any that has such a number of works which defy description." Still, he tried, describing brain and abdominal surgeries to remove organs as part of mummification for the wealthy. A cheap chemical dissolution of the innards was reserved for the poor, who were buried without being wrapped in the linen used to make a classic mummy.

"Instead, it appears by King Tut's time that almost anyone can afford being mummified," Wade says, based on the ages of the mummies in the study. That pharaoh, Tutankhamen, died around 1323 B.C., long before Herodotus. "After that time we see a mortuary arms race, where practices once reserved for the elite spread to commoners."

So, sometimes things went as Herodotus described for Egypt's rulers. Consider a priest named Nesperennub, investigated by the British Museum using high-tech computed tomography scans. The scan found his brain neatly removed through his nose and his

organs, such as his lungs, stored in nearby jars. (Of course a pot was apparently glued to the back of his head by accident.)

But other times, mummification didn't always follow that script. Sometimes lungs or other organs were left inside mummies. Wade finds evidence that mummies only sometimes had their brains removed. And sometimes that removal came through a hole where the spine meets the skull, not the left nostril. Embalmers sometimes filled the emptied skull with resin, where the study notes, "the golden color of the liquid resin may have had strong connections to the sun and divinity."

It was an extra, a frill sometimes added to mummification, apparently. The brain wasn't a particularly well-regarded organ at the time among the Egyptians. Other morticians instead packed the noggin with linens, as much as 60 yards worth of stuffing for one skull, showing practices varied widely among mummification shops.

The study also doesn't find any evidence for what Herodotus described as the cheapest mummification technique, using cedar oil to dissolve the insides of mummies. The stuff was likely too expensive for such use. Instead, it appears that turpentine was used to embalm sacred animals in Thebes, where cults that worshiped bulls might mummify a sacred animal perhaps twice every generation. That would explain "archaeological finds of large enema rigs unattested to for humans," as the study says. Herodotus likely confused the animal-preservation method with one for people.

One elite practice that seemingly didn't spread to commoners involved the heart. The heart was the central organ, the seat of consciousness and morality, in the mythology of the ancient Egyptians, Wade says, so its treatment was particularly important. "The whole point was to have an enjoyable afterlife, and you would definitely want your heart for that," Wade says, if you were mummified.

But, the analysis shows "an overwhelming absence of the heart in eviscerated Egyptian mummies," suggesting that its retention may have remained a secret privilege of the elite. A rule from an ancient Egyptian "Book of the Dead," for example, warns embalmers against spilling secrets of this nature. "The commoners having their hearts removed may simply have not known that they were to be spiritually hobbled to ensure for the elite a favored position" in the afterlife, says the study. Scarab jewelry was instead commonly packed over the heart for most mummies.

Mummies offer insights into modern maladies, not just ancient days, serving as labs for comparison of how people lived in pre-industrial times. A March study of mummies in *The Lancet* showed that hardening of the arteries is an ancient disease, not just an ailment of today's less labor-intensive lifestyle. A 2010 study of King Tut found the famed boy king was likely felled by a broken leg and malaria, showing the antiquity of the still-deadly disease.

"Herodotus got some things right and some things wrong, but we are lucky we have his accounts at all," Wade says. "The mummification craft was kept within families controlled by guilds that kept hold of secrets, so we should appreciate any insight from those times that we can find."

Please visit the site:

<http://www.usatoday.com/story/tech/columnist/vergano/2013/07/20/mummy-egypt-study/2551135/>

EVIDENCE OF PRE-POTTERY NEOLITHIC IN SAUDI ARABIA

Pre-Pottery Neolithic assemblages are best known from the fertile areas of the Mediterranean Levant with most research focussed on the internal cultural dynamics of the ‘core area’ of what is known as the Fertile Crescent.

The development of the Neolithic in Southwest Asia has long been seen as a pivotal phase in human evolution and history; a cultural and economic ‘revolution’, which fundamentally transformed the relationship between humans and their environments, paving the way for population explosion, a shift towards sedentary settlement and a profound change in technology.

However there has been (for a variety of reasons) less research devoted towards understanding the interactions between the core and peripheral regions.

One such site is located at Jebel Qattar 101 (JQ-101), at Jubba in the southern part of the Nefud Desert of northern Saudi Arabia and contains a large collection of stone tools, adjacent to an Early Holocene palaeolake.

Jebel Qattar lies around 500 kilometres beyond the previously identified geographic range of Pre-Pottery Neolithic cultures.

A close match to other technologies

The stone tool assemblage contains lithic types, including El-Khiam and Helwan projectile points, which are similar to those recorded in Pre-Pottery Neolithic A and Pre-Pottery Neolithic B assemblages in the Fertile Crescent.

The Pre-Pottery Neolithic A (PPNA) dates to c. 10,300-9,600 BP with the Pre-Pottery Neolithic B (PPNB) at c. 9,600-8,600 BP.

The PPNA ranges over the Levant and the upper Mesopotamian region of the Fertile Crescent (often viewed as a “core area”), while the PPNB complex sites are located from central Anatolia to the Sinai (North-South) and from Cyprus to the Jazira (West-East).

Technological analysis of the typologically diagnostic Jebel Qattar 101 projectile points indicates a unique strategy to manufacture the final forms, thereby raising the possibility of either direct migration of Levantine groups or the assimilation of the cultural typology within mobile communities in Arabia.

The discovery of the Early Holocene site of Jebel Qattar suggests that the view of the geographic distribution and character of Pre-Pottery Neolithic cultures may be in need of revision.

The absence of direct radiometric dating of surface artefacts from JQ-101 is tempered by the indisputably Levantine projectile point types and absolute dates on the neighbouring palaeolake (JQ-200).

The sedimentary sequence at JQ-200 demonstrates that a water body existed during the Early Holocene beneath the slopes of Jebel Qattar with an OSL age of 11.7 ± 0.9 ka (9.7 ± 0.9 ka BC)

The presence of these distinctive Levantine style points is a geographical extension to the south, the first time that they have been identified in the Nefud Desert of Saudi Arabia.

The recent identification of JQ-101 shows the great potential and high reward of further Neolithic research in Saudi Arabia, especially in the desert areas between the southern border of Jordan and the Jubbah basin. JQ-101 contributes to the growing number of new discoveries in Arabia, highlighting the significance of the archaeological and environmental records of the region. A key point to emerge here is the need to broaden Neolithic research beyond the borders of the Fertile Crescent.

Source: PlosOne

More Information

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<http://www.pasthorizonspr.com/index.php/archives/07/2013/beyond-the-levant-evidence-of-a-pre-pottery-neolithic-in-saudi-arabia> [Go there for images]

HAVE ARCHAEOLOGISTS FOUND PROPHET ELISHA'S HOUSE? BY CHRIS MITCHELL AND JULIE STAHL

After 16 years of excavating Tel Rehov in the Jordan Valley, archaeologists uncovered a 3,000-year-old, well-planned city. They also found a unique building that might have been the house of Elisha the prophet.

"The house was full of objects of unique types... two pottery altars that were used for burning incense," archaeologist Ami Mazar told CBN News.

"We found there figurines, clay figurines. We found large vessels -- like big vessels that were probably used for serving food, not for just the nuclear family, but maybe for a larger community," he said.

Mazar also pointed out the unique structure of the house.

"Normally the houses had one entrance leading to a large space with rooms all around," he explained. "This house was divided into two wings. The two wings were connected to one another through the backroom and each one of the wings had an opening to the street."

Outside the backroom were incense altars that may have been used to make an offering to God before entering the house to hear the prophet's message.

During the excavations, archaeologists discovered a special room inside the house with a table and a bench. They also discovered a pottery shard with the name Elisha on it, dated to the 9th century.

The discovery has led some to believe this was the room of the prophet Elisha.

"We found an ink inscription written in red ink on pottery, but it is broken unfortunately," Mazar said. "But we reconstructed the name as Elisha."

The prophet Elisha was born about seven miles from Tel Rehov in Avel Mehola and went throughout the kingdom of Israel, from Jericho to Samaria to Shunam.

"You know I cannot say for sure this particular Elisha that we found is the biblical Elisha," Mazar said. "You know it's very difficult to say, but it is very tempting because it is exactly the period when Elisha acted -- the second half of the 9th century BC."

Archaeologist Stephen Pfann calls the evidence compelling.

"With only six other people by the name of Elisha known in that time for a couple of centuries on either side, we can somehow believe that either there was just the luck that this holy man was also by the name of Elisha, or this was Elisha the prophet himself," Pfann told CBN News.

Another discovery pointing to the prophet Elisha are two different inscriptions mentioning the family of Nimshi.

"We remember that it was Elijah who was told to anoint Jehu, the son of Nimshi, to be the king," Pfann explained. "And he passed that on to Elisha who sent out one of his disciples to finally do the anointing."

Another inscription with the same name Nimshi was found about five miles away.

"So I came to this idea that perhaps the entire valley of Beit Shean, this beautiful fertile valley (with) food, springs, water, (and) good land was perhaps under rule, perhaps, or property of this family," Ami said.

This family may also have had an unusual business: bee-keeping.

"Perhaps they were the owners of the apiary because one of (the) Nimshi inscriptions was found inside the apiary just between the hives," Pfann said.

Several years ago, archaeologists uncovered a strange installation.

"We saw that we have here a row of cylindrical, of clay cylinders. Each one of them is about 2-1/2 feet long and about 1 foot in diameter," Pfann continued. "We realized these must be bee hives."

This type of bee came from Turkey not Israel, indicating ancient trade relations between regions. They are the most ancient species of bees ever found in the world.

Many archaeologists shy away from drawing conclusions about the Bible, but some see it as a way of putting the pieces together.

"Archaeology is like a huge puzzle, you know, we add information from one excavation, a second excavation, a third excavation -- Meggido, Tel Rehov, Beit Shean...and together we bring it into a large picture, the large puzzle trying to decipher the material culture of the Israelites," Mazar explained.

For Cary Summers, who heads Nazareth Village, it's even more special.

"Well, it's like any other archeological site, in essence...every scoop of dirt it proves the Bible, one scoop at a time. And this site is absolutely magnificent dealing with the prophet Elisha," Summers told CBN News.

In this day and age, he said, it's even more important.

"There is always the skeptic who says, 'Show me the proof' and 'When you have the proof.' Basically, (we have) the tile that (was) found here with the name (and) also just the excavation itself," Summers continued.

"It's one more proof for what we call the doubting world," he said.

"For God to allow this to be unearthed at this time, I think it is again another indication that we are to aggressively go forward with this kind of data, this kind of research, this kind of archaeological dig," Summers said.

The future of the site is uncertain because its mud bricks are deteriorating. Researchers hope, however, it can be preserved to help future generations understand the Bible.

Please visit the site: <http://www.cbn.com/cbnnews/insideisrael/2013/July/Have-Archaeologists-Found-Prophet-Elishas-House/>

MUMMY TEETH TELL OF ANCIENT EGYPT'S DROUGHT, BY BECKY OSKIN

The link between drought and the rise and fall of Egypt's ancient cultures, including the pyramid builders, has long fascinated scientists and historians. Now, they're looking into an unexpected source to find connections: mummy teeth.

A chemical analysis of teeth enamel from Egyptian mummies reveals the Nile Valley grew increasingly arid from 5,500 to 1,500 B.C., the period including the growth and flourishing of ancient Egyptian civilization.

"Egyptian civilization was remarkable in its long-term stability despite a strong environmental pressure — increasing aridity — that most likely put constraints on the development of resources linked to agriculture and cattle breeding," said senior study author Christophe Lecuyer, a geochemist at the University of Lyon in France.

Many studies have linked dramatic droughts to crises near the end of the Old Kingdom (the Age of the Pyramids) in the third millennium B.C.

But Lecuyer and his colleagues also found a jump in aridity before the downfall of Egypt in the 6th century B.C. during the Late Period, when it was conquered by Alexander the Great.

However, the new study can't resolve the occasional drops in annual Nile River floods or short-term droughts that often caused widespread famine and upsets in Egyptian history.

"Our database cannot identify short-term events, only long-term trends, and there is [only] one obvious major event of increasing aridity that took place before the Late Period," Lecuyer said.

The climate data comes from the teeth of Egyptian mummies from various dynasties at the Musée des Confluences de Lyon in France. Led by graduate student Alexandra Touzeau, the researchers drilled small amounts of enamel off some of the teeth and tested it for oxygen and strontium isotopes.

The mummy's teeth record the ratio of two oxygen isotopes (oxygen atoms with different numbers of neutrons) in their diet and their drinking water, which in this case is Nile River water, Lecuyer said.

Shifts in the ratio of the isotopes indicate changing precipitation patterns in the region.

The isotopes can also indicate what people were eating, and the research team plans to publish additional studies of Egyptian diets through time, Lecuyer said. "The general drying trend had no negative impact on the Egyptian civilization in terms of cereal production or population," he said. "One of the studies we plan to publish soon reveals there was no diet change over this long period of about four millennia."

The Nile Valley wasn't the only part of North Africa to experience drying after 5,500 B.C. The Sahara Desert was once covered in lakes and grasslands, but switched to a drier regime between about 7,000 to 5,000 years ago, studies have shown.

The mummy teeth findings were published June 2 in the journal Earth and Planetary Science Letters.

Please visit the site: <http://www.livescience.com/38153-egyptian-mummy-teeth-nile-climate.html>

CINTEC RESTORES EGYPT’S OLDEST PYRAMID WITH WATER-FILLED BAGS, BY TAFLINE LAYLIN

Egyptian Pharaohs from the 3rd dynasty were thought to be semi-divine and their majesty considered worth preserving well into the after life – hence the elaborate pyramids constructed in their honor. Using self-inflating water-filled bags for stability, Cintec recently restored the oldest pyramid from that era built for Pharaoh Djoser.

The “Step Pyramid” in Saqqara was built by the well-respected scribe and vizier Imhotep roughly 2700 years before Jesus was born. It consists of six mastabas or flat-topped tombs that rise in a descending step fashion to reach its peak at 200 feet.

The entire structure was clad in polished white limestone, according to WAN, and a sprawling, six kilometer long network of tunnels runs beneath the 109m x 125m base.

Originally excavated by French architect Jean-Phillipe Lauer, the pyramid was damaged in 1992. The burial chamber, which had been completely robbed of its contents by the time Lauer discovered it, partially collapsed, rendering the central chamber structurally unstable as well.

Cintec, a Welsh engineering firm, used their Waterwall technology to restore the pyramid. In part, they wedged self-inflating water-filled bags in between vulnerable spaces to prevent their collapse, while stainless steel structural reinforcement anchors strengthened the central chamber.

The High Council of Egyptian Antiquities commissioned the project awarded to Cintec in 2011. At the time, the company’s managing director Peter James spoke about their goals.

“The Step Pyramid project is of particular importance to us as the entire structure could be destroyed at any point due to the damage on the ceiling and roof caused by the earthquake,” he said.

“We aim to work as efficiently as possible on this project without comprising the design or strength of the structure.”

They were successful, and National Geographic filmed the process. A hero of history, the project also offers a reminder of Egypt’s extraordinary past and some small hope for a better future.

Please visit the site: <http://www.greenprophet.com/2013/07/cintec-restores-egypts-oldest-pyramid-with-water-filled-bags/>

MONOGAMY MAY HAVE EVOLVED TO PREVENT INFANTICIDE, BY ANDREW WINNING

Hands off our baby! A study suggests that monogamy evolved because it protects babies from being killed by male rivals.

“Sometimes I wonder if men and women really suit each other,” Katharine Hepburn once said. “Perhaps they should live next door and just visit now and then.” Despite the famed actress’s remarks, human males and females do have a strong tendency to live together in monogamous pairs, albeit for highly varied periods of time and degrees of fidelity. Just how such behavior arose has been the topic of much debate among researchers. A new study comes to a startling conclusion:

Among primates, including perhaps humans, monogamy evolved because it protected infants from being killed by rival males.

Living in pairs, what researchers call social monogamy, has repeatedly evolved among animals, although in widely varying proportions among different groups. Thus, about 90% of bird species are socially monogamous, probably because incubating eggs and feeding hatchlings is a full-time job that requires both parents. But in mammals, females carry the babies inside their bodies and are solely responsible for providing milk to young infants—and only about 5% of species are socially monogamous. That leaves most mammalian males free to run around and impregnate other females. Primates, however, seem to be a special case: About 27% of primate species are socially monogamous; and recent studies by Christopher Opie, an anthropologist at University College London, and his colleagues have concluded that social monogamy arose relatively late in primate evolution, only about 16 million years ago. (The earliest primates date back to about 55 million years.)

But why did social monogamy arise at all among mammals, including primates, given the many reproductive advantages to males having access to as many females as possible? Scientists have proposed three major hypotheses: Monogamy provides more effective parental care for infants, as in birds; it prevents females from mating with rival males, especially in species where females are widely spaced and cannot all be easily monopolized by one male; or it protects against the risk of infanticide, which is very high among some primate species, including chimpanzees and gorillas, and is often explained by the desire of a rival male to quickly return a mother to a fertile state so that he can sire his own offspring. Some researchers think that a combination of all three factors, and perhaps still others, provide the best explanation for monogamy.

Resolving this debate is important, researchers say, especially for understanding the evolution of human mating behavior. Although humans aren’t completely monogamous, “the emergence of pair-bonding in humans was a major evolutionary transition, which dramatically altered the evolutionary trajectory of our species,” says Sergey Gavrilets, an evolutionary biologist at the University of Tennessee, Knoxville. Many researchers think that we could not have evolved our large brains without joint parental care during the extended period of helplessness required for infant brains to grow to their full size.

“Understanding the forces that drove that transition can help us better understand the causes of human uniqueness,” Gavrilets adds.

Opie and his colleagues set about testing the three leading hypotheses in primates using a powerful method called Bayesian statistics. The team used previously published genetic and behavioral data from 230 primate species, representing nearly all known species such as Old and New World monkeys, lemurs, and apes, employing strict criteria to ensure that the data were reliable. For example, the team concluded that a particular species engaged in infanticide only if at least 20 publications reported the killing of infants through direct observation or as the only possible explanation. The Bayesian approach allowed the researchers to map information about primate behavior onto an evolutionary tree of the entire animal group, and thus analyze the order in which traits such as social monogamy, infanticide, and other behaviors arose over time.

As the team reports online today in the Proceedings of the National Academy of Sciences, there was a strong correlation in time between all three hypotheses—parental care, female range, and infanticide by males—and the rise of social monogamy in the roughly 60 primate species that live in pairs. However, among the three explanations, only infanticide actually preceded social monogamy in time and thus could be a driving evolutionary force, the team concludes; the other two behaviors occurred afterward and were the consequences of social monogamy and not the causes. “Our analyses clearly show that infanticide is the trigger for monogamy in primates,” and likely was the trigger in humans, too, Opie says.

Why is the incidence of social monogamy in primates, 27%, so much higher than the 5% in mammals as a whole? Opie and his colleagues, who include University of Oxford psychologist Robin Dunbar—a proponent of the idea that the complex social groups typical of primates led to bigger brains—have an answer. Because the infants of primates with large brains, especially apes and humans, are helpless for longer periods of time than other mammals, they are much more vulnerable to infanticide, and thus need more protection.

Nevertheless, the reaction to the study has been mixed. “I found the paper quite convincing,” says Carel van Schaik, a primatologist at the University of Zurich in Switzerland who had earlier argued for the infanticide hypothesis. “The results are very solid” for all primates.

But van Schaik says that he “would be very careful to conclude from this paper that infanticide risk was also the main factor underlying human monogamy,” in part because humans are not fully monogamous, as shown by studies of cultures around the world. “The current monogamy is socially imposed.”

Phyllis Lee, a psychologist at the University of Stirling in the United Kingdom, agrees. “At best we engage in forms of serial monogamy,” she says, pointing out that more than 60% of “traditional societies” allow men to have more than one wife. Lee adds that infanticide is a feature of many primate species that are not monogamous, “so monogamy is not the only evolutionary solution to infanticide.”

Indeed, a paper to be published this week in Science looks at monogamy across all mammals and comes to a very different conclusion.

Zoologists Tim Clutton-Brock and Dieter Lukas of the University of Cambridge in the United Kingdom analyzed monogamy among 2545 nonhuman mammal species. In contrast to Opie’s conclusion in primates, they find in this larger sample that social monogamy arose among species where females were widely spaced and males could not monopolize several of them at once; infanticide did not seem to be a driver for monogamy among all mammals. Opie counters that wide spacing among females doesn’t apply to highly social, group-living primates, so that humans, and perhaps all primates, may be unusual among mammals. If so, he says, looking at mammals across the board might mask the special features of primate evolution.

All the same, Petr Komers, an ecologist at the University of Calgary in Canada and leading proponent of the female range hypothesis for social monogamy, says he finds the authors’ conclusions that infanticide was “the only possible driver to monogamy a bit surprising.” Komers’s own studies, like Clutton-Brock’s, found that among mammals, the highest correlation was between social monogamy and species whose females stayed put in limited ranges. “Monogamy does evolve in species where infanticide is unlikely,” Komers notes, such as in ungulates, or hoofed mammals. Thus no one factor is the “silver bullet” driving monogamy, Komers says, and researchers should be looking for an interplay of multiple explanations.

Please visit the site: <http://news.sciencemag.org/brain-behavior/2013/07/monogamy-may-have-evolved-prevent-infanticide>
