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Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

- Απρίλιος 2016 -

Οι έξυπνοι άνθρωποι γνωρίζουν ότι ένας είναι ο κόσμος,
κοινός για όλους, ενώ οι ηλίθιοι ζουν ο καθένας στον
κόσμο του. *(Ηράκλειτος)*

Newsletter of the Hellenic Society of Archaeometry

- April 2016 -

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ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS

22^Ο ΠΑΝΕΛΛΗΝΙΟ ΣΥΝΕΔΡΙΟ ΧΗΜΕΙΑΣ, «ΧΗΜΕΙΑ: ΕΡΕΥΝΑ ΚΑΙ ΕΚΠΑΙΔΕΥΣΗ ΜΕ ΣΤΟΧΟ ΤΗ ΒΙΩΣΙΜΗ ΑΝΑΠΤΥΞΗ», 2-4 ΔΕΚΕΜΒΡΙΟΥ 2016, ΘΕΣΣΑΛΟΝΙΚΗ

Διοργάνωση: Ένωση Ελλήνων Χημικών, Σύνδεσμος Χημικών Βορείου Ελλάδος, Τμήμα Χημείας ΑΠΘ

Στόχος του συνεδρίου είναι η συμμετοχή υψηλού επιπέδου ερευνητών, που δραστηριοποιούνται σε όλους τους τομείς της Επιστήμης της Χημείας. Παρά τις αισιόδοξες προβλέψεις για έξοδο από την κρίση, αυτή συνεχίζει να αποτελεί υπαρκτό πρόβλημα στην Ελλάδα του 2016, με ορατές συνέπειες στην έρευνα και την εκπαίδευση. Οι σύγχρονες τάσεις στην ερευνητική δραστηριότητα όλων των μελών της επιστημονικής κοινότητας συγκλίνουν στη βιώσιμη ανάπτυξη που αποτελεί το κύριο ζητούμενο του 21^{ου} αιώνα, σύμφωνα με τις ανάγκες της παρούσας γενιάς, αλλά και εξασφαλίζοντας τις ευκαιρίες ικανοποίησης των αναγκών των επόμενων γενεών. Παρά τις αντίξοες συνθήκες τα μέλη της επιστημονικής κοινότητας σε όλη τη χώρα συνεχίζουν το έργο τους συμβάλλοντας με καινοτόμες δραστηριότητες στην κατεύθυνση της οικονομικής και κοινωνικής ανάπτυξης.

Βασική Θεματολογία του Συνεδρίου

- 1) Αναλυτική Χημεία- Έλεγχος Ποιότητας
- 2) Ανόργανη και Βιοανόργανη Χημεία
- 3) Αρχαιομετρία
- 4) Βιοχημεία-Βιοτεχνολογία-Μοριακή βιολογία
- 5) Κλινική Χημεία- Τοξικολογία
- 6) Οργανική Χημεία-Χημεία Φυσικών προϊόντων-Φαρμακευτική Χημεία
- 7) Πράσινη Χημεία
- 8) Φυσική και Θεωρητική Χημεία
- 9) Χημεία και Νανοτεχνολογία
- 10) Χημεία και Τεχνολογία Περιβάλλοντος
- 11) Χημεία και Τεχνολογία Πολυμερών
- 12) Χημεία και Τεχνολογία Τροφίμων
- 13) Χημεία και Τεχνολογία Υλικών
- 14) Χημική Τεχνολογία και Χημική Μηχανική
- 15) Σεμινάριο Διδακτικής στη Χημεία

**22ND NATIONAL CONFERENCE OF CHEMISTRY, “CHEMISTRY:
RESEARCH AND EDUCATION IN VIEW OF SUSTAINABLE
DEVELOPMENT”, 2-4 DECEMBER, 2016, THESSALONIKI, GREECE**

The 22nd National conference of chemistry is organized by the Association of Greek Chemists under the auspices of Chemistry Department of Aristotle University of Thessaloniki and aims to the participation of experts, who are active in all areas of Chemistry. Despite the optimistic forecasts for ending of financial crisis, it still is a

severe problem in Greece, with visible consequences in research and education. Against all odds, the members of the scientific community across the country continue their work contributing to innovative activities in the direction of economic and social development. Current trends in research activity of all of the scientific community converge on sustainable development, which is the main challenge of the 21st century, according to the needs of the present and future generations.

The topics that are to be covered include:

1. Analytical Chemistry-Quality Control
2. Inorganic and bioinorganic chemistry
3. Archaeometry
4. Biochemistry-biotechnology-molecular biology
5. Clinical chemistry-toxicology
6. Organic chemistry-chemistry of natural products-Medicinal chemistry
7. Green chemistry
8. Physical chemistry
9. Nanotechnology
10. Environmental Chemistry and technology
11. Polymer Chemistry and technology
12. Food Chemistry and technology
13. Materials: Chemistry and technology
14. Chemical technology and engineering
15. Educational chemistry

Please visit the site: <http://22psx2016.blogspot.gr/>

LSC 2017 - INTERNATIONAL CONFERENCE **ON LIQUID SCINTILLATION** **SPECTROMETRY - ADVANCES IN LIQUID** **SCINTILLATION SPECTROMETRY, 1-5 MAY,** **2017, COPENHAGEN, DENMARK**

Organized by: Center for Nuclear Technologies, Technical University of Denmark (DTU Nutech)

The Conference

LSC2017, an international conference on Advances in Liquid Scintillation Spectrometry is the next of a series of conferences on Liquid Scintillation Counting (LSC). The LSC series conferences started in 1957 in Chicago (USA), and have in more recent years taken place at Karlsruhe (Germany) 2001, Katowice (Poland) 2005, Davos (Switzerland) 2008, Paris (France) 2010, and Barcelona (Spain) 2013. The LSC2017 is the 23rd edition of the LSC conferences; it will continue this series of conferences to provide a forum for discussing the latest developments in the instrumentation and methodology as well as applications of LSC in all aspects. Specialists and users of LSC are encouraged to attend and contribute with their experience.

Conference Venue

The LSC2017 conference will take place at CPH conference center in the very heart of Copenhagen, which is very easy to reach by railway and flight with about 0.3 km to the Copenhagen central station and about 10 km to the Copenhagen airport.

Main Topics

The LSC2017 conference covers all aspects of LSC, the main topics are:

- New developments on LSC instrumentation, methodology and scintillators
- Radionuclide metrology using LSC
- Calibration, standardization, and quality assurance
- Data evaluation and spectrum analysis
- Applications in environmental radioactivity
- LSC in nuclear chemistry (decommissioning, waste processing, nuclear materials)
- Applications in bioscience, medicine, and drug studies
- Applications in natural radionuclides measurement, chronology and geology
- LSC in neutrino and neutron detection
- Plastic scintillators and application
- Applications based on alpha/beta spectrometry

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“CITIES, TERRITORIES AND IDENTITIES” –
1ST INTERNATIONAL CONFERENCE
“ROMAN AND LATE ANTIQUE THRACE”
(RALATH), 2017, PLOVDIV, BULGARIA

Dear colleagues,

The National Archaeological Institute with Museum at the Bulgarian Academy of Sciences, in partnership with the Ephorate of Antiquities of Rhodope (Greece) and Istanbul University, has the pleasure of inviting you to an international conference specially dedicated to Roman and Late Antique Thrace (RaLATH). The event will be appropriately hosted in the very heart of the region – Plovdiv, the descendant of ancient Philippopolis.

The conference theme focuses on the cities of Thrace, their territories and the expressions of local identity in Roman and Late Antique times.

We aim to bring together archaeologists, historians, numismatists, epigraphists, art historians, and scholars from any related fields, for an interdisciplinary approach to the study of the region. Contributors are invited to discuss all aspects of urban life in Roman and Late Antique Thrace. Relevant areas of research include, but are not limited to: settlement patterns, civic space planning, architecture, city economy, religion, festivals. Selected Proceedings of the conference will be published before the next edition of the event in autumn 2017.

More information at: <http://naim.bg/en/content/news/600/857/629/>

Regards,

Dr. Lyudmil Vagalinski
www.archaeologia-bulgarica.com
www.naim.bg

16^H ΗΜΕΡΙΔΑ ΠΕΡΙΒΑΛΛΟΝΤΙΚΗΣ
ΑΡΧΑΙΟΛΟΓΙΑΣ - 16TH WORKSHOP OF
ENVIRONMENTAL ARCHAEOLOGY,
«ΦΥΣΙΚΟ ΚΑΙ ΑΝΘΡΩΠΟΓΕΝΕΣ ΤΟΠΙΟ:
ΜΙΑ ΑΕΝΑΗ ΣΧΕΣΗ» - «NATURAL AND
ANTHROPOGENIC LANDSCAPE: AN
ETERNAL RELATION», 1 ΑΠΡΙΛΙΟΥ 2016,
ΙΛΙΟΥ ΜΕΛΑΘΡΟΝ - ΝΟΜΙΣΜΑΤΙΚΟ
ΜΟΥΣΕΙΟ - ΒΙΒΛΙΟΘΗΚΗ ΣΛΗΜΑΝ 2^{ΟΣ}
ΟΡΟΦΟΣ

Ωρα: 09:00π.μ. - 15:00μ.μ.

Διεύθυνση: Νομισματικό Μουσείο-Ιλίου Μέλαθρον, Ελ. Βενιζέλου (Πανεπιστημίου) 12,
10671 Αθήνα- Τηλέφωνα: 210-3632057, 210-3612834 και 210-36128723

‘Φυσικό και ανθρωπογενές τοπίο: Μια αέναη σχέση’

Το τοπίο του παρελθόντος, χώρος δράσης και δημιουργίας του ανθρώπου μπορεί να αναγνωστεί με την σωστή διεπιστημονική μεθοδολογική προσέγγιση, προσφέροντας πολύτιμες πληροφορίες για την κάθε αρχαιολογική θέση. Μέσα από τις ανακοινώσεις αρχαιολόγων, γεωλόγων, ιστορικών της τέχνης, μουσειολόγων και άλλων ειδικών, αποκαλύπτονται κρυφές πτυχές του αρχαίου περιβάλλοντος.

Η Ημερίδα αποβλέπει στην επίτευξη των ακόλουθων στόχων:

I. ΝΑ ΚΑΤΑΔΕΙΞΕΙ

- Τον πλούτο των πληροφοριών αρχαιολογικής και περιβαλλοντικής φύσεως που είναι δυνατόν να αντληθούν από την μελέτη και την αξιοποίηση κάθε ανασκαφικού και αρχαιοπεριβαλλοντικού στοιχείου και ευρήματος.
- Την δυνατότητα προσεγγίσεως και κατανοήσεως του περιβάλλοντος και του τοπίου προηγούμενων εποχών μέσω της διεπιστημονικής προσέγγισης.
- Την χρησιμοποίηση κοινής ορολογίας μεταξύ συγγενών επιστημονικών κλάδων τόσο στην ελληνική όσο και στην αγγλική γλώσσα.
- Την σημασία της διεθνούς συνεργασίας.

II. ΝΑ ΔΩΣΕΙ ΤΗΝ ΕΥΚΑΙΡΙΑ περαιτέρω γνωριμίας και συνεργασίας μεταξύ φοιτητών, καταξιωμένων επιστημόνων, ομάδων και φορέων που δραστηριοποιούνται σε τομείς σχετικούς με το αντικείμενο της Περιβαλλοντικής Αρχαιολογίας στην Ελλάδα και στο εξωτερικό.

Η ημερίδα γίνεται στο πλαίσιο της συνεργασίας της Ομάδας Περιβαλλοντικής Αρχαιολογίας του ΕΚΡΑ και του Νομισματικού Μουσείου.

Την ημερίδα μπορούν να παρακολουθήσουν όλοι όσοι έχουν ανάλογο επιστημονικό ενδιαφέρον αφού δηλώσουν συμμετοχή ηλεκτρονικά στο e-mail: anastasia.schoina91@gmail.com

Οι θέσεις είναι περιορισμένες, θα τηρηθεί σειρά προτεραιότητας.

Σε όσους ενδιαφέρονται παρέχεται βεβαίωση συμμετοχής-παρακολούθησης.

AACD 2016, INTERNATIONAL
CONFERENCE: 10TH AEGEAN ANALYTICAL
CHEMISTRY DAYS, 29 SEPT-2 OCT,
ÇANAKKALE, TURKEY

Invitation to Conference

The Organizing Committee is honored to announce the 10th AEGEAN ANALYTICAL CHEMISTRY DAYS (AACD2016) International Conference. The first AACD conference was organized in 1998 by Prof. Dr. Gürel NİŞLİ in İzmir, Turkey. The main purpose of the AACD conferences has always been to bring together analytical chemists from the countries surrounding the Aegean Sea. In this respect, it is customary for this biennial event to be geographically placed around the Aegean Sea with conferences being held alternately in Turkey and our neighbor country Greece. Nevertheless, AACD conferences have always been widely attended by analytical chemists from other countries and therefore have now become an international event. It is our great pleasure to inform you that the AACD2016 will take place in the city of Çanakkale, Turkey, organized jointly by Çanakkale Onsekiz Mart University and Istanbul University, during the period 29th September – 2nd October, 2016, on our Terzioğlu Campus. Çanakkale is a beautiful town in Turkey with various historical and natural locations of interest. The Organizing Committee is pleased to invite you to participate in AACD2016. The deadline for abstract submission is June 30, 2016.

Looking forward to seeing you in Çanakkale in September 2016, with our best wishes.

Yusuf Dilgin, Co - chair, Çanakkale Onsekiz Mart University

Ayşem Arda, Co - chair, Istanbul University

Please visit the site: <http://aacd2016.comu.edu.tr/>

2^ο ΣΥΝΕΔΡΙΟ CAA - GR, ΕΘΝΙΚΟ ΚΑΙ ΚΑΠΟΔΙΣΤΡΙΑΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ, 19-21 ΔΕΚΕΜΒΡΙΟΥ 2016

Τεχνικές επισκόπησης και καταγραφής δεδομένων στο πεδίο και το εργαστήριο - Μοντελοποίηση, διαχείριση και ενοποίηση δεδομένων - Διασύνδεση δεδομένων και σημασιολογικός ιστός - Ανάλυση και οπτικοποίηση δεδομένων - Τρισδιάστατες ψηφιακές αναπαραστάσεις, εικονική πραγματικότητα και προσομοίωση - Εφαρμογές γεωπληροφορικής, αεροφωτογράφιση και τηλεσκοπική ανίχνευση - Εφαρμογές Γεωγραφικών Συστημάτων Πληροφοριών και Ιστορική έρευνα - Μακροπρόθεσμη διατήρηση και επανάχρηση ψηφιακών δεδομένων - Χρήστες και περιβάλλοντα εργασίας: εκπαιδευτικά προγράμματα, μουσεία και πολυμεσικές εφαρμογές - Θεωρητικοί προβληματισμοί σχετικά με τις εφαρμογές Πληροφορικής στην Αρχαιολογία και τις Ανθρωπιστικές επιστήμες - Ψηφιακές ανθρωπιστικές σπουδές και μέσα κοινωνικής δικτύωσης - Ψηφιακές πόλεις, διαχείριση, προστασία και προβολή της πολιτιστικής κληρονομιάς - Πληθοπορισμός και ανθρωπιστική έρευνα, κ.ά ...

Η οργανωτική επιτροπή,

Πλάτων Πετρίδης, Αναπλ. καθηγητής, Εθνικό & Καποδιστριακό Πανεπιστήμιο Αθηνών
Γιάννης Παπαδάτος, Επίκ. καθηγητής, Εθνικό & Καποδιστριακό Πανεπιστήμιο Αθηνών
Γιώργος Βαβουρανάκης, Επίκ. καθηγητής, Εθνικό & Καποδιστριακό Πανεπιστήμιο Αθηνών
Μάρλεν Μούλιου, Λέκτορας, Εθνικό & Καποδιστριακό Πανεπιστήμιο Αθηνών
Μάρκος Κατσιάνης, Δρ Αρχαιολογίας, Μέλος του CAA-GR

Please visit the sites: www.caa-gr.org, www.arch.uoa.gr

EIGHTH WORLD ARCHAEOLOGICAL CONGRESS, KYOTO, JAPAN, 28TH OF AUGUST - 2ND OF SEPTEMBER 2016

On behalf of the Organising Committee of the Eighth World Archaeological Congress it is a great pleasure to invite colleagues from across the globe to come to Kyoto, Japan from the 28th of August to the 2nd of September 2016.

This is the first time that the main conference of WAC has been held in East Asia and we look forward to making it a truly successful and memorable congress. Doshisha University's spacious campus at the centre of Kyoto, the capital for over a millennium until 1869 will be the main venue for WAC-8. We think Kyoto is one of the most appropriate cities to host a WAC conference.

We are planning a varied and engaging thematic programme complemented by a wide range of social events. You will also have the opportunity to experience Kyoto's rich cultural and social life as well as sampling Japan's outstanding archaeological heritage.

TSUDE Hiroshi

Chair of WAC-8 Kyoto Local Organizing Committee

Supporting institutions

Organized by: WAC-8 Kyoto Local Organizing Committee

Co-Sponsored by: Science Council of Japan, Kyoto City Government

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Informal contact details

Contact name: Dr Gundula M?ldner

Contact phone: +44 (0)118 378 7389

Contact email: g.h.mueldner@reading.ac.uk

Interview Date: 22 April 2016

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POSITION IN
ARCHAEOBOTANY/ARCHAEZOLOGY
AT THE MUSEUM OF NATURAL HISTORY
PARIS

Dear colleagues,

A lecturer position (Maître de conférences) in bioarchaeology (archaeobotany or archaeozoology) has been announced at the Muséum national d'Histoire naturelle in Paris for a fixed employment to start in fall this year. The successful candidate will be a member of our research team and share his or her time between research, the curating of botanical or faunal collections and teaching. We are looking for a research profile concerning the study of past agro-pastoral economies in marginal environments in SW Asia. You will find a detailed description of the position attached to this message.

Candidates have first to register on the government site « Galaxie » (<https://galaxie.enseignementsup-recherche.gouv.fr/antares/can/astree/index.jsp>) and then send their complete application before 4 pm on April 4th 2016.

Non French citizens can also apply and if you are interested and need instructions do not hesitate to contact the person (Sandrine Grouard) indicated in the attached document or myself.

With best regards,

Margareta Tengberg

Margareta TENGBERG
Muséum national d'histoire naturelle
UMR 7209 - Archéozoologie, archéobotanique : sociétés, pratiques et environnements

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ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

NEWLY PUBLISHED ARTICLE(S) FOR RADIOCARBON AVAILABLE ON CAMBRIDGE JOURNALS ONLINE

[RADIOCARBON, FirstView Articles](#)

New Radiocarbon Dates and Bayesian Models for Nelson Bay Cave and Byneskranskop 1: Implications for the South African Later Stone Age Sequence

Emma Loftus and Judith Sealy and Julia Lee-Thorp

[Radiocarbon, FirstView Articles, pp 1-17](#)

doi: 10.1017/RDC.2016.12, Published online by Cambridge University Press 09 Mar 2016

Stone Age Pottery Chronology in the Northeast European Forest Zone: New AMS and EA-IRMS Results on Foodcrusts

Henny Piezonka and John Meadows and Sönke Hartz and Elena Kostyleva and Nadezhda Nedomolkina and Marina Ivanishcheva and Natalya Kosorukova and Thomas Terberger

[Radiocarbon, FirstView Articles, pp 1-23](#)

doi: 10.1017/RDC.2016.13, Published online by Cambridge University Press 08 Mar 2016

First Radiocarbon Chronology for the Early Iron Age Sites of Central Kazakhstan (Tasmola Culture and Korgantas Period) –ERRATUM

Arman Z Beisenov and Svetlana V Svyatko and Aibar E Kassenalin and Kairat A Zhambulatov and Daniyar Duisenbai and Paula J Reimer

[Radiocarbon, FirstView Articles, pp 1-1](#)

doi: 10.1017/RDC.2016.18, Published online by Cambridge University Press 07 Mar 2016

Contamination on AMS Sample Targets by Modern Carbon is Inevitable

Dipayan Paul and Henk A Been and Anita Th Aerts-Bijma and Harro A J Meijer

[Radiocarbon, FirstView Articles, pp 1-12](#)

doi: 10.1017/RDC.2016.9, Published online by Cambridge University Press 17 Feb 2016

Novel Laser Ablation Sampling Device for the Rapid Radiocarbon Analysis of Carbonate Samples by Accelerator Mass Spectrometry

C Welte and L Wacker and B Hattendorf and M Christl and J Koch and H-A Synal and D Günther

[Radiocarbon, FirstView Articles, pp 1-17](#)

doi: 10.1017/RDC.2016.6, Published online by Cambridge University Press 17 Feb 2016

A Revised Radiocarbon Chronology of the Aceramic Shell Midden of Ra's Al-Hamra 6 (Muscat, Sultanate of Oman): Implication For Occupational Sequence, Marine Reservoir Age, and Human Mobility

Antoine Zazzo and Olivia Munoz and Emilie Badel and Irène Bégulier and Francesco Genchi and Lapo Gianni Marcucci

[Radiocarbon, FirstView Articles, pp 1-13](#)

doi: 10.1017/RDC.2016.3, Published online by Cambridge University Press 10 Feb 2016

The Settlement Date of Iceland Revisited: Evaluation of ¹⁴C Dates from Sites of Early Settlers in Iceland by Bayesian Statistics

Árný E Sveinbjörnsdóttir and Christopher Bronk Ramsey and Jan Heinemeier

[Radiocarbon, FirstView Articles, pp 1-11](#)

doi: 10.1017/RDC.2016.2, Published online by Cambridge University Press 10 Feb 2016
High-Resolution AMS 14C Dates for the Par-Tee Site (35CLT20) and Prehistoric Whale
Hunting on the Oregon Coast

Gabriel M Sanchez and Jon M Erlandson and Brendan J Culleton and Douglas J Kennett
and Torben C Rick

[Radiocarbon, FirstView Articles, pp 1-9](#)

doi: 10.1017/RDC.2016.10, Published online by Cambridge University Press 09 Feb
2016

Dating Archaeological Cultures by Their Moats? A Case Study from the Early Bronze
Age Settlement Fidvár near Vráble, SW Slovakia

Frank Schlütz and Felix Bittmann

[Radiocarbon, FirstView Articles, pp 1-13](#)

doi: 10.1017/RDC.2015.17, Published online by Cambridge University Press 22 Jan
2016

Radiocarbon Dating of Agrarian Terraces by Means of Buried Soils

Arnald Puy and Andrea L Balbo and Olaf Bubbenzer

[Radiocarbon, FirstView Articles, pp 1-19](#)

doi: 10.1017/RDC.2015.21, Published online by Cambridge University Press 19 Jan
2016

Insights into the Earliest Formative Period of Coastal Ecuador: New Evidence and
Radiocarbon Dates from the Real Alto Site

Andrey V Tabarev and Yoshitaka Kanomata and Jorge G Marcos and Alexander N
Popov and Boris V Lazin

[Radiocarbon, FirstView Articles, pp 1-8](#)

doi: 10.1017/RDC.2015.23, Published online by Cambridge University Press 13 Jan
2016

[RADIOCARBON, FirstView Articles](#)

The Radiocarbon Approach to Neanderthals in a Carnivore Den Site: a Well-Defined
Chronology for Teixoneres Cave (Moià, Barcelona, Spain)

Sahra Talamo and Ruth Blasco and Florent Rivals and Andrea Picin and M Gema
Chacón and Eneko Iriarte and Juan Manuel López-García and Hugues-Alexandre Blain
and Maite Arilla and Anna Rufà and Carlos Sánchez-Hernández and Míriam Andrés and
Edgard Camarós and Anna

[Radiocarbon, FirstView Articles, pp 1-19](#)

doi: 10.1017/RDC.2015.19, Published online by Cambridge University Press 12 Jan
2016

Stable Isotopic Detection of Manual Intervention Among the Faunal Assemblage from a
Majiyao Site in NW China

Weimiao Dong and Cheng-Bang An and Wenjie Fan and Hu Li and Xueye Zhao

[Radiocarbon, FirstView Articles, pp 1-11](#)

doi: 10.1017/RDC.2015.6, Published online by Cambridge University Press 12 Jan 2016

Time History of a Human Kidney Stone Determined by Bomb-Pulse Dating

Vladimir A Levchenko and A Alan Williams

[Radiocarbon, FirstView Articles, pp 1-5](#)

doi: 10.1017/RDC.2015.12, Published online by Cambridge University Press 06 Jan
2016

THE OXYRHYNCHUS PAPYRI, VOLUME LXXX. GRAECO-ROMAN MEMOIRS

Bryn Mawr Classical Review 2016.03.36

M. Hirt, D. Leith, *The Oxyrhynchus Papyri, Volume LXXX. Graeco-Roman memoirs*, 101. London: Egypt Exploration Society, 2014. Pp. xiv, 176; 14 p. of plates. ISBN 9780856982224. \$170.00.

Reviewed by W. Andrew Smith, Shepherds Theological Seminary (w.andrew.smith@gmail.com) The eightieth volume of the Oxyrhynchus Papyri, which introduces items 5219–5257 of the collection, was prepared by Marguerite Hirt (University of Cambridge), David Leith (University of Exeter), and W. Benjamin Henry (University College London). Additional contributions were made by Daniela Colomo (Research Associate and Curator of the Oxyrhynchus Papyri), Nick Gonis (University College London), and Livia Tagliapietra (PhD student in Classics, University of Cambridge). While most volumes in this series group texts in categories of theological, literary, and documentary papyri, this one presents a collection of medical texts (perhaps following the themed approach of volume 79's Games, Competitors, and Performers in Roman Egypt), making it the "largest single collection of medical papyri to be published" (vi).¹

Following a forward by Vivian Nutton (v–vi) and a preface by Gonis (vii), the body of this volume is divided into three major sections: Extant Medical Texts, New Medical Texts, and Doctors' Reports. Nutton comments that these manuscripts confirm "the prevalence of eye diseases, fevers, ulcers, and haemorrhoids at Oxyrhynchus" as well as the absence of patients from medical documents apart from the doctors' reports (v).

Leith edited the eleven extant medical texts (5219–5229), which include five papyri of Hippocrates, three of Dioscorides, and three of Galen. The works of Hippocrates include Aphorismi 5.35–7, 6.5–7 (3rd/4th c.), De alimento 48–51 and De liquidorum usu 1 on the recto and verso respectively (2nd/3rd c.), De mulierum affectibus I 1.8–14 (3rd c.), Epidemiae I (Case II; 2nd/3rd c.), and Prognosticum 7.10–11 (late 1st c.). The two fragments of 5220 (De alimento and De liquidorum usu) are particularly interesting since they appear on a roll rather than a codex, and because they appear so close together in a collection of short texts. While the text of De liquidorum usu is unremarkable, that of Alimento is a "superior text" devoid of insertions found in other copies; before this, no papyrus fragments of these works had been published. Regarding the Prognosticum fragment (5223), this first century papyrus is remarkable in that the only other ancient copy of this work published to date is from a fifth-century parchment codex; this copy offers several new readings. The three papyri of Dioscorides' De materia medica (now doubling the number of published ancient copies) include 1.61, 63–64 (4th c.), 3.17–18 (3rd c.), and 3.71–74 (3rd c.). Of these three, the last is textually the most interesting, as it may solve a text-critical problem at 3.72.1.2 Finally, the texts of Galen include De Locis Affectis 1.1 (5th/6th c.), De Sanitate Tuenda 5.3, 7, 9 (6th c.), and In Hippocratis Epidemiarum Librum III 2.8–9 (6th c.). The second item (5228) preserves an excerpted text, though different from any currently known summary; Henry suggests that it may represent a collection of extracts similar to that of Aëtius (30). The first and third items (5227 and 5229) contain some textually interesting variant readings.

The twenty-four new medical texts (5230–5253) are edited by Leith (5230–5239, 5242–5243), Hirt (5240–5241, 5244–5249, 5251), Henry (5250), Tagliapietra (5252), and Colomo (5253). The first new text (5230) is dated to the early second century and consists of three fragments: one that overlaps Galen's *De Compositione Medicamentorum per Genera* 5.2 where he cites Heras of Cappadocia's *Narthex* (with this fragment preserving some new/superior readings); one that contains a previously unknown recipe for a drug to soothe colic; and one that contains some incomprehensible text. Item 5231 (1st/2nd c.) is a commentary on Hippocrates' *Epidemiae* I, expressing criticism toward Asclepiades of Bithynia's methodology in the commentary of the case history, possibly representing the voice of an Empiricist or Methodist medical scholar. Item 5232 (2nd/3rd c.) discusses surgery for hemorrhoids, with a quotation from Hippocrates' *Aphorismi* 6.12. Items 5233 and 5234 (2nd/3rd and 2nd c., respectively), which share substantial textual overlap, deal with lethargy that is likely associated with phrenitis; with its gentle methods of rousing the patient and dietetic therapy, this probably represents the work of a Methodist sect physician. Leith suggests that Soranus was aware of the work preserved in these two items (62). Item 5235 (early 4th c.) is another work on acute diseases, this time as a question-and-answer format medical treatise which provides definitions, causes, signs, and therapies for various diseases; most interesting is the possible mention of Thessalus of Tralles. Item 5236 (2nd/3rd c.) is a treatise on gangrene and its causes. While it was previously unknown (though not improbable) that Asclepiades had discussed gangrene, this manuscript appears to cite him regarding the etiology of the disease. Item 5237 (2nd c.) is a medical treatise regarding the use of hot and cold agents in pathology/therapeutics and conditions affecting the esophagus; an interesting feature of this manuscript is the repeated collocation of the terms *σφήνωσις* ("impaction") and *ἀπόθλιψις* ("squeezing out"). Item 5240 (1st c.), which may represent a student manual or lecture notes, is concerned with treating eye conditions, including surgery for pterygium, encanthis, an everted eyelid, and cataracts. Eye surgery was fairly common in this period, and exciting here is the appearance of the new term *περιβάδιον*, which (given the diminutive forms used for surgical tools) possibly refers to a scalpel with a curved blade to be used in eye surgery. Item 5241 (2nd/3rd c.) joins the roughly 20 extant papyri that contain medical questionnaire texts, in this case defining eye conditions in the question-and-answer format; Hirt provides a wonderfully detailed analysis of this three-fragment manuscript, drawing on a wealth of related resources. Item 5242 (2nd c.) contains three sets of instructions for the thickening of oils, the first step in manufacturing perfumed oils (the back of the papyrus contains an account with units of *arouras* and *artabas*). While these instructions show minor parallels with Dioscorides, most interesting is the use of *μήτια* and *ἄσαρα* as previously unknown units of weight. Items 5243–5251 preserve a variety of medical recipes, primarily from the second or third century, including: eye salves (Leith performs a particularly in-depth analysis of this item); a tooth powder; six short iatromagical recipes dealing with head or eye ailments; a remedy for hot gout (*ποδάγρα*); a collection of short miscellaneous recipes (including a possible reference to lycanthropy); two plaster recipes (a plaster for suppurative inflammation and a black plaster for fistulous ulcers and fractures); remedies for skin and eye ailments; treatment for spreading ulcers; and treatment for fistulous ulcers and tumors. The last of the recipes is dated to the third or fourth century and is the first parchment medical text with a provenance of Oxyrhynchus. Items 5252 (5th c.) and 5253 (6th c.) are lists of ingredients. The first, on the back of a wine account, contains a list of products typically used in medicine and the items are measured primarily in carats. Tagliapietra provides a careful reconstruction of the text, drawing on numerous sources

to propose the final form. Particularly interesting in this piece is the unattested term ἀντικασάμου, a perhaps fragrant ingredient listed between cassamum (fruit of the Mecca balsam, which contains fragrant oil) and oil of myrrh. Five of the six ingredients listed in 5253 are measured in grams, the sixth measured in carats, and all are used in the production of perfumes.

The final four manuscripts are doctors' reports (5254–5257), edited by Gonis and Hirt. Items of this sort typically describe the condition of a victim of violence or the symptoms of one overcome by illness and are presented as a report to the local authorities; as such, it is quite unusual to find any treatment involved (159). Item 5254 (c. 89–94) is the earliest medical report published to date, containing examination results sent from two doctors to the strategus (Tiberius Claudius Arius) regarding an interpreter named Nilus (though the results are not extant). Item 5255 (c. 118–121 or 166–168) is the report from a doctor and assistant to the strategus Demetrius regarding an injured man; the dating of the report is difficult given a conflict between the palaeographical evidence and the appellation of the strategus. Produced after an assault, item 5256 (25 September, 190) is a doctor's report on the injuries sustained by two (or more) persons. Finally, item 5257 (dated to 312) is a public doctor's report to the curator civitatis regarding the head injury (and perhaps hearing loss) of a man named Serapion.

The volume ends with the usual indices and fourteen pages of plates. While grayscale images of most of the papyri edited in this volume are provided in the accompanying plates, three images (of items 5226–5228) are curiously missing from the collection. High resolution color images of papyri from past volumes have been made available at the Oxyrhynchus Online site (<http://www.papyrology.ox.ac.uk/POxy/ees/ees.html>), but currently no images of these missing papyri are available. While financial constraints prohibit unrestrained production of manuscript images, it remains surprising for the Egypt Exploration Society to reproduce all but three of this volume's papyri.

Research in the area of Greco-Roman medicine continues to blossom, and this volume from the Oxyrhynchus series is not only a boon to that endeavor but also for historical and manuscript studies in general. As with the other volumes in the series, this themed volume is produced with remarkable quality of scholarship and attention to detail. The analyses of these papyri demonstrate both the expertise of the editors and their love for the subject matter.

Notes:

1. The material from volume LXXX was the product, in part, of the "New Medical Papyri from Oxyrhynchus" research project funded by the Wellcome Trust (vii).
2. Based on the present fragments, Leith and Henry reconstruct the text as εὐώδη τούτου ὁ καρπός, with the plausible explanation that a corruption of this reconstructed reading may have given rise to the two later readings of ἔστι(ν) δὲ τούτο ὁ καρπός and ἐν δὲ τούτοις ὁ καρπός which stand in the current editions (24).

Please visit the site: <http://bmcr.brynmawr.edu/2016/2016-03-36.html>

TOMB SECURITY IN ANCIENT EGYPT **FROM THE PREDYNASTIC TO THE** **PYRAMID AGE**

Author: Reg Clark. 566 pages; illustrated throughout in black & white. 227 2016 Archaeopress Egyptology 13. Available both in printed and e-versions. Printed ISBN 9781784912994. Epublication ISBN 9781784913007.

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Egyptians went to great lengths to protect their dead from the omnipresent threat of robbery by incorporating specially developed architectural features in their tombs. However, the architecture of tomb security has rarely been studied as a subject in its own right and is usually treated as a secondary topic in publications of a scholarly nature, which tend to regard its role as incidental to the design of the tomb rather than perhaps being the driving force behind it. This issue had been raised in the early Twentieth Century by Reisner (1908: 11), who suggested that the rapid evolution of Egyptian tomb substructures was as a result of the desire for tomb security and more ostentatious tombs, rather than a development spurred by religious or funerary practices.

Taking this premise much further, this book presents an in-depth analysis of the architecture of tomb security in Egypt from the Predynastic Period (c. 5000-4000 BC) until the early Fourth Dynasty (c. 2500 BC) by extrapolating data on the security features of published tombs from the whole of Egypt and gathering it together for the first time in one accessible database. Using the information assembled it adds new information to the current body of knowledge concerning the architecture of tomb security and explains many of the underlying reasons behind their adoption. By thematically analysing these features in order to draw conclusions it also demonstrates that many aspects of the architecture of the Egyptian tomb over this period, in both royal and private contexts- whilst subject to changing tastes, needs and ideologies- had indeed originated as the result of the need to protect the tomb or improve its security.

Please visit the site:

<http://archaeopress.com/ArchaeopressShop/Public/displayProductDetail.asp?id=%7bA2B81C02-9E55-4139-ABBC-A8D67089431F%7d>

THE HUMAN FACE OF RADIOCARBON. **REASSESSING CHRONOLOGY IN** **PREHISTORIC GREECE AND BULGARIA,** **5000-3000 CAL BC**

Dear colleagues,

I am pleased to announce you the publication of a new book, which I co-authored and edited, about the chronology of the 5th-4th millennium BC in Greece and Bulgaria and the related issues of the end of the Aegean and Balkan Neolithic/Chalcolithic and the transition to the Early Bronze Age:

Z. Tsirtsoni (ed.), *The Human Face of Radiocarbon. Reassessing chronology in prehistoric Greece and Bulgaria, 5000-3000 cal BC*, TMO 69, Lyon, 2016.

The book, entirely in English, presents the results of a multidisciplinary research program financed by the French National Research Agency (ANR) between 2007 and 2011, which produced no less than 192 new high-precision radiocarbon dates (in the laboratories of Dimokritos, Lyon and Saclay) from 34 archaeological sites in the two countries. The dates are discussed in the specific framework of each site (stratigraphy, relative chronology, related finds) by the excavators themselves, as well as in their broader regional context.

For further details please see the page:

<http://www.mom.fr/publications/les-collections-de-la-msh-mom/tmo/human-face-radiocarbon>

The publication has been supported by the Institute for Aegean Prehistory.

Best regards

Zoï Tsirtsoni

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EΙΔΗΣΕΙΣ - NEWS RELEASE

1,600-YEAR-OLD WINE PRESS FOUND IN OLD JERUSALEM ARMY BASE ARCHAEOLOGISTS ALSO UNCOVER ANCIENT BATHHOUSE WITHIN COMPOUND OF FORMER SCHNELLER CAMP, BY STUART WINER

An ancient wine press likely dating from Roman times was uncovered within the grounds of a disused IDF military base in Jerusalem, the Israel Antiques Authority said on Wednesday.

The IAA excavated the former Schneller base ahead of the construction of residential buildings on the site for the capital's ultra-Orthodox community.

Various discoveries were made during the dig, including a large winery from either the Roman or Byzantine period, around 1,600 years ago. Archaeologists found a white mosaic surface surrounding a pit that was part of the wine press used to extract juice from grapes.

Eight cells around the press were used to store grapes and possibly to blend wine, the IAA said. Investigators suggested the press was part of a large manor house whose residents may have sold the wine.

"Once again, Jerusalem demonstrates that wherever one turns over a stone, ancient artifacts will be found related to the city's glorious past," said archaeologist Alex Wiegmann, excavation director on behalf of the IAA. "The archaeological finds discovered here help paint a living, vibrant and dynamic picture of Jerusalem as it was in ancient times up until the modern era."

Remains of a bathhouse were also found, including terra cotta pipes used to heat the bathing facility and clay bricks stamped with the title of the Tenth Roman Legion, one of the four legions that took part in the siege and destruction of Jerusalem in 70 CE. Units of the legion remained garrisoned in the city until around 300 CE.

The close proximity of the Schneller site to the International Conference Center, where the remains of a large pottery and brick production center were previously found, led archaeologists to believe that Schneller was an auxiliary to the main site.

Excavations six months ago found the remains of a Jewish community at the Schneller compound dating from the late Second Temple period, around the time of Jesus.

During its more recent history, the site housed the Schneller orphanage from 1860 until World War II. During the British Mandate its German occupants were expelled and it

became a military base. In 1948 it was taken over by the Haganah - the precursor to the IDF - and it later became an IDF military base that was active until it was closed in 2008.

Please visit the site: <http://www.timesofisrael.com/1600-year-old-wine-press-found-in-old-jerusalem-army-base/>

TOMB EXCAVATIONS UNCOVER TREASURES OF AN ETRUSCAN PRINCESS AMBER NECKLACE, GOLDEN EGYPTIAN SCARAB AMULET AMONG FINDINGS

Excavations of a tomb in northern Lazio dating to around the 8th century BC have uncovered treasures including an amber necklace, a golden Egyptian scarab amulet and rare pottery that archaeologists say likely belonged to an Etruscan princess.

The excavation of the Tomb of the Golden Scarab follows its discovery earlier this year in the archaeological site of Vulci, a former Etruscan city.

Anthropological research helped back the theory that the tomb belonged to a princess within the ranks of the nascent Etruscan aristocracy. A few bones wrapped in precious cloth are all that remains of her.

The excavation of the tomb was carried out in the laboratories of the Vulci foundation in Montalto di Castro near Viterbo.

A group of international archaeologists are set to begin a new digging campaign at the Vulci site in April.

Please visit the site: http://www.ansa.it/english/news/2016/03/08/tomb-excavations-uncover-treasures-of-an-etruscan-princess_a3ac25e9-3168-4c59-9bbc-8024716011e2.html

ANCIENT EGYPTIAN BLUE GLASS BEADS REACHED SCANDINAVIA - CHEMICAL ANALYSIS OF DANISH DISCOVERIES EXTENDS RANGE OF BRONZE AGE TRADE, BY BRUCE BOWER

Bronze Age bigwigs in what's now Denmark wore brightly colored glass beads made in the workshops of Egyptian pharaohs and Mesopotamian rulers, a new investigation finds. Trade routes connected Egypt and Mesopotamia with Denmark by 3,400 years ago and remained active until at least 3,100 years ago, say archaeologist Jeanette Varberg of Moesgaard Museum in Højbjerg, Denmark, and her colleagues. Chemical analyses of blue beads previously found in Danish Bronze Age graves from that period show that the ornaments originated in glass workshops of Egypt's pharaohs and Fertile Crescent rulers, the researchers report December 13 in the *Journal of Archaeological Science*.

"This is the first evidence of ancient Egyptian glass outside the Mediterranean region," Varberg says. Mesopotamian glass was previously known to have reached as far north as France, she adds.

Egyptian and Mesopotamian glass beads probably reached societies more than 5,000 kilometers away in southern Scandinavia after passing through extensive sea- and land-based trading networks, says Boston University archaeologist Kathryn Bard, who did not participate in the new study.

Northern Europeans swapped amber for high-end glass objects, Varberg's group proposes. It's already known that Baltic amber, mined along the coasts of Denmark and nearby countries, reached Central European and Mediterranean sites more than 3,000 years ago. Baltic amber was used for a lion-shaped cup from that time previously discovered in Syria and for beads and scarabs found in Egyptian King Tutankhamen's tomb, Varberg says.

In addition, a roughly 3,300-year-old shipwreck discovered off the Turkish coast in 1982 included Baltic amber beads and glass items among its cargo of luxury items, indicating that these goods traveled along common trade routes.

Bright blue glass beads such as those from the ancient Danish graves "make perfect sense" as items that could have been exchanged for Baltic amber, comments archaeometallurgist Thilo Rehren, who directs a campus of University College London in Doha, Qatar. "These new results demonstrate that the globalization of trade is not a modern invention."

Varberg's team analyzed 23 glass beads from 10 Danish Bronze Age graves that are held at the National Museum of Denmark in Copenhagen. Chemical signatures were obtained by blasting microscopic craters on beads' surfaces with a tiny laser beam, enabling another device to identify the material's molecular structure. Results were compared with chemical signatures of 10 ancient Egyptian glass fragments, also studied by Varberg's

team, and of Mesopotamian glass items previously assessed with the laser technique by other researchers.

Two Danish beads were made of Egyptian cobalt-blue glass. Cobalt in these finds contained concentrations of nickel, zinc and manganese typical of cobalt-colored glass items and fragments found at several ancient Egyptian workshops. One of the two beads came from the approximately 3,400-year-old grave of a woman who lay among an array of bronze ornaments. The glass bead and two amber beads were found next to the woman's upper right arm. The other Egyptian bead also came from a woman's grave.

Remaining beads displayed characteristics of Mesopotamian glass, including a relatively high concentration of copper and blue cobalt consisting of a distinctive blend of nickel, zinc and manganese. Most Mesopotamian beads also came from women's graves.

Many Bronze Age graves in Europe contain both amber and glass objects. The new evidence raises the possibility that ancient Egyptian religious beliefs — in particular, regarding the color yellow (seen in amber) as a sign of the sun's power, and the color blue (featured in glass beads) as symbolizing the sea that created the sun and life — influenced people in southern Scandinavia, Varberg speculates.

Please visit the site: <https://www.sciencenews.org/article/ancient-egyptian-blue-glass-beads-reached-scandinavia>

WARLORD WHO CAUSED THE FALL OF ROME WAS KILLED BY MALARIA, NEW RESEARCH SHOWS, BY KRISTINA KILLGROVE

One of the key figures in European history is also someone you might never have heard of. Born around 370 AD, Alaric became king of the Visigoths - a group of nomadic, Germanic tribes - in his 20s. His first set of victories, in 395 AD, included sacking the port of Athens, Corinth, and Sparta in Greece. In 401, Alaric and his troops invaded Italy, and by 410 AD, after liberating tens of thousands of Gothic slaves in Rome, he besieged the city and ransacked it for three days in August. Although Alaric and the Visigoths did not actually destroy much of the city or its people, the sack of Rome is still seen by many as the harbinger of the fall of the western Roman Empire .

After the successful siege of Rome, Alaric moved south through Calabria on his way to North Africa, a major source of grain for the Empire. But he died in modern-day Cosenza (ancient Consentia) in the toe of Italy, after a high fever. According to the 6th century AD historian Jordanes whose work forms the basis of our contemporary understanding of the Goths, Alaric was buried according to the custom of the Visigoths, under the riverbed of the Busento. Slaves helped divert the river's water so that the grave could be dug, and Alaric's possessions - potentially including the menorah stolen by Romans from the Temple of Jerusalem in 70 AD - were buried with him. After the burial, the river was undammed and the slaves who carried out the funeral were executed so that the location of the tomb would be lost to history.

The question of Alaric's cause of death, though, has been nagging at scholars for years. Alaric was hale and hearty after the sack of Rome, planning additional campaigns to the south. And fever is too generic a cause of death. What really killed the most famous warlord in all of classical antiquity? After combing through historical, medical, and epidemiological sources, researchers Francesco Galassi and colleagues think they have an answer, which they detail in an upcoming issue of the European Journal of Internal Medicine.

Unfortunately, there are no good contemporaneous sources for Alaric's life, and Jordanes is the only historian whose work we have who comments on Alaric's death. Galassi and colleagues quote Jordanes, who writes that "subito inmatura morte praeventus rebus humanis excessit . dum secum, quid ageret, deliberaret" - suddenly, dying of an untimely death, he left human cares. while he was pondering on what he should do next. The repetition of ideas of suddenness in this short phrase make clear, Galassi and colleagues note, that no one expected Alaric to die.

So what felled Alaric? Sudden death, particularly in antiquity, can be attributed to a number of causes - heart attack, stroke, or aortic aneurism could suddenly kill someone as young and healthy as Alaric, but the historical sources don't mention anything in his behavior, actions, or family history to suggest those reasons. Rather, contemporary historians surmise that a severe form of malaria caused by Plasmodium falciparum that was endemic to central and south Italy could have killed him.

Malaria, of course, is well known for the fevers it causes, as well as for other symptoms such as nausea, vomiting, chills, and malaise. While many people contract malaria and survive, to some extent, this depends on the person's immunity. "Individuals with semi-immunity in hyper-endemic and endemic areas can spontaneously clear the parasite," Galassi and colleagues explain. But people coming to ancient Italy from areas without malaria were at great risk. "Several cases of sudden deaths in travellers coming from malaria-free areas have been reported in Africa," they further note, and "severe falciparum malaria progresses to death within hours or days from the onset of the symptoms, with major complications such as cerebral impairment, pulmonary edema, acute renal failure, and severe anemia."

Other infectious diseases could have caused Alaric's death - typhoid fever, gastroenteritis, or even the flu - but no ancient historian mentions epidemics of these sorts of conditions ravaging Alaric's troops. Rather, Galassi and colleagues write, "Alaric and his army came from regions where falciparum malaria was not endemic. Therefore, the risk of contracting malignant malaria in a hyper-endemic region, and eventually being killed by it, was extremely high."

Co-author Raffaella Bianucci of the University of Turin told me that "malaria could kill both elite and non-elite individuals. However, the poorer, those who were malnourished and had weakened immune systems, and those whose daily work brought them in great contact with the areas where anopheles mosquitoes breed were at higher risk." Trooping through wet, marshy areas of southern Italy would certainly have brought Alaric into contact with the disease.

Alaric could have become infected with malaria anywhere in his Italian travels, even in Rome while he was sacking it. The disease was well known in ancient times and wasn't fully eradicated from Italy until 1970. But Calabria, in Italy's toe where Alaric died, "was classified as the most affected region, with active transmission foci concentrated especially along the coasts and the valleys of its broad streams," the researchers write. "A fatal form of malaria contracted during his stay in Calabria seems to be the most probable cause of the king's death."

This form of research - in which historical records are mined for information about the death of an important person or a group of people - is a relatively new branch of palaeopathology called palaeo-pathography or palaeo-nosography. Or you can just call them "retrospective diagnoses." Galassi finds these diagnoses to be a useful tool, he tells me, "to reassess the presentation and evolution of diseases throughout history." The focus on famous people is necessary, he notes, because their biographies "abound with details of paramount medical relevance. We don't study a great general or emperor because of their immortal fame, but rather because vital information about disease in the past happened to be included in their biographical accounts." Bianucci agrees, telling me that "historical and medical accounts coupled with modern diagnostic techniques allow scholars to shed light on the presence of a specific disease and its prevalence in a given time frame."

Historical records give us one line of evidence into disease in the past, but skeletons themselves hold an additional key. Unfortunately, Galassi tells me, "many attempts to locate Alaric's burial have been unsuccessfully made over the years. The possibility of

studying his mortal remains would be a great treasure of biomedical information, and even a unique chance to learn more about malaria in antiquity. But unless these remains are found, Galassi and colleagues conclude in their article, "no further speculations can be done on his premature demise."

The death of the infamous sacker of Rome remains somewhat mysterious.

To read more, see: Galassi, F.M., R. Bianucci, G. Gorini, G.M. Paganotti, M.E. Habicht, and F.J. Rühli, "The sudden death of Alaric I (c. 370-410 AD), the vanquisher of Rome: A tale of malaria and lacking immunity," in the European Journal of Internal Medicine early view, DOI 10.1016/j.ejim.2016.02.020.

Kristina Killgrove is a bioarchaeologist at the University of West Florida. For more osteology news, follow her on Twitter (@DrKillgrove) or like her Facebook page Powered by Osteons.

Please visit the site:
<http://www.forbes.com/sites/kristinakilgrove/2016/03/14/warlord-who-caused-the-fall-of-rome-was-killed-by-malaria-new-research-shows/#69c1fae3f1f0>

FACT OR FICTION? HUNTING FOR THE REAL LOCATIONS BEHIND GREEK MYTHS, BY IOANNA ZIKAKOU

Why is it that the myths of Ancient Greece have not only been able to survive, but continue to have a profound and lasting effect on audiences and the world to this day? The Olympic games, still the greatest sporting event on the planet, were supposedly originally held by Hercules in honor of Zeus, while mythological beasts such as cyclops, hippogriffs and krakens still rampage in modern blockbusters as they did in the minds of Greek storytellers. When it comes to Greek myths it seems that we are just as fascinated as ever.

Not all myths are thought to be complete fabrications however, some are considered to have genuine roots relating to historic events that have become warped and adapted over time. Constantly, archaeologists are finding evidence of such places, and just as you can visit the ancient Colosseum of Rome and the ruins of Sparta, so you can set foot on the places where some of the most well known tales of mythology are thought to have been born.

Taking the Path of the Gods

We start our journey on the island of Crete, at the base of her tallest mountain, Mount Ida. This unassuming formation, hidden deep in the island's mountainous center, is the perfect spot for a bit of sightseeing, hiking or concealing the future king of the gods from his overzealous and paranoid father. Cronus, one of the original titans in Greek mythology, attempted to destroy all his offspring in order to prevent a prophecy that predicted his downfall at the hands of one his children. One after the other, he devoured his children, except when it came to Zeus, whom Rhea, Zeus' mother, managed to hide in a cave far from the reach of Cronus. The Greeks believed that this cave can be found beneath Mount Ida of Crete, and for many years it was a site of worship and pilgrimage. Now the cave is open to public viewing, and after a 20 minute hillside climb and around 200 steps into the cave itself, you'll be wandering through the halls where Zeus, arguably the most famous being in all of Greek mythology, is said to have spent the first years of his life.

Monster or Mammal?

Crete is not only Zeus' childhood home however, it is also known for being the birthplace of a rather more ferocious mythological creature: the monstrous one-eyed cyclops. Examples of skulls have been found all over the island, as well as many other places in Greece, which come from a creature with one big eye socket, huge sets of teeth and sometimes long and powerful looking tusks. At the time, the Greeks would have had no knowledge of a creature that looked anything like the skull they just happened upon, and so the cyclops was born. We know today though, that these skulls actually belonged to *Deinotherium giganteum*, a prehistoric relative of the elephant, and that the single, massive, eyehole wasn't actually for an eye at all, but instead for its massive trunk.

Fearsome as elephants can sometimes be, I think we can all agree that a cyclops makes for a much more exciting story behind the mysterious fossils.

From Riches To Rags

Although not technically in modern day Greece, the River Pactolus in western Turkey is still an important part of their mythological heritage. It was here along the riverbanks that King Midas, the man with the golden touch, was said to have rid himself of his powers after struggling to eat and drink by casting them into the water. Although a moral story of greed and desire, the myth is likely to have told as an explanation for why the river was so rich in gold dust during this period. Flowing along the riverbed in the sands, the gold was used to build some of the richest civilizations in the country's history. We now know it was being brought down into the waters from the nearby mountains, however, it was on the banks of this river that the myth turned from story to legend.

Taking Archaeology to New Depths

Besides the modern-day concept of hell from Christianity, there is no more famous afterlife experience in western culture than the legendary underworld of Greek mythology. Only a handful of heroes have ever willingly taken a trip into this dark and disturbing world, but this is exactly what archaeologists think they have been doing for the last 60 years. In the 1950s, a man walking his dog along a beach in Diros Bay on the Southern Greek coast came across a tiny entrance to a vast cave system that had lain undiscovered for millennia. Inside, evidence of civilization was found dating back 9,000 years and archaeologists believed they found one of the finest examples of a prehistoric burial site in the world. However, it's the appearance and atmosphere of the cave that really seems to have inspired the myth. Dark red cave walls, riddled with sharp rocks and stalactites complete with a black lake cutting between two sides of the cave. Sound familiar? Add to that the fact that the cave was lost to history thousands of years ago when its entrance collapsed, trapping hundreds of screaming souls inside, and you really do have the perfect location for hell on earth.

Getting Lost In Mythology

After taking our detour to the European mainland, we return to the beautiful island of Crete for another journey into Greek mythology. It may come as a surprise that so much happened on this island far off the Greek coast, but during the era of the Ancient Greeks, it was a major hub of activity and life, second only to the city of Athens. Here, on the island's southern shores, you'll find the archaeological site of Kommos, nestled on the island's picturesque and rustic hillsides. As you venture through the ruins of the ancient city streets, you'll soon find yourself in a veritable maze of tight paths, corridors and walkways. A labyrinth within the city. Similarly, archaeologists have found another series of tunnels and corridors forming a labyrinth like structure nearby, this time underground in a cave outside the site of Gortyn. It is thought that King Minos, famous for feeding his enemies to the vicious Minotaur, lived and ruled from this area. Archaeologist even believe they have found his throne room in the ruins of Kommos. It is possible then, that the myth of the Minotaur came from these very labyrinths. Or perhaps the tales are true, and the beast still stalks their hallways. We think it's better to visit the island of Crete, and find out for yourself.

Please visit the site: <http://greece.greekreporter.com/2016/03/20/fact-or-fiction-hunting-for-the-real-locations-behind-greek-myths/>

GREEK WILD FLOWERS: DIALOGUES AND DIPLOMATS ON THE PARTHENON AND THE ATHENIAN ACROPOLIS IN THE NINETEENTH CENTURY, BY ALEXANDER NAGEL

In the fall semester of 2015, I was teaching a course on *Classical Heritage in Washington, DC: Encounters in the Museum* for students from the University of Maryland. Every Friday afternoon around 2 pm, students would meet with colleagues and fellow curators, archivists and archaeologists, diplomats and thinkers who work on aspects of heritage preservation and connecting ancient and modern Mediterranean, Near Eastern, and European traditions with those of Washington, DC. The students learned how to tailor and manage research projects, and they developed their own exhibition and ambitious research projects over the semester.

One of these Friday afternoons brought us to the Smithsonian's Joseph F. Cullman 3rd Library of Natural History, where Rare Books Curator Leslie Overstreet generously took time and answered enthusiastic students' questions about manuscripts, resources and best practices in rare book preservation. Not only were we shown books from James Smithson's own libraries, but also many books with inspiring stories that were given as diplomatic gifts. It became a memorable moment for the students when we were introduced to a majestically carved wooden box with a gem of a book inside.

According to the Smithsonian's Regents Reports for the year 1858, Smithsonian Secretary Joseph Henry personally laid before the Smithsonian Board the volume *Klassiki Anthodesmi* ("Classical Bouquet"), designed and executed by the Cretan born Elizabeth Contaxaki (c. 1818-1879). An accompanying letter from Ms. Contaxaki was addressed to the US State Department. Kept in an elegant wooden case embossed with the names of famous ancient Greek historians, painters and sculptors, the well-crafted volume is bound in blue velvet with silver embroidering. It holds together a carefully planned series of individual hand-painted and drawn illustrations of more than fifty principal sites and monuments in Greece, including illustrations of the Acropolis in Athens with individual and detailed paintings of the Parthenon, the Erechtheion, the Temple of Nike, but also of sites like Marathon, Sunion, Nemea, the island of Aegina, landscapes with the ruins of shrines of hero cults, and many others. The illustrations are accompanied by hand-written quotations from ancient Greek, but also modern French and English authors, and by pressed flowers picked up at the location of the monuments. According to the Secretary's Report, "this beautiful gift combines a great variety of objects, possessing from their associations with the loftiest achievements of Hellenic genius, a deep and singular interest, and forming a most appropriate memorial of the country from which European art, education, philosophy and letters took their rise."

The volume was originally prepared for the Universal Exposition in Paris in 1855. Ms. Contaxaki, then a resident of Athens, had attended a high school founded by the American missionary Reverend John Henry Hill (1791-1882) and his wife Frances Hill (1799-1884). The School, originating from 1831 is still in operation in Athens, today

named the Hill Memorial School. In the preparation of the volume, Ms. Contaxaki was assisted by six Greek gentlemen who are named on a page preceding the illustrations. Because the gift is a very powerful statement of early diplomacy between Greece and Washington, DC, students and my colleagues from the University of Maryland began to research on the volume's context and history. In honor of Women's history month, we celebrate the creator and spirit of this volume, Ms. Contaxaki, in this blog entry, and at a conference in early April.

As testament and time capsula, the *Klassiki Anthodesmi* allows us to understand aspects of world folklore, aesthetics, and ideas, and most importantly perhaps, a sense of belonging in the 19th century. Often, travelers enjoying the archaeological sites, museums and memory traditions today, are unaware of the history and networks of the people who protected this heritage in earlier generations. Adamantios Korais (1748-1833), for instance, revived the ancient Greek language, and stood in close contact with other European and American intellectuals. Other Greeks promoted heritage in place. Kyriakos Pittakis (1798-1863) was guarding the Athenian acropolis. According to a reviewer of a recent exhibition in Athens he ". tried to stop the illicit trade in antiquities and to prove . that Greeks were worthy of looking after their ancient heritage." Fani Mallouchou Toufano, a leading expert on the Parthenon's complex modern history, knows of a French traveler who visited the Acropolis in 1840 and noted that Pittakis "truly appears to have been discovered beneath a forgotten cornice of the Acropolis, which protectively sheltered his cradle. There he grew up, there he lived, there he shall die. Because the Acropolis is his homeland, his family, his god. And after his death we surely find him transformed into an additional caryatid, intended to replace those which have been lost. So lively, constant and all -engrossing is his passion for the Acropolis."

The time preceding the 1850's were an important moment for Greece, as it struggled for independence, and the book is a manifestation of this time. The American poet Bayard Taylor (1825-1878), who met Ms. Contaxaki in Athens in 1857 noted that "there is no doubt that both her achievements and her influence would be greater were the sphere of woman in those countries less circumscribed. . She would be an exceptional woman in any country."

But how did the volume travel from Greece via Paris to the Smithsonian Rare Book Libraries? What do we know about Ms. Contaxaki and her motivations? Did she meet Pittakis when she picked up her flowers for the Bouquet?

Curious about the context of the book's production and legacies, students and faculty members from the University of Maryland have now prepared papers around the theme of Greek literature, life and archaeology, and the relationships between Greece and the US in the 19th century. This one-day event *The International Context of the Greek World in the 19th Century: *Klassiki Anthodesmi*, a 'Classical Bouquet'* will take place on April 2 at the University of Maryland's campus at College Park. The volume will be on display during the conference. The aim is to link the Classical Bouquet to its 19th century context and to give a glimpse of efforts to preserve the extraordinary richness of Greek heritage (and flora) in this important century. The conference is generously supported by a grant from the University of Maryland's College of Arts and Humanities, and will allow participants to explore the Greek-speaking world in the 19th century.

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Please visit the site: <http://blog.library.si.edu/2016/03/greek-wild-flowers> [Go there for pix]

**CITY OF BIBLICAL ABRAHAM BRIMMED
WITH TRADE AND RICHES - IRAQI AND
AMERICAN ARCHAEOLOGISTS ARE
DIGGING AT ONE OF THE WORLD'S
OLDEST URBAN CENTERS-AND FINDING
EVIDENCE OF THE EARLIEST LONG-
DISTANCE COMMERCE,
BY ANDREW LAWLER**

The bleak and tawny desert of southern Iraq is a strange place to find dark tropical wood. Even stranger, this sliver of ebony-no longer than a little finger-came from distant India 4,000 years ago.

Archaeologists recently found the small artifact deep in a trench among the ruins of what was the world's first great cosmopolitan city, providing a rare glimpse into an era that marked the start of the global economy.

Mentioned in the Bible as the hometown of Abraham, Ur around 2000 B.C. was the center of a wealthy empire that drew traders from as far away as the Mediterranean Sea, 750 miles to the west, and the Indus civilization-called Meluhha by ancient Iraqis-some 1,500 miles to the east.

"There are texts that speak about the 'black wood of Meluhha,'" said Elizabeth Stone of the State University of New York at Stony Brook, who is co-leading the Ur excavations. "But this is our first physical evidence."

In the 1920s and 1930s, British archaeologist Leonard Woolley dug up some 35,000 artifacts from Ur, including the spectacular remains of a royal cemetery that included more than 2,000 burials and a stunning array of gold helmets, crowns, and jewelry that date to about 2600 B.C. At the time, the discovery rivaled that of King Tut's tomb in Egypt.

But Ur and most of southern Iraq has been off limits to most archaeologists during the past half-century of war, invasion, and civil strife. A joint U.S.-Iraqi team reopened excavations there last fall, digging at the site for ten weeks. The work was supported in part by the National Geographic Society.

Unlike earlier generations, today's archaeologists are less interested in breathtaking gold objects than in clues like the bit of ebony that will help them understand more fully this critical time in human history.

Although now situated on a flat and dry plain, Ur once was a bustling port on the Euphrates River laced with canals and filled with merchant ships, warehouses, and

weaving factories. A massive stepped pyramid, or ziggurat, rose above the city and still dominates the landscape today.

Ur emerged as a settlement more than 6,000 years ago and grew to prominence in the Early Bronze Age that began about a thousand years later. Some of the earliest known writing-called cuneiform-has been uncovered at Ur, including seals that mention the city.

But the real heyday came around 2000 B.C., when Ur dominated southern Mesopotamia after the fall of the Akkadian Empire. The sprawling city was home to more than 60,000 people, and included quarters for foreigners as well as large factories producing wool clothes and carpets exported abroad. Traders from India and the Persian Gulf crowded the busy wharves, and caravans arrived regularly from what is now northern Iraq and Turkey.

Ancient Soviet Union?

This period saw the creation of the oldest known law code, the Code of Ur-Nammu, as well as one of the world's most bureaucratic states. Fortunately for scholars today, its rulers were obsessed with recording the most minor of transactions on clay tablets, usually with a stylus fashioned from a reed. The tapering end of the bit of ebony, Stone said, hints that it was the stylus of a high-ranking scribe.

"This was the first planned economy," said Dominique Charpin, a specialist in cuneiform at the College de France, during a break from examining recently unearthed tablets. "It was like the Soviet Union."

Most of the 28 tablets found during the excavation, he adds, deal with sales and rations of grain, wool, and bronze, as well as slaves and land registry. The sizes of the tablets vary, but all are crammed with tiny symbols that require a lighted magnifier to decipher.

Archaeologists in the past assumed that Ur in its heyday was like the former Soviet Union in another way: A small privileged elite controlled a large population of workers, often assigned to grim work units to manufacture clothes, pots, and other consumer goods. Stone is challenging that theory.

"There has been this assumption of inequality," she said. "But more recent research points to social mobility in city-states like Ur. People could move up the economic ladder-that's why they want to live in the city in the first place."

Most digs in the past, including Woolley's, focused on the temples, tombs, and palaces. But during the recent excavation, the team uncovered a modest-sized building dating to a couple of centuries after Ur's peak.

"This is a typical Iraqi house," said Abdul-Amir Hamdani, the senior Iraqi archaeologist on the project, who grew up in the area. He gestures at the mud-brick walls. "There are stairs to the roof and rooms around a courtyard. I lived in a house just like this. There's a continuity in the way people live here."

That hints, Stone and Hamdani said, at a society that wasn't under the control of a small tyrannical minority.

Along with the ebony and the clay tablets, the team uncovered a small clay mask of Humbaba, a giant who protects the cedars of distant Lebanon. The excavators also found dried dates in the grave of a child, the first plant remains found at the site. Other botanical finds are now being analyzed to understand how the diet of citizens changed over time.

By bringing such analysis to bear on common objects like grains, bones, and less flashy artifacts, the team hopes to shed light on how workers lived, the role of women in the wool factories, and how environmental changes might have impacted the eventual decline of Ur's power.

Ancient texts suggest that Ur collapsed amid foreign invasions and internal dissension and, possibly, severe drought. But Stone is surprised by the lack of evidence for catastrophic destruction following 2000 B.C. "People seem to keep rebuilding their houses," she said.

The team hopes to return next fall to dig deeper in the search for evidence of how the non-elite lived at the height of Ur's wealth and power.

Please visit the site: <http://news.nationalgeographic.com/2016/03/160311-ur-iraq-trade-royal-cemetery-woolley-archaeology/>

KING TUT'S TOMB: '90%' CHANCE OF HIDDEN CHAMBERS, BY TIFFANY AP AND IAN LEE

What's behind King Tut?

The scan also revealed metallic and organic material, El Damati said. Experts plan to do additional scanning at the end of the month to determine the size of the chambers and the thickness of the wall, but there will be no digging unless authorities are sure the chambers exist, the minister added.

El Damati has always been skeptical that Nefertiti is in a chamber behind King Tut. He says he believes there's female royalty behind the boy king, but not Nefertiti.

'Ghost' doorways

After extensive analysis of high resolution images published online last year, Reeves spotted cracks in the walls that could indicate two previously unrecognized "ghost" doorways lay behind.

The size of Tutankhamun's tomb -- "less than appropriate" for the final resting place of an Egyptian king -- added more weight to the view. Reeves' hunch is that its unusual size and layout is because it is an extension of an earlier tomb originally designed for a queen, and was repurposed upon Tutankhamun's untimely death at 19 years old.

Since September, Reeves and his team have been using state-of-the-art surveying equipment to look for a secret doorway on the northern wall that would reveal a previously unknown chamber.

King Tut's 'virtual autopsy' reveals surprises

Who was Nefertiti?

Historians say Nefertiti ruled Egypt alongside her husband Amenhotep IV. But after reigning for 12 years she appeared to have vanished. Some Egyptologists believe she became co-regent under a new name, while others think she may have died.

The search for her tomb has been a long and drawn out process -- due in no small part to the extra care needed to avoid damaging the historical site.

Eight face charges over broken King Tut mask

"We must find a way to protect the tomb of Tutankhamun," El Damati told CNN in October. "Does that mean we will dig from above, below or from the side? We don't know."

King Tutankhamun's tomb was discovered by Howard Carter in 1922. Although Tutankhamun was a relatively minor pharaoh, his tomb has been a treasure trove for experts and remains the most intact tomb ever unearthed.

Other ideas floated for who might occupy a possible chamber include Kia, said to be Tutankhamun's mother, or other family members.

Egypt removes 'Frankenstein' Nefertiti statue

But if it is Nefertiti's final resting place, experts say the finding would be monumental.

"When we find Nefertiti, I think it will be more important than the discovery of King Tutankhamun himself," said El Damati.

Please visit the site: <http://www.cnn.com/2016/03/17/middleeast/nefertiti-tomb-radar/>

EXPERIENTIAL MUMMIFICATION

As part of our research for The Leverhulme Trust, the BioBank Team have mummified several bird cadavers using experiential methods seen in the ancient mummies (Fig. 1) (kindly provided by the Natural History Museum Bird group, Tring and productive household pet hunting activity). The use of simple observation and clinical imaging were used to monitor smell, weight loss and temperature/humidity, level of desiccation and preservation, and difficulty in the mummification technique; all of which particularly relate to EM1 and EM10.

Our experiences with clinical imaging have shown that they can be limited when it comes to collating zooarchaeological data (species identification, Minimum Number of Individuals, age and sex) from animal mummies that contain something other than a single, complete individual. To assess this difficulty, the NHM, Tring donated 6 bags of bird remains for mummification; the caveat being that they did not tell us how many or what species were present. For the purposes of organisation, they were termed EM11-16. These were imaged and we asked an independent researcher from the NHM, Tring to attempt identification from digital radiographs and CT reformats.

Unsurprisingly, the same benefits and issues were had with the radiographic images from the experiential mummy bundles as with the ancient bundles: the spatial resolution of x-ray was better than CT, but CT allowed visualisations of all angles of the contents to be viewed with ease...to a point. Getting the right angle of a diagnostic feature from a particular bone when resin:beeswax, linen, and other bones/soft tissue are in the way, still proved difficult.

The beauty with the experiential mummies was that we could unwrap them to test the accuracy of our identifications using clinical imaging and post-processing techniques. So that is what we have begun to do.

EM12 was the largest of the group, nicknamed 'Serrano Ham' because of the likeness to an entire ham, and by far the smelliest during mummification. Our independent identifier was unable to say with certainty what the species were present due to the large amounts of resin:beeswax, which seemed to blur the images slightly and the close positioning of the bird remains within the bundle. A reserved indication that one looked a little 'goosey' was made, but nothing further could be added.

The unwrapping stage presented some interesting findings, in that the resin:beeswax had seeped through to the outer layers of linen and solidified, making unwrapping quite difficult (Fig. 2a-c). It required some good arm strength from two people to pull it apart!

The contents totalled four body parts: a large torso, leg, wing and skull. These represented a range of species, although the colouration of the feathers after contact with the resin:beeswax didn't help us to identify them too well. The skull was suspiciously Barn Owl like, and the other parts seemed to be from wading birds.

Taking advice from an experienced taxidermist, we sought to de-flesh as much of the bird cadaver as possible. This was not the most pleasant task as this bundle smelled a little 'fishy'. However, the soft tissue, which we suspected had not completely desiccated

due to the size of this bundle, had become like beef jerky. Thus, it had not completely desiccated, as we saw in EM11 (which resembled peanut brittle as it was so dry) but it was not completely 'soft' either. This is an interesting observation especially as we did not use the desiccant natron, which is commonly reported to have been essential to mummification.

De-fleshing helped skeletonisation to move along much faster, as there was less soft tissue to macerate, which was done with several glass and plastic beakers, water and a fume cupboard (Fig. 3).

Roughly about 3 months passed to achieve the results seen in figure 3, although this is the largest of our experiential mummies, so a longer time was to be expected. What we have today is clean bones, ready for taking to NHM, Tring for identification to assess how accurate we were.

We would like to thank Dr. Joanne Cooper and Dr. Judy White, both of NHM, Tring and Henry McGhie, Manchester Museum for their help with this project so far. It has been fun trying to replicate what the ancient Egyptians had done! It is also useful and worthwhile to see where we are able to make changes in our identification methods to help us understand the range of species used by the ancient Egyptians in the production of votive offerings.

Please visit the site:

<https://egyptmanchester.wordpress.com/2016/03/16/experiential-mummification-1/>

[Go there for pix]

HOLY PREDYNASTIC GRAFFITI
UNCOVERED IN ASWAN A COLLECTION OF
PREHISTORIC GRAFFITI FOUND IN
ASWAN'S NOBLEMEN CEMETERY,
BY NEVINE EL-AREF

A German excavation mission from Bonn University discovered 15 separate prehistoric graffiti texts during their excavation work in the Noblemen cemetery in Aswan.

"It's a very important discovery because it is an indication that this area was a human settlement since the predynastic era," Antiquities Minister Mamdouh Eldamaty told Ahran Online, adding that he considers the newly discovered graffiti to be "the oldest engraving ever found in such area until now."

Eldamaty went on to say that the graffiti also reveals that the area where it was found was a holy place which urged the predynastic people living there to engrave sacred graffiti on its stone rocks.

"More graffiti is to be found, for sure, after further exploration works," Eldamaty explained.

Mahmoud Afifi, the head of the Ancient Egyptian Antiquities section in the antiquities ministry, pointed out that the graffiti found depicts engravings of wild animals, cattle, gazelles, birds and ostriches.

Sacred religious rituals are also engraved at the site. These rituals reveal the early religious practices that were undertaken to facilitate the hunting of wild animals.

The noblemen cemetery includes a collection of rock-hewn tombs carved into the western mountain of Aswan. They date back to the 23rd century BC and are filled with the rock-hewn tombs of princes from the Old Kingdom to the Roman period.

All the tombs are decorated with vivid murals scenes of daily life, hieroglyphic texts and different titles of the deceased as well as their trips to Africa.

The most distinguished tombs are those that belong to the 12th dynasty nobles Sarenput I and II, Pepynakht, Sibni, Mekhu and Qubbet AlHawwa.

Please visit the site:

<http://english.ahram.org.eg/NewsContent/9/40/193114/Heritage/Ancient-Egypt/Holy-predynastic-graffiti-uncovered-in-Aswan.aspx> [Go there for pix]

**LATE PERIOD PAPYRUS AND
TUTANKHAMUN'S ARROWS RESTORED
FOR GEM THE PRICELESS MATERIAL -
WHICH WILL BE FEATURED AT THE SOFT
OPENING OF THE GRAND MUSEUM HAS
SUFFERED FROM WRONGFUL
RESTORATION AND TOO MANY TRIPS
BETWEEN VARIOUS HOMES,
BY NEVINE EL-AREF**

Work at the restoration laboratory for organic artefacts at the Grand Egyptian Museum (GEM) at the Giza Plateau is in full swing to prepare all the objects that would be put on display at the museum soft opening in 2018 for the show.

The GEM restorers are currently working on two very distinguished organic artefacts: a papyrus of the Late Period queen Hent Taw Set Hathor and king Tutankhamun's hunt arrows collection, GEM officials say.

Hussein Kamal, head of the technical affairs at the GEM restoration centre, told Ahram Online that the papyrus includes seven parts of hieroglyphic written in black and red ink. But, regretfully, Kamal revealed, that the papyrus is in a bad shape.

Previous inadequate restoration work, Kamal explains, is to blame for the deterioration in the condition of the papyrus; this was compounded by wear-and-tear resulting from repeated movement between various museums.

The papyrus was originally located in the Boulaq museum, then transferred to the Egyptian Museum in Tahrir before finally reaching the GEM.

Kamal added that restorers have used a state-of -the-art techniques to conserve the papyrus: supporting it on a specific Japanese paper called Chio, which acts as a very good holder of the papyrus instead of the old fashion method which used glass planks.

"This is not the only papyrus in restoration; 60 per cent of the lab collection includes papyri written in coloured inks and belonging to different ages," kamal said.

These papyri would be documented and registered before restoration in order to determine areas that require sensitive handling and the best restoration techniques to be used.

The hunting arrows, which belonged to the boy-king Tutankhamun, are a unique object because it is the only complete arrows collection ever found from the ancient Egyptian era.

The collection includes different styles of arrows' heads, which are made of glass, wood, ivory and bronze.

Kamal explains that the arrows collection was restored for the first time upon its discovery in 1922. Today's efforts are the second such attempt.

The artefacts have been cleaned, the Paraffin wax used in the first restoration attempt was removed in order to allow for the use of organic materials to rehabilitate the items.

Kamal estimates that restoration works on these two collections could last until the end of March.

Please visit the site:

<http://english.ahram.org.eg/NewsContent/9/44/191003/Heritage/Museums/Late-Period-papyrus-and-Tutankhamuns-arrows-restor.aspx>

EXPERTS DOUBT CLAIMS OF 'HIDDEN CHAMBERS' IN KING TUT'S TOMB, BY OWEN JARUS

Radar experts are casting doubt on claims that King Tutankhamun's tomb contains hidden, undiscovered chambers - and they're calling for more data to be released.

At a March 17 news conference, officials at Egypt's antiquities ministry released radar data that they said showed the presence of hidden cavities inside the tomb of King Tut. The scans, carried out by Japanese radar technologist Hirokatsu Watanabe, "suggest the presence of two empty spaces or cavities beyond the decorated North and West walls of the burial chamber," they said in a statement. The scans also suggest the "presence of metallic and organic substances," and show what could be door lintels that indicate the presence of doorways, they said.

However, Live Science contacted radar experts not affiliated with the project, and they said they doubt the validity of these claims. Some of these experts noted that the geology of the Valley of the Kings, which contains many natural voids, makes it difficult for radar to distinguish archaeological features from natural ones.

"It does not appear that these GPR [ground-penetrating radar] data have been processed, or that any of the so-called anomalies are visible in the raw data that are provided," said Lawrence Conyers, a professor of anthropology at the University of Denver. Conyers literally wrote the book (now in its third edition) on the use of ground-penetrating radar in archaeology.

"My suggestion to those who are collecting it is that they release the raw data for some peer review by other GPR people before they allow the antiquities people to hold a press conference about all the 'riches' that might be in these supposed tombs," Conyers said. "That [peer review] would cut down on all the speculation and critiques that have been going around by email the last few days, as there might be many scientists who could reach a consensus in advance of the speculation in the press."

Michele Pipan, a geosciences professor at the University of Trieste in Italy, said the radar images released by the antiquities ministry show "many interesting features" but that the absence of vertical or horizontal scales on the images makes it difficult to determine how many feet behind the wall they are located.

"I may only say that cavities and metals may fall within the reasonable detection range of a survey like that, but I obviously know nothing about the kind of inversion/interpretation procedure adopted by Watanabe," Pipan said, noting that more information on radar velocity is also needed. The inversion/interpretation procedure refers to the techniques used to gather and analyze the radar data.

Live Science talked to other radar experts who agreed to comment only off the record. They also expressed doubts on the findings, and said there was a need for third-party review and the release of more data.

The Egyptian antiquities ministry said more radar surveys will be conducted in the next few days, and another news conference is scheduled to take place on April 1 in Luxor.

Economic crunch

Egypt's tourism numbers have plummeted since the 2011 revolution that drove then-President Hosni Mubarak from power, according to other experts who spoke with Live Science. The country has been subject to terrorist attacks, including an attack by the Islamic State group that brought down a Russian plane in the Sinai Desert.

Egyptologists have expressed hope that if Tutankhamun's tomb does, indeed, hold Nefertiti's tomb, it may help to bring back tourists and the badly needed jobs and income.

Reeves recently told The New York Times that now is a good time to visit Egypt. "For anyone interested in Egyptian history, this is the time to plan a trip, because you're not going to get jostled by others the way you would have pre-revolution. And, it's also a more affordable destination because prices have dropped," Reeves said.

Reeves did not immediately return Live Science's requests for comment.

Please visit the site: <http://www.livescience.com/54218-experts-doubt-hidden-chambers-king-tut-tomb.html>

ANCIENT NON-STICK PAN FACTORY FOUND IN ITALY, BY ROSSELLA LORENZI

Italian archaeologists have found a site near Naples where the precursors of non-stick pans were produced more than 2,000 years ago.

The finding confirms that non-stick frying pans, an essential tool in any modern kitchen, were used in the Roman Empire.

The cookware was known as "Cumanae testae" or "Cumanae patellae," (pans from the city of Cumae) and was mentioned in the first-century Roman cookbook *De Re Coquinaria* as the most suitable pans for making chicken stews.

However, the pans from Cumae remained a mystery until 1975, when Giuseppe Pucci, archaeologist and professor of history of Greek and Roman art, attempted an identification.

Pucci proposed that a pottery commonly known as Pompeian Red Ware which featured a heavy red-slip coating in the inside, was the "Cumanae testae" from historical sources.

Now Marco Giglio, Giovanni Borriello and Stefano Iavarone, archaeologists at the University of Naples "L'Orientale," have found evidence in Cumae to support Pucci's identification.

"We found a dump site filled with internal red-slip cookware fragments. The dumping was used by a pottery factory. This shows for the first time the Cumanae patellae were indeed produced in this city," Giglio told Discovery News.

Giglio and colleagues found more than 50,000 fragments of lids, pots and pans of various sizes and thickness, each featuring a very distinct coating.

"All the defective artifacts were dumped here. These pieces help us enormously to reconstruct the way the pottery was manufactured," Giglio said.

Many of the fragments featured the thick internal red-slip coating that provided a non-adherent surface, making the pots and pans ideal for cooking meat-based stews.

Mayans Cooked Food With Clay Balls

"Apart from the production's defects that made them end up in the dump, all the recovered fragments are of very high quality," Giglio said.

Only 10 percent of the site once occupied by the pottery factories has been excavated at Cumae, an ancient city overlooking the Tyrrhenian Sea about 12 miles west of Naples.

One of the first Greek colonies in Italy, Cumae is best known for having been home to sibyls (Greek prophetess) whose cave was rediscovered in 1932. Rome conquered the

city in 338 BC; it was then destroyed by the Neapolitans and subsequently abandoned in 1205.

Oldest Flour Ground 32,000 Years Ago

Cumae's mass production of red-slip cookware made it possible to export these pans across the Mediterranean, from Spain to North Africa, and to France, Germany and Great Britain.

The pan and pot fragments unearthed at the dumping site date to the rule of emperors Augustus and Tiberius, between 27 B.C. and 37 A.D.

Preliminary analyses indicate the clay mixture is different from the pans found in Pompeii. The Pompeian Red Ware featured an anti-adhesive coating of much lower quality compared to the fragments from Cumae.

"Cumae indeed appears to be the main production center of these anti-adherent pans widely used throughout the Roman Empire. Finding a dump like this one is an archaeologist's dream," Giglio said.

Please visit the site: <http://news.discovery.com/history/archaeology/ancient-non-stick-frying-pan-factory-found-in-italy-160328.htm> [Go there for sample]

NEW EXCAVATION OF GATH REVEALS ANCIENT LIE: THE PHILISTINES WEREN'T VICIOUS ENEMY

The Philistines are much maligned as barbaric invaders of mysterious origin who didn't even have the good taste to circumcise their menfolk. Now their relations with the ancient Israelites are being recast, from bare-fanged enmity to occasionally thorny coexistence.

Excavations of the city of Gath tells a tale not of bitter enemies locked in sweaty combat, but of intimate relations.

Gath was one of the five cities in what is today Israel that had been ruled by a Philistine "axis lord": the city's ruler was allied with the Philistine lords ruling the other four cities – Gaza, Ekron, Ashdod and Ashkelon.

Situated on the fertile inland plain of Philistia, Gath figured prominently in descriptions of the Israelite-Philistine seesaw domination of the area. But how reliable are these ancient descriptions?

'Warrior giants' and Judahites

Gath and its residents, the Gittites, make several appearances in the scriptures. The best known representatives of the city are the infamous Philistine giant Goliath, whom David vanquished using only a sling, the Philistine king Achish, with whom David sheltered after fleeing from King Saul, and Obed-Edom, a Levite in whose home the Ark of the Covenant temporarily rested.

Another group of Gittites were the Rephaim, other "warrior giants", a remnant of the earlier Canaanite population, with whom the Israelites also had problems on more than one occasion. While fighting the Philistines, David and his soldiers killed four men "born to the Rephaim". Scholars have suggested that the Rephaim of Gath and Philistia may actually have been a multi-generational family of great importance that spanned both the Philistine and Judahite areas of Philistia and the Shephelah during the Iron Age. And, Gath evidently also housed Judahites, based mainly on the biblical record, though the archaeological evidence for their presence in the city is scanty.

Whoever lived in Gath, the biblical mentions of Philistines consistently dismiss them as polytheistic barbarians who superstitiously consult priests and diviners before making decisions.

In the book of Judges, the Philistines are portrayed as ruthless and weak in moral fiber: witness Delilah's use of deceitful charms to rob Samson of his power. Later they killed King Saul and his sons in battle, then viciously hung the king's headless body from the walls of Beit She'an. And to this day, the story of David's victory over the brutal giant Goliath is retold to each new generation, perpetuating the Philistines' negative image. To this very day, their bad name has survived in the disparaging term "philistine", which Oxford defines as "a person who is hostile or indifferent to culture and the arts".

But arguably, this depiction of the nasty Philistines is a misrepresentation for political purposes that go back thousands of years.

D-Day, or intimate relations

The bible depicts Judea as a small but powerful kingdom that controlled the mountains and plains, with Gath passing back and forth between Philistine to Judean control. But the archaeological evidence does not support this description. If anything, it seems that the Philistines controlled the Judean plain – and that during the Iron Age, Gath was a large, powerful metropolis on the border with Judea. The city remains feature an iron production area and massive fortifications, which are unmarked by the signs of destruction that one would expect if there was incessant warfare with Judea.

“To say that they were archenemies is a distortion,” claims Gunnar Lehmann of Ben Gurion University, an expert on the pottery of the Philistines and the so-called Sea Peoples. “They may not have been the closest friends throughout history, but clear conflict is only mentioned in the time of King Saul, in the books of Samuel. As soon as you come to the narratives of King David and King Solomon, there is some sort of coexistence.”

Recent excavations at Tell el-Safi, the site of the ancient city of Gath, by Prof. Aren Maeir of Bar Ilan University confirm that the Gittites - and consequently the Philistines - lived together with the local people. The seeming arch-foes described in the scriptures maintained intimate cultural ties.

“Philistine cooking vessels appear in Judah. We see Philistine words in Hebrew biblical texts and vice versa, Hebrew letters in proto-Philistine writing,” Maeir told Haaretz. “We found an altar at Gath that is reminiscent of the descriptions of the Jewish altars in the scriptures, and right next to this altar, we found a jar dedicated to the Philistine temple, with a Judahite name on it.”

Relations between the ancient Hebrews and the Philistines are rather like the relationship between the Israelis and Palestinians today, he suggests. They may have been enemies on the surface, but below that, “The relationship goes on many levels. We work together, we eat together, we wear the same type of clothes. It's more than just us and them.”

Infiltration, not invasion

Previously, historians assumed the Philistines arrived on the Levantine coast as powerful invaders, just as the other civilizations around the region were collapsing, in about 1177 BCE.

“The image had been of a sort of D-Day invasion, where they landed on the Canaanite coast, and captured and supplanted the population,” says Maeir, who has been digging at Gath for over two decades. But it seems the Philistines moved in, rather than conquered. They brought Mycenaean culture with them, but gradually became more Levantine over the years, he says.

Further supporting the theory of infiltration rather than disastrous invasion, Maier adds: “There is almost no evidence that the Philistine culture appeared following massive

destruction. Few of the Canaanite cities that existed in the southern coastal plain of Israel prior to the appearance of the Philistines show evidence of major destruction.”

On the contrary, the material dating to the Iron Age in the Levant indicate a continuing cultural exchange with the Aegean. “The conception that the Sea People phenomenon was a single event in the early 13th century BCE, is wrong. I think the Sea People phenomenon was a very long process that started with various groups at the late 15th century BCE and went all the way through to the 11th century BCE,” Lehmann told Haaretz.

The origin of the Philistines has been the subject of much heated debate. The Hebrew Scriptures mention "Caphtor" (Jeremiah 47:4; Am 9:7) as the Philistines' origin before their migration to Canaan. But where Caphtor might be is anybody's guess. Suggestions include Egypt itself, the southeastern coast of Cilicia, Turkey and Crete. Wherever they were from, evidently the Philistines had their issues with the Egyptians as well: Some of the earliest references to Philistines can be traced back to Egyptian records from the late 13th and early 12th century BCE, mentioning a confederation of Sea Peoples that fought against Egypt. Among these peoples were the "Peleset" (whom Ramesses III reportedly defeated at the Battle of the Delta).

Another Egyptian inscription calls the Philistines "thr warriors" - which is the term the Egyptians used for all kinds of troops fighting on the Hittite side in the great charioteer battle of Kadesh. Egyptologist Shirly Ben Dor Evian from Tel Aviv University sees that as attesting to the origin of the Philistines: “As far as the Egyptians was concerned they were thr warriors and that would place them in Anatolia, Cilicia even Syria,” she explains to Haaretz.

Ultimately, it seems the Philistines, as a definable ethnic and cultural entity, emerged from a variety of western peoples that wound up settling in Canaan, and lived peacefully side-by-side with each other and with the locals. “I think there was an immigration of a variety of groups: pirates, mercenaries, and merchants,” Lehmann says – qualifying that all is highly speculative.

Pirates of the Mediterranean?

Maeir too thinks at least some of the Philistines may have originated as pirate groups around 1177 BCE.

“The 13th century BCE is a period of collapse. The Hittite kingdom collapsed, the Egyptian kingdom gets weaker and the Mycenaean Palatial kingdoms fell apart. Historically, we know that pirate groups flourish in a period when there is less centralized government. Also, pirate groups are often multi-ethnic cultural groups led by a charismatic leader,” Maeir says.

“I don’t believe they had eye patches or wooden legs but I think that might help us explain how they became what we know as the Philistine culture,” he elaborates. “Once they settled down, they created the identity we know as Philistines, which in the beginning had many of these western attributes. But with time, the Philistines become more Levantine in culture.”

The many cultural similarities between the two peoples might explain why it was so important for both the Philistines and Israelites to differentiate themselves from each other, a tradition that was transferred into the biblical record, Maeir believes.

And thus the Bible is full of anecdotes about the Gittites and Philistines, and even if they aren't necessarily true, they have proven to be more long-lived than the historical truths of science. For now the origin of the Philistines continues to be part of selective historiography and political mythology – the people whose very name has survived in the disparaging term “philistine”. But, as the late Prof. Trude Dothan once asked, "Is this image deserved?" It may well not be.

**Please visit the site: <http://www.haaretz.com/jewish/archaeology/.premium-1.711506>
[Go there for pix]**



TEXT IN LOST LANGUAGE MAY REVEAL GOD OR GODDESS WORSHIPPED BY ETRUSCANS AT ANCIENT TEMPLE

Rare religious artifact found at ancient temple site in Italy is from lost culture fundamental to western traditions.

Archaeologists in Italy have discovered what may be a rare sacred text in the Etruscan language that is likely to yield rich details about Etruscan worship of a god or goddess.

The lengthy text is inscribed on a large 6th century BCE sandstone slab that was uncovered from an Etruscan temple.

A new religious artifact is rare. Most Etruscan discoveries typically have been grave and funeral objects.

"This is probably going to be a sacred text, and will be remarkable for telling us about the early belief system of a lost culture that is fundamental to western traditions," said archaeologist Gregory Warden, co-director and principal investigator of the Mugello Valley Archaeological Project, which made the discovery.

The slab, weighing about 500 pounds and nearly four feet tall by more than two feet wide, has at least 70 legible letters and punctuation marks, said Warden, professor emeritus at Southern Methodist University, Dallas, main sponsor of the project.

Scholars in the field predict the stele (STEE-lee), as such slabs are called, will yield a wealth of new knowledge about the lost culture of the Etruscans. The Etruscan civilization once ruled Rome and influenced Romans on everything from religion to government to art to architecture.

Considered one of the most religious people of the ancient world, Etruscan life was permeated by religion, and ruling magistrates also exercised religious authority.

The slab was discovered embedded in the foundations of a monumental temple where it had been buried for more than 2,500 years. At one time it would have been displayed as an imposing and monumental symbol of authority, Warden said.

The Mugello Valley dig, specifically the Poggio Colla site, is northeast of Florence, Italy. The slab would have been connected to the early sacred life of the sanctuary there. The architecture then was characterized by timber-framed oval structures pre-dating a large temple with an imposing stone podium and large stone column bases of the Tuscan Doric type, five of which have been found at the site, Warden said.

"We hope to make inroads into the Etruscan language," said Warden, president and professor of archaeology at Franklin University Switzerland. "Long inscriptions are rare, especially one this long, so there will be new words that we have never seen before, since it is not a funerary text."

Conservation and study of the stele, with full photogrammetry and laser scanning to document all aspects of the conservation process and all details of the inscribed surfaces, is underway in the next few months at the conservation laboratories of the Tuscan Archaeological Superintendency in Florence by experts from the architecture department of the University of Florence. The sandstone, likely from a local source, is heavily abraded and chipped, with one side reddened, possibly from undergoing burning in antiquity. Cleaning will allow scholars to read the inscription.

"We know how Etruscan grammar works, what's a verb, what's an object, some of the words," Warden said. "But we hope this will reveal the name of the god or goddess that is worshiped at this site." The text will be studied and published by a noted expert on the Etruscan language, Rex Wallace, Professor of Classics at the University of Massachusetts Amherst.

In two decades of digging, Mugello Valley Archaeological Project has unearthed objects about Etruscan worship, beliefs, gifts to divinities, and discoveries related to the daily lives of elites and non-elites, including workshops, kilns, pottery and homes. This wealth of material helps document the ritual activity from the 7th century to the 2nd century BCE, including gold jewelry, coins, the earliest scene of childbirth in western European art, and in the past two seasons, four 6th-century bronze statuettes.

Etruscan scholar Jean MacIntosh Turfa with the University of Pennsylvania Museum, Philadelphia, said the stele discovery will advance knowledge of Etruscan history, literacy and religious practices.

"Inscriptions of more than a few words, on permanent materials, are rare for the Etruscans, who tended to use perishable media like linen cloth books or wax tablets," Turfa said. "This stone stele is evidence of a permanent religious cult with monumental dedications, at least as early as the Late Archaic Period, from about 525 to 480 BCE. Its re-use in the foundations of a slightly later sanctuary structure points to deep changes in the town and its social structure."

It would be a rare discovery to identify the Etruscan god or goddess to which the sanctuary was dedicated.

"Apart from the famous seaside shrine at Pyrgi, with its inscribed gold plaques, very few Etruscan sanctuaries can be so conclusively identified," Turfa said. "A study of the names of the dedicants will yield rich data on a powerful society where the nobility, commoners and even freed slaves could offer public vows and gifts."

Etruscans were a highly cultured people, but very little of their writing has been preserved, mostly just short funerary inscriptions with names and titles, said archaeologist Ingrid Edlund-Berry, professor emerita, The University of Texas at Austin.

"So any text, especially a longer one, is an exciting addition to our knowledge," said Edlund-Berry, an expert in Etruscan civilization. "It is very interesting that the stele was found within the walls of the buildings at the site, thus suggesting that it was re-used, and that it represents an early phase at the site."

The Poggio Colla site is in northern Etruria. Most inscriptions have come from centers further south, Edlund-Berry said.

Besides SMU, other collaborating institutions at Mugello Valley Archaeological Project include Franklin and Marshall College, the University of Pennsylvania Museum of Archaeology, the Center for the Study of Ancient Italy at The University of Texas at Austin, The Open University (UK), and Franklin University Switzerland.

Please visit the site: <http://popular-archaeology.com/issue/spring-2016/article/text-in-lost-language-may-reveal-god-or-goddess-worshipped-by-etruscans-at-ancient-temple>

ANCIENT QUARRY PROVES HUMAN IMPACT ON LANDSCAPE

Archaeologists from the Hebrew University of Jerusalem uncovered in central Israel the earliest known Neolithic quarry in the southern Levant, dating back 11,000 years. Finds from the site indicate large-scale quarrying activities to extract flint and limestone for the purpose of manufacturing working tools.

In a research paper published in the journal PLOS ONE, a team of archeologists, led by Dr. Leore Grosman and Prof. Naama Goren-Inbar from the Institute of Archeology at the Hebrew University of Jerusalem, showed how inhabitants of the Neolithic communities changed their landscape forever.

"Humans became more dominant and influential in their terrestrial landscape and Kaizer Hill quarry provides dramatic evidence to the alteration of the landscape," said Dr. Grosman.

Kaizer Hill quarry is the first of its age, size and scope to be revealed in the southern Levant, where the Neolithic culture is believed to have begun and farming communities have developed. The introduction of farming is widely regarded as one of the biggest changes in human history, and "domestication" of the landscape was a significant process in the changing approach to nature.

The quarry is assigned to the Neolithic Pre-Pottery Neolithic A (PPNA) culture, one of the incipient cultural stages in the shift from a hunter-gatherer to a farming way of life.

The gradual transition to agricultural subsistence, when people learned how to produce their food rather than acquiring it, was accompanied by a changing attitude to 'landscape' and the practices of using the surrounding nature for the benefit of humans.

"The economic shift, from hunter-gatherers to agriculture, was accompanied by numerous changes in the social and technological spheres. Various quarrying marks including cup marks showed that the cutting of stones was done in various strategies, including identifying potential flint pockets; creating quarrying fronts on the rocks; removing blocks to allow extraction of flint; creating areas for quarrying dump; and using drilling and chiseling as a primary technique for extracting flint," said Prof. Goren-Inbar.

Researchers suggested a new interpretation to bedrock damage markings on the site of Kaizer Hill quarry, located on a 300 meter-high hill on the outskirts of the sprawling city of Modi'in, some 35 km west of Jerusalem.

"At the peak of the hill we found damaged rock surfaces, providing evidence to quarrying activity aimed at extracting flint nodules and exploiting the thick layer of caliche (a sedimentary rock locally known by the Arabic term Nari)," said Dr. Leore Grosman.

"The ancient people at the time carved the stone with flint working tools (for example axes). This suggestion differs from the commonly held view, which considers all features defined as cup marks to be devices that were primarily involved in a variety of grinding, food preparation, social or even symbolic activities," researchers wrote in their paper.

More information: Leore Grosman et al. Landscape Alteration by Pre-Pottery Neolithic Communities in the Southern Levant - The Kaizer Hilltop Quarry, Israel, PLOS ONE (2016). <http://dx.doi.org/10.1371/journal.pone.0150395>

Please visit the site: <http://phys.org/news/2016-03-ancient-quarry-human-impact-landscape.html>

CT SCAN SHOWS PHARAOH RAMESSES III WAS MURDERED BY MULTIPLE ASSASSINS A MISSING TOE REVEALS THAT THE GOD- KING WAS KILLED BY MORE THAN ONE PLOTTER, BY JASON DALEY

The reign of Ramesses III, the second pharaoh in Egypt's 20th dynasty, was not the most stable chapter in the empire's history. There were endless wars with the "Sea Peoples" (naval raiders in the Mediterranean region), which drained the treasury, bad weather that interrupted food supplies, along with political unrest. All this led to a successful murder plot against Ramesses III in 1155 B.C. Now, new CT scans of Ramesses III's mummy are shedding more light on how this god-king met his end.

In 2012, eminent Egyptologist Zahi Hawass and Cairo University radiologist Sahar Saleem scanned Ramesses III mummy and revealed that an assassin cut through his esophagus and trachea, killing him almost instantly. But a new book by the pair, *Scanning the Pharaohs: CT Imaging of the New Kingdom Royal Mummies* makes the story a little more complicated, suggesting that the pharaoh was likely murdered by multiple assailants.

The mummy scans show that Ramesses III had one of his big toes hacked off, as Stephanie Pappas at LiveScience reports, and that the wound never had time to heal, meaning it likely happened at the same time his throat was slit.

"The site of [the] foot injury is anatomically far from the neck-cut wound; also the shape of the fractured toe bones indicate that it was induced by a different weapon than that used to induce the neck cut," Saleem tells Pappas. "So there must have been an assailant with an ax/sword attacking the pharaoh from the front, and another one with a knife or a dagger attacking the pharaoh from his back, both attacking at the same time."

While the assassins who wielded the weapons will probably never be identified, an ancient document titled the *Judicial Papyrus of Turin* details the plot to assassinate Ramesses III. It reveals that his secondary wife Tiye and her son Pentawere conspired with others to kill the pharaoh, who had selected a heir from a more senior wife. While the so-called "harem conspiracy" successfully killed Ramesses III, his heir, Ramesses IV survived any attempts on his life. When he took the throne, he put Tiye and Pentawere, along with many other members of the royal household on trial.

But it seems Ramesses III's embalmers didn't want the royal squabble to follow the pharaoh into the afterlife. According to Discovery News they attempted to hide Ramesses wounds, performing a little post-mortem cosmetic surgery. They fashioned a fake toe out of linen and covered it in heavy layers of resin. When researchers in the 19th century tried unwrapping the mummy, they couldn't get the linen off his feet. It wasn't until the CT scan that researchers found out why.

"This hid the big secret beneath the wrappings," Saleem tells Pappas. "It seems to me that this was the intention of the ancient Egyptian embalmers, to deliberately pour large amounts of resin to glue the layers of linen wrappings to the body and feet."

The scans also reveal materials were stuffed under the deceased pharaoh's skin to make him more plump and attractive for when he met Osiris, a little nip and tuck trick that's found on several other mummies, including King Tut.

Please visit the site: <http://www.smithsonianmag.com/smart-news/ct-scan-shows-pharaoh-Ramesses-iii-was-murdered-multiple-assassins-180958559/?no-ist>

ANCIENT MESOPOTAMIAN CULTURE **VANISHING BEFORE OUR EYES**

Ancient Mesopotamian culture vanishing before our eyes as the land at the heart of the cradle of civilization dries out, an ancient culture is being lost with the unique ecosystem that sustains it.

For thousands of years, the marshes at the confluence of the Tigris and Euphrates rivers in modern day Iraq were an oasis of green in a dry landscape, hosting a wealth of wildlife. The culture of the Marsh Arab, or Ma'dan, people who live there is tightly interwoven with the ecosystem of the marshes. The once dense and ubiquitous common reed (*Phragmites australis*) served as raw material for homes, handicrafts, tools, and animal fodder for thousands of years. Distinctive mudhif communal houses, built entirely of bundled reeds, appear in Sumerian stonework from 5,000 years ago. Now that culture is drying up with the marshes.

Recent decades have brought extreme change to the fertile lands famous for the birth of agriculture and the rise of some of the world's earliest cities. The sphere of daily life for Marsh Arab women has shrunk as the natural resources they traditionally cultivated have vanished, reports an international team of researchers in "Effects of Mesopotamian Marsh (Iraq) desiccation on the cultural knowledge and livelihood of Marsh Arab women," published in the March 2016 issue of *Ecosystem Health and Sustainability*, a joint journal of the Ecological Society of America and Ecological Society of China.

The study* is the first effort to specifically document Marsh Arab women's cultural relationship to marsh ecological services.

"Imagine the Everglades. The Marsh Arabs used to live in the middle of the water, surrounded by everything green. The fields, the reeds, and the water buffalo were around them. Now they have to walk five, ten kilometers to reach resources. The land is dry and brown," said study author Nadia Al-Mudaffar Fawzi, an Iraqi marine ecologist who returned from New Zealand to the city of her birth in 2009 to teach and conduct research at the University of Basrah.

Al-Mudaffar Fawzi studies the impact of climate change on biodiversity in the marshes, the Persian Gulf, and the Shatt al-Arab river which connects them. Rising temperatures, falling water volume in the Tigris and Euphrates rivers, and groundwater pumping is causing the salt water in the Gulf to extend up the Shatt al-Arab, which is formed by the confluence of the Tigris and Euphrates. Basrah, now the second largest city in Iraq, is on the Shatt al Arab about 70 kilometers downstream of the confluence.

"When I came back in 2009, I knew there were lots of problems with drying of the system. We knew there was big impact on fish production, on water quality in the Shatt al-Arab, and in the north of the Gulf," said Al-Mudaffar Fawzi.

In her investigations of the water systems, she also grew interested in the social impact of environmental change, and in people's understandings of the effects of the environment on their lives. Iraq did not have environmental laws until the change of government in 2003, and they remain a low priority in the current chaotic conditions in the country.

"The whole situation in the marshes is completely different from what I saw before, in the '70s and early '80s," she said. "Women used to play a role in the ecological system. They used to work with men in gathering reeds and in fishing, and we would see them in the market when they come and sell their produce, like the fish, and the milk from the buffalo, the cheese and the yogurt that they make."

Al-Mudaffar Fawzi and her colleagues designed a survey to more formally ask Marsh Arab women about their lives and activities. With the exception of women living on the edge of the Mesopotamia Marshland National Park, created in 2013, where restoration efforts have seen some success, Marsh Arab women reported that their daily lives had narrowed to domestic tasks in the home. Very few women today go out to gather reeds or care for buffalo.

"The older women who were adults before the war would tell us, 'back then I was out making dung patties, collecting reeds, taking care of buffalo,'" said author Kelly Goodwin, who works with the international NGO Millennium Relief and Development Services. "They say, 'now I'm just at home!'"

Goodwin interviewed 34 women, ranging in age from teenagers to more than 70 years, in the Hammar Marshes north of the city of Basrah in December 2013-February 2014. More than half the interviewees were over 50. These older women were born and grew to adulthood before the war in the 1980s and destruction of the 1990s. Nearly 60 percent of younger women under 40 described their days as exclusively "domestic."

We are not teaching our daughters, older women told the researchers, because the water is gone, the ground is dry and there are no reeds to gather. The water is too salty for our buffalo.

Although men and women have separate roles in Marsh Arab culture, traditional women's work took women outside the home and brought supplementary income to the family through market sales. Women cared for water buffalo and gathered reeds to weave into mats, baskets, pigeon cages and other tools. Women turned high-fat buffalo milk into dairy products, dung into fuel, and raise chickens, cattle, and sheep. They helped cultivate rice, wheat, and dates. Usually women, not men, took fish, dairy, and handicrafts to sell in city markets.

"The marshes were a cultivated landscape, shaped by selective harvest, hunting, fishing, and burning to promote the natural resources that the Marsh Arabs used--much like the precolonial landscape was cultivated by native peoples here in California," said author Michelle Stevens, a professor California State University in Sacramento. Also like California, Stevens said, climate change modeling predicts a future of hotter summers, accentuated droughts, and shrinking winter snowpacks in Turkey's Taurus Mountains, where the Tigris and Euphrates rivers arise.

In Iraq, war and ongoing political instability have magnified the problems besieging marshes worldwide, particularly in arid landscapes: pollution and too many demands on the water that sustains them. The marshes enjoyed a burst of recovery the mid-2000s after drying up nearly completely in the previous decade. The influx of water, and resulting dramatic greening, can be seen in images from NASA's Terra satellite, captured between 2000 and 2010. The resilient reeds returned quickly as the marshes rehydrated.

In the 1990s, former Iraqi leader Saddam Hussein deliberately drained the marshes to facilitate oil discovery and to retaliate against tribes that participated in uprisings against his government. Marsh Arabs who had not already fled the front line fighting during the Iran-Iraq War of the 1980s, were forced to leave as the land became barren and dry.

After the Second Gulf War removed Hussein from power, Iraqis tore down the water diversions and returned water to the marshes. Many Marsh Arabs returned to their homeland. The apparent resilience of the ecosystem and the culture of the marshes masked fragility, however. The researchers fear that the Marsh may be approaching a threshold of no return, as the older generation with the wealth of skills needed to flourish in the marshes yields to a younger generation that never had the opportunity for hands-on learning.

Water in the Tigris and Euphrates has dropped to 20 percent of the pre-war volume. The remaining water carries so much salt that it is often undrinkable. Drought in 2007 hit the region hard, reversing many of the restorative gains for the ecosystem. The generation of Marsh Arabs that grew up outside the marshes had no practical experience of living in the marshes, and struggled to adapt to the lifestyle of their parents' youth.

Goodwin describes the tapwater in Basrah as so salty that a filigree of crystals forms on the surface of dishes as they dry. Increased dependence on groundwater is worsening saltwater intrusion from the Gulf.

Although the Tigris and Euphrates rivers flow across the length Iraq, the water comes from outside its borders. Iraq is at the mercy of the water policies of its upstream neighbors Turkey, Syria, and Iran, all of which have intensified water development projects in recent years. The current political instability makes effective diplomacy on water issues difficult.

Recovery of the ecosystem and culture of the marshes will likely depend on diplomatic efforts to secure sufficient water, Al-Mudaffar Fawzi says. In Mesopotamia Marshlands National Park, Iraq's first national park, restoration practices are emerging that appear to successfully restore social and ecological systems, and could be used as templates for restoration in other areas of the Mesopotamian Marshes. But this cannot be done without water.

The authors recommend that programs be implemented to preserve traditional skills, to develop a market for handicrafts to support women and their families, and to support cultural knowledge. Otherwise, with the passing of the older generation, these remnants of ancient Sumerian knowledge systems and traditional ways of life will soon be lost.

"It was extremely sobering sometimes to see the circumstances some people are living in," said Goodwin. "Much of the land near Basrah city is desertified." But visits to the marshes could also be thrilling, she said, and the visit to the restored region was almost magical.

"I really consider it was a privilege to sit with these women, drink tea, and hear their stories," said Goodwin. "I would have loved to have tangible solutions to take back to them that could encourage the retention of cultural traditions and secure ecological

restoration. I think they feel they are forgotten and overlooked. I wish I could tell them that they are not forgotten."

Source: News release of the Ecological Society of America.

*Nadia Al-Mudaffar Fawzi, Kelly P. Goodwin , Bayan Mehdi, Michelle L. Stevens (2016) Effects of Mesopotamian Marsh (Iraq) desiccation on the cultural knowledge and livelihood of Marsh Arab women. Ecosystem Health and Sustainability 2(3):e01207. doi: 10.1002/ehs2.1207 Full text open access

Please visit the site: <http://popular-archaeology.com/issue/spring-2016/article/ancient-mesopotamian-culture-vanishing-before-our-eyes>

NEWLY RESTORED FLOOR MOSAICS FROM ANTIQUITY SYNAGOGUE IN BULGARIA'S PLOVDIV UNVEILED FOR THE FIRST TIME, BY IVAN DIKOV

Absolutely unique 3rd century AD floor mosaics from the Antiquity Synagogue in the southern city of Plovdiv, Bulgaria's only Jewish temple from the Antiquity period, have been restored by the Plovdiv Museum of Archaeology.

The mosaics, which are made with red, orange, green, black, and white stones, have never been shown to the public before, and this is the first time they can be seen in a form that is as close their original as possible.

The Antiquity Synagogue of ancient Philipopolis (Trimontium in the Roman period), as Plovdiv was known in ancient times, was built in the first half of the 3rd century AD, possibly during the Severan Dynasty (r. 193-235 AD).

It is said to be the earliest known and the largest Antiquity synagogue on the Balkan Peninsula.

Its ruins were first discovered during rescue excavations in 1981 but its mosaics have been fully restored, and showcased just now, 35 years later.

The Jewish temple was damaged several times in barbarian invasions and anti-Semitic persecution, and was rebuilt after each one of those, until the end of the 6th century AD when it was abandoned for good.

The Antiquity Synagogue was located close to the Small Basilica of ancient Philipopolis; its existence, and the inscriptions in Greek and Latin found in its ruins, are taken to mean that in ancient times, today's Plovdiv was a truly cosmopolitan city.

The exhibition of the 3rd century mosaics from the ancient Jewish temple by the Plovdiv Museum of Archaeology is also the first time the mosaics have been seen in their true scale, reports the 24 Chasa daily.

The central image of the mosaics is a large menorah (a seven-lamp lamp stand, the symbol of Judaism). Unfortunately, the lower part of the candelabrum could not be restored because the mosaics were destroyed in the Early Byzantine period.

To the right of the menorah, there is a depiction of a lulav (a date palm tree branch), and in the bottom corners there are inscriptions in Ancient Greek.

The inscription mentions with certainty the Jewish origin of the temple's donors - Isaac and Joseph, who are said to be representatives of a sizable Jewish community in the ancient city.

The Synagogue, which is a basilica-type building, also had a second layer of mosaics added after a reconstruction in the 5th century AD; the artists of this second layer appears to have shied away from Jewish symbols.

"[The Antiquity Synagogue] is a unique monument of immense historical and artistic value," states lead archaeologist Elena Kisyakova who discovered the ruins and mosaics of the ancient Jewish temple during rescue excavations.

She adds that the Synagogue testifies to the important role that the Jews played in the public life of ancient Philipopolis (Trimontium), today's Bulgarian city of Plovdiv.

The existence of the temple is also construed as evidence of the arrival of settlers from the eastern provinces of the Roman Empire, who are believed to have been rich merchants and craftsmen.

Learn more about Plovdiv, the Antiquity Synagogue, and the restored Small Basilica in the Background Infonotes below. Another ancient temple in the city, Plovdiv's Great Basilica, is presently being excavated and restored.

Also check out our other stories about Jewish archaeological monuments and Jewish history in Bulgaria:

Late Medieval Jewish Necropolis in Bulgaria's Karnobat to Become Cultural Tourism Destination

The Antiquity Synagogue in the southern Bulgarian city of Plovdiv (ancient Philipopolis, also called Trimontium in the Roman period) is the only known synagogue in Bulgaria from the Antiquity period. It was in operation in the 3rd-4th century AD.

It is said to be the earliest known and the largest Antiquity synagogue on the Balkan Peninsula.

Its ruins were first discovered by archaeologist Elena Kisyakova during rescue excavations in 1981 but its mosaics were fully restored and showcased by the Plovdiv Museum of Archaeology only in 2016, 35 years later.

They were found near the Small Basilica in Plovdiv; only its foundations and part of its floors have been preserved. It was a three-room basilica with a large yard. The archaeological excavations have found two layers of decorative floor mosaics depicting geometric motifs, a large menorah (a seven-lamp lampstand, the symbol of Judaism) (the lower part of the candelabrum mosaics was destroyed), a lulav (a date palm tree branch), and inscriptions in Greek and Latin.

A four-line inscription in Greek names the donors of the synagogue, Isaac and Joseph, and says they were representatives of the large Jewish community in the ancient city. The existence of the Jewish temple and its inscriptions are seen as evidence of the cosmopolitanism of ancient Philipopolis (Trimontium), today's Plovdiv.

The Antiquity Synagogue in Bulgaria's Plovdiv was probably built during the time of the Severan Dynasty of the Roman Empire (193-235 AD). It was badly damaged after the Goths conquered the city ca. 250 AD; subsequently, it was rebuilt, and then destroyed again during the persecution of the Jews by Byzantine (Eastern Roman) Emperor Arcadius (r. 395-408 AD).

Later the Antiquity Synagogue was reconstructed and expanded, with a second layer of floor mosaics added. This second layer has been found to have been rougher, without depictions of specifically Jewish symbols.

The Antiquity Synagogue in Bulgaria's Plovdiv was ultimately destroyed at the end of the 6th century AD.

The Small Basilica of ancient Philipopolis, which is located in the downtown of today's southern Bulgarian city of Plovdiv, was built in the 5th century in honor of then military commander of the province of Thrace, Flavius Basiliscus.

Basiliscus became Emperor of the Eastern Roman Empire, i.e. Byzantium (r. 475-476 AD) but was deposed by his predecessor, Byzantine Emperor Zeno (r. 474-475 and 476-491 AD) who ordered the destruction of any traces left by Basiliscus. This led to the deletion of several lines from a donation inscription in the Small Basilica in Philipopolis.

The basilica itself It is a three-nave Early Christian church with a length of 20 meters, including the apse, and a width of 13 meters. It is located on the eastern outskirts of the ancient city of Philipopolis close to the inside of the eastern section of the fortress wall near a fortress tower dating back to the 2nd-4th century. It was discovered by accident in 1988 during construction works for a residential building, and has been granted the status of a national culture monument.

It was restored between 2010 and 2014 under a project of the Bulgarian Culture Ministry, Plovdiv Municipality, and the America for Bulgaria Foundation, which provided a USD 1 million grant for its excavation and restoration.

The history of the southern Bulgarian city of Plovdiv - often dubbed the oldest city in Europe - began with the human settlement on the ancient hill of Nebet Tepe ("tepe" is the Turkish word for "hill"), one of the seven historic hills where Plovdiv was founded and developed in prehistoric and ancient times.

The hills, or "tepeta", are still known today by their Turkish names from the Ottoman period. Out of all of them, Nebet Tepe has the earliest traces of civilized life dating back to the 6th millennium BC, which makes Plovdiv 8,000 years old, and allegedly the oldest city in Europe. Around 1200 BC, the prehistoric settlement on Nebet Tepe was transformed into the Ancient Thracian city of Eumolpia, also known as Pulpudeva, inhabited by the powerful Ancient Thracian tribe Bessi.

During the Early Antiquity period Eumolpia / Pulpudeva grew to encompass the two nearby hills (Dzhambaz Tepe and Taxim Tepe known together with Nebet Tepe as "The Three Hills") as well, with the oldest settlement on Nebet Tepe becoming the citadel of the city acropolis.

In 342 BC, the Thracian city of Eumolpia / Pulpudeva was conquered by King Philip II of Macedon renaming the city to Philippopolis. Philippopolis developed further as a major urban center during the Hellenistic period after the collapse of Alexander the Great's Empire.

In the 1st century AD, more precisely in 46 AD, Ancient Thrace was annexed by the Roman Empire making Philippopolis the major city in the Ancient Roman province of Thrace. This is the period when the city expanded further into the plain around The Three Hills which is why it was also known as Trimontium ("the three hills").

Because of the large scale public construction works during the period of Ancient Rome's Flavian Dynasty (69-96 AD, including Emperor Vespasian (r. 69-79 AD), Emperor Titus (r. 79-81 AD), Emperor Domitian (r. 81-96 AD)), Plovdiv was also known as Flavia Philippopolis.

Later emerging as a major Early Byzantine city, Plovdiv was conquered for the First Bulgarian Empire (632/680 - 1018 AD) by Khan (or Kanas) Krum (r. 803-814 AD) in 812 AD but was permanently incorporated into Bulgaria under Khan (or Kanas) Malamir (r. 831-836 AD) in 834 AD.

In Old Bulgarian (also known today as Church Slavonic), the city's name was recorded as Papaldin, Paldin, and Pladin, and later Plavdiv from which today's name Plovdiv originated. The Nebet Tepe fortress continued to be an important part of the city's fortifications until the 14th century when the Second Bulgarian Empire (1185-1396 AD) was conquered by the Ottoman Turks. During the period the Ottoman yoke (1396-1878/1912) when Bulgaria was part of the Ottoman Empire, Plovdiv was called Filibe in Turkish.

Today the prehistoric, ancient, and medieval settlement on Nebet Tepe has been recognized as the Nebet Tepe Archaeological Preserve. Some of the unique archaeological finds from Nebet Tepe include an ancient secret tunnel which, according to legends, was used by Apostle Paul (even though it has been dated to the reign of Byzantine Emperor Justinian I the Great (r. 527-565 AD)) and large scale water storage reservoirs used during sieges, one of them with an impressive volume of 300,000 liters. Still preserved today are parts of the western fortress wall with a rectangular tower from the Antiquity period.

Please visit the site: <http://archaeologyinbulgaria.com/2016/03/24/newly-restored-floor-mosaics-from-antiquity-synagogue-in-bulgarias-plovdiv-unveiled-for-the-first-time/> [Go there for pix]

ARCHAEOLOGISTS TO STUDY SHACKLED SKELETONS FROM ANCIENT GREECE TO UNDERSTAND RISE OF ATHENS, BY KRISTINA KILLGROVE

Not even four miles south of Athens lies Phaleron - a site unknown to most tourists. A port of Athens in classical times, Phaleron also boasts one of the largest cemeteries ever excavated in Greece, containing more than 1,500 skeletons. Dating to the 8th-5th centuries BC, Phaleron is significant for our understanding of the rise of the Greek city-state. And, in particular, for understanding the violence and subjugation that went with it. Two mass burials at Phaleron include people who were tossed face-down into a pit, their hands shackled behind their backs. To learn more about these deviant burials and their relationship to Greek state formation, an international team of archaeologists is cleaning, recording, and analyzing the Phaleron skeletons.

Excavation at the site began nearly a century ago, with a mass grave - often referred to as containing the "captives of Phaleron" because of the presence of metal handcuffs - excavated by the Greek Archaeological Service. But large-scale excavation of almost an acre of Phaleron was carried out between 2012-2016 by the Department of Antiquities of the Hellenic Ministry of Culture, led by archaeologist Stella Chrysoulaki. The modern excavation garnered massive publicity in Greece because of its scale and funding from the Stavros Niarchos Foundation Cultural Center, but little news has trickled out in the English-language media.

Archaeological excavation was careful and detailed, with conservators on site and with several skeletons removed in blocks for future micro-excavation. Digitization of the archaeological field records, photographs, and maps is done, but this is just the beginning for the skeletons themselves, whose preservation and analysis has to be done by specialists in bioarchaeology and forensic anthropology.

Please visit the site:

<http://www.forbes.com/sites/kristinakillgrove/2016/03/24/archaeologists-to-study-shackled-skeletons-from-ancient-greece-to-understand-rise-of-athens/#21ad83873591> [Go there for pix]

WHEN VINEYARDS BLOOMED IN SUDAN..., BY SZYMON ZDZIEBŁOWSKI

Poznań archaeologists discovered settlements, towns and cemeteries from the Middle Ages during research in northern Sudan, in the area of the Letti Basin. Now, researchers intend to examine one of these places in more detail.

In the mid-seventh century, Egypt was conquered by Muslim armies. The pressure of the invading army, advancing south along the Nile Valley, stopped the Christian kingdom of Makuria. The relics of this civilization have been discovered by Poznań archaeologists in the area of the Letti Basin, about 350 km north of Khartoum. Makuria was a powerful kingdom, which existed from the sixth to the fourteenth century between II and V cataracts of the Nile. For several centuries its power reached even farther north almost to the modern Aswan.

"The southern part of the kingdom of Makuria is fairly well known thanks to the excavations conducted by the Centre of Mediterranean Archaeology of the University of Warsaw in Ghazali, Baganarti and Dongola - the latter was the capital of the kingdom. The northern is still +terra incognita+" - told PAP Dr. Dobiesława Bagińska from the Archaeological Museum in Poznań, initiator of the research project in the Letti Basin.

In autumn 2015, scientists carried out extensive reconnaissance in the Letti Basin, in the area of approx. 150 km² - this area was previously very poorly surveyed by archaeologists. Several sites in the area were reported by Krzysztof Grzymiski of the Royal Ontario Museum.

Now archaeologists confirmed the presence of previously known sites, but also discovered a number of previously unknown relics of settlements and cemeteries, mainly from the period of the kingdom of Makuria. These findings confirm the reports of the Arab travellers - more than 1,000 years ago, the Kingdom of Makuria was a rich country, its power could compete with the Arab invaders, attacking from Egypt. The Letti Basin was an economic and cultural base for the capital of Makuria - Dongola.

"Hag Magid is especially promising for us - it is a huge elevation with an area of over a hectare, on the surface of which we found medieval columns, details of architecture and thousands of fragments of pottery" - said Dr. Bagińska.

The researcher suspects that under the sand are well-preserved remains of a church, monastery and other structures from before one thousand years. To confirm this, she plans to perform non-invasive, geophysical surveys, which will tell what hides under the surface without having to drive a shovel.

"Structures hiding beneath the sand are from the same period and belong to the same cultural circle as the basilica discovered decades ago by Prof. Kazimierz Michałowski in Faras on - paintings found then went to Khartoum and Warsaw, where they are on display in museums" - said Dr. Bagińska.

The researcher is cautious in her estimates whether the importance of discoveries at Hag Magid will match those in Faras, but preliminary survey is promising - she believes that it is possible to make spectacular discoveries in the form of interior decorated with paintings, stone architectural details and decorative floors.

"Importantly, in contrast to Egypt and other countries in the Middle East, where it is not possible to acquire even part of the monuments from excavations, the Sudanese authorities are open to this type of solution. This means that tangible results of excavations will not only increase enhance knowledge, but also museum collections. Even the monuments found on the surface of our site of interest have a large exhibition value" - noted Dr Bagińska. Currently, the researcher is looking for funds to finance the fieldwork and geophysical surveys in this year's archaeological season, which is planned for autumn.

Ceramic dishes resting on the surface of the hill at Hag Magid come from VII-XIII centuries. The hill has a height of approximately 6 meters; archaeologists believe that it formed as a result of hundreds of years of settlement - subsequent structures were erected in the same place. That created a huge hill consisting of relics of buildings, mud bricks, stone details and tons of pottery.

Scientists know that more than 1,000 years ago the Letti Basin looked very different than today - now sandy desert dominates. "During the heyday of the kingdom of Makuria, a canal ran near Hag Magid and watered the whole area. It is worth noting that vines were cultivated here on a large scale, and wine was produced, as we read in the reports of Arab travellers who ventured into this Christian kingdom" - said Dr. Bagińska.

Therefore, the goal of scientists will also be to study the historic climate and crops - until now archaeologists working in Sudan did not research this topic.

"We are also concerned that Hag Magid could be buried by shifting sand dunes - thus we would lose the opportunity of studying it for the next few decades" - concluded Dr. Bagińska.

Please visit the site: <http://scienceinpoland.pap.pl/en/news/news,408929,when-vineyards-bloomed-in-sudan.html>

ANCIENT BYZANTINE CHURCH UNCOVERED IN GUSH ETZION, BY MICHAEL BACHNER

A colorful mosaic and various archaeological artifacts have been recently unearthed at the site of a large, uniquely structured Byzantine basilica in Gush Etzion, south of Jerusalem.

The discovery was made at the Khirbet Bureikut archaeological site in Migdal Oz, where the Byzantine church was originally discovered in 1977, and indicates that the inhabitants there were very wealthy. The newly discovered mosaic indicates that the church was originally built in the fourth century, according to Hananya Hizmi, Head Staff Officer of Archaeology of the Civil Administration in Judea and Samaria.

“We started to expand the excavation at the end of 2015 to find out where all this wealth came from, since this area was probably isolated from major communities during the Byzantine era,” Haim Shkolnik, who led the excavation on behalf of the Archeology Staff Officer, told Tazpit Press Service (TPS).

Artifacts recently discovered at the excavation include over five kilograms of glass items, pottery fragments, around 50 coins, including one of Alexander Jannaeus, and a handle with the seal of the Three Biblical Magi.

“The findings at the church indicate great wealth,” Shkolnik informed TPS. “There were many types of marble and glass used and it had drainage channels, a rare feature for Byzantine churches. It also had an underground crypt with two staircases leading down to it, which is also a very rare feature.”

According to Hananya Hizmi, the church was built on a cave from earlier times. “The cave was converted to a crypt and used to buried martyrs,” he said. “The Basilica has a prayer hall, aisles, a narthex running across the structure and an atrium with a big water hole. The church is built of massive stone blocks, suggesting that it was built on an earlier structure.”

“The church is different in its design from what was normal at the time,” said Shkolnik. “It was possibly founded by monks arriving from Syria, as was common in the fifth century.”

The practice of worshipping in the cave began in the fourth century and the cave was converted to a crypt when it was expanded in the 5th century and the church was built. The basilical complex was built during the Byzantine era. According to Shkolnik, the findings indicate that it had been a major pilgrimage site. The place ceased to serve as a church after the early Muslim conquest.

“We found evidence suggesting that they shattered many of the church items, contrary to what some believe about the ‘enlightened’ Muslim conquest,” Shkolnik noted.

The place also saw some activity in the ninth century, but that activity ceased until it was renewed by the Mamluks in the 14th century. The site was then abandoned until it was excavated in 1977.

The Archaeology Staff Officer is the body responsible for enforcing the antiquity laws in Judea and Samaria. It has Jewish and Palestinian employees and is in charge of protecting and developing over 2,500 archeological sites found in the region.

Please visit the site: <http://www.breakingisraelnews.com/64322/colorful-mosaic-uncovered-unique-byzantine-church-gush-etzion-biblical-zionism/#t0YU8PSumy9CKooF.97> [Go there for pix]

A RECENTLY DISCOVERED 4,500-YEAR- OLD NON-ROYAL BOAT IN THE ABUSIR NECROPOLIS IS SHEDDING NEW LIGHT ON WATERCRAFT CONSTRUCTION IN ANCIENT EGYPT, BY NEVINE EL-AREF

Scholars have long debated the purpose of ancient Egyptian boat burials. Did they serve the deceased in the afterlife? Or might they have functioned as symbolic solar barques used during the journey of the owner through the underworld?

The Old Kingdom kings adopted the earlier tradition and often had several boats buried within their pyramid complexes. Unfortunately, most of the pits that have been found are empty of timber, while others contain little more than brown dust in the shape of the original boat. The only exceptions are the two boats of the First Dynasty king Khufu, and these have been reconstructed or are in the process of reconstruction.

However, no boat of such dimensions from the Old Kingdom has been found in a non-royal context until the newly discovered boat at Abusir.

Last December, a Czech archaeological mission from Charles University in Prague stumbled upon what is believed to be the first remains of a non-royal ancient Egyptian wooden boat ever found. The discovery was made during excavation work at the Abusir necropolis, in an area south of a still unidentified non-royal mastaba tomb identified as AS54.

Miroslav Bárta, the leader of the mission, told Al-Ahram Weekly that this unexpected discovery once again highlights the importance of this Old Kingdom official cemetery. He said that the excavation work that led to this important discovery started in 2009 on mastaba tomb AS54 and had been followed by several seasons of excavations.

The tomb's exceptional size (52.60 metres by 23.80 metres), orientation, architectural details, as well as the name of the Third Dynasty king Huni discovered on one of the stone bowls buried in the northern underground chamber, indicated the high social standing of the person buried in the main and so far unlocated shaft, he said.

"Unfortunately, his name remains unknown due to the bad state of preservation of the cruciform chapel," Barta said. He added that clearance work in the area south of the tomb during the autumn excavation season, from October to December 2015, had revealed an 18-metre-long wooden boat.

"Although the boat is situated almost 12 metres south of the tomb, its orientation, length and the pottery collected from its interior make a clear connection between the structure and the vessel, as both are dated to the very end of the Third or beginning of the Fourth Dynasty, or around 2550 BCE," Bárta said.

While extremely fragile, the roughly 4,500-year-old planks should shed new light on boat construction in ancient Egypt. The wooden planks were joined by wooden pegs that are still visible in their original positions.

Extraordinarily, the desert sand has preserved the plant-fibre battens of the boat that covered the planking seams. Some of the ropes that bound the boat together are also still in their original position, with all their details intact.

"It is really a unique discovery in the study of ancient Egyptian boats," Bárta told the Weekly. He said that all the minute details are of the highest importance, since most ancient Egyptian boats and ships have survived either in a poor state of preservation or have been dismantled.

During this current spring season, which started earlier this month, Bárta said that the Czech Institute of Egyptology has launched a project in collaboration with experts from the Institute of Nautical Archaeology (INA) at Texas A&M University to study the techniques used in the hull's construction.

The construction details are not the only features that make the boat unique, he said, adding that the habit of burying boats beside mastabas began in the Early Dynastic period. This phenomenon has been well documented for royal structures, as well as for some tombs belonging to members of the royal family, the elite of society.

"In fact, this is a highly unusual discovery since boats of such size and construction were during this period reserved solely for top members of the society who usually belonged to the royal family. This suggests the potential for additional discoveries during this spring season," Bárta noted, adding that where there was one boat, there very well may be more.

He said that the boat is a remarkable discovery and that "the careful excavation and recording of the Abusir boat will make a considerable contribution to our understanding of ancient Egyptian watercraft and their place in funerary cults".

"The boat by the southern wall of the mastaba tomb indicates the extraordinary social position of the tomb's owner," Minister of Antiquities Mamdouh Eldamaty told the Weekly, explaining that since it was not located adjacent to a royal pyramid the owner of the mastaba was probably not a member of the royal family.

However, both the size of the tomb and the presence of the boat itself clearly placed the deceased within the elite of his time with strong connections to the reigning pharaoh.

Eldamaty described the discovery as "very important" because it is the first time that such a boat has been found at the Abusir necropolis. A collection of clay pots from the end of the Third Dynasty and the beginning of the Fourth Dynasty, also unearthed, could help reveal the specific date of the construction of the boat and mastaba, he said.

Bárta said that King Huni, whose name was found on a pot in tomb AS54, was the last king of the Third Dynasty and details about his reign are largely unknown, despite the Turin Royal Canon from the New Kingdom identifying him as having had a long reign of 24 years.

"The historical evidence for Huni's existence is minimal," Bárta said, adding that neither his tomb nor his funerary complex and collection have been located. The only contemporaneous monument explicitly attesting to his existence is a red granite block found in Elephantine in 1909 by Egyptologist H Gauthier.

The block includes the pharaoh's name in a cartouche and a caption that mentions the building of a fortress or palace.

Bárta explained that apart from the Abusir and Saqqara residential cemeteries, Huni was known only from the mastaba of Metjen. Huni's name occurs there in connection with a funerary domain in the second Lower Egyptian nome (district). The tomb of Nefermaat and Atet in Meidum has also been connected with Huni.

"Now we have new evidence for Huni from the mud-brick mastaba tomb AS54 in Abusir where a pot engraved with his name was found," Bárta said. He added that the tomb measures 52.6 metres by 23.8 metres and consists of a southern chapel, northern chapel, northern substructure and some adjoining structures.

The entire eastern facade of the mastaba is protected by a surrounding 1.4-metre-high wall. The cult chapel is situated at the southeast corner of the mastaba and is embedded within its superstructure. The facade of the entrance has an inclination of 81 degrees and was entered through a small corridor. The cult room itself originally assumed the shape of a typical cruciform chapel and is about 40.8 metres above sea level.

"Apparently, during the use of the tomb the chapel was converted into a simple cult room with a false door located in the western wall," Bárta said, explaining that this renovation was made by walling up the original niches in the western, southern and northern walls.

The tomb has a subterranean structure that was accessible through a 12.6-metre-deep shaft. A collection of badly damaged stone vessels was found in the subterranean structure, including bowls, tables and trays, along with beakers, medium-sized jars of several types, tall cylindrical jars and a lid. A number of calcite vessels and others made of anorthosite, magnesite, anorthosite gneiss, limestone metagabro, breccia serpentinite and dolomite have been found.

Due to the fact that most of these materials are homogenous, Bárta suggests that the vessels may have come from a single deposit. In one particular case, it is possible to read a rare form of Huni's royal name on the inner rim of a magnesite bowl.

"This is the only inscriptional evidence from the mastaba that we have so far," he noted. It was interesting that all the vessels except for this one were devoid of inscriptions, he said. Adjoining the tomb's eastern enclosure wall on the northeast side, four shafts were found with some of them used for burials.

"Despite the meagre evidence, the tomb discovered in Abusir has several features that show its importance and the high social rank of the anonymous owner," Bárta said. The tomb also has a noticeably elevated location within the cemetery, in fact the highest location in the area overseeing Lake Abusir and the once principal entrance into the Third Dynasty necropolis of Abusir and Saqqara.

Two other prominent features, Bárta pointed out, are the unique monumental architecture of the tomb and the large corpus of stone vessels.

Please visit the site: <http://weekly.ahram.org.eg/News/15777/47/Boat-discovery-sheds-light.aspx%20>

METALLIC INK USED IN THE HERCULANEUM SCROLLS

Analysis of Herculaneum papyrus scroll fragments reveals the use of metallic ink in Greco-Roman literary inscription centuries earlier than previously thought, according to a study*. Scholars of ancient scrolls hold that texts from antiquity, particularly Greek and Latin literary manuscripts produced until the fourth century AD, were largely written in carbon-based ink on papyri, the fibrous structure of which allowed scribes to jettison ruling lines. Vito Mocella and colleagues used nondestructive synchrotron X-ray-based methods to chemically analyze the barely visible black inscriptions on two nearly flat, multilayered papyrus fragments that were found at the Villa dei Papiri at Herculaneum in the mid-18th century and are housed at the Paris-based Institut de France.

The introduction of metal in writing materials is generally dated to fourth-fifth century AD, but the fragments' high lead concentrations-around 84 $\mu\text{g}/\text{cm}^2$ and 16 $\mu\text{g}/\text{cm}^2$ -suggest purposeful use of lead-containing ink, thus ruling out contamination from aqueducts, inkpots, or containers, and pushing back by several centuries the advent of metallic ink for literary inscription in the Greco-Roman period. Spots of concentrated lead likely correspond to the beginnings and ends of the scribes' pen strokes on the scrolls. Letters on the fragments were bounded by naturally occurring horizontal lines of papyrus fibres that appear to have served as alignment guides for straight-line writing. The lines are likely signatures of cristobalite, a quartz-like mineral found in the papyrus plant. According to the authors, the findings might shape future analysis of unopened Herculaneum scrolls.

Please visit the site: <http://popular-archaeology.com/issue/winter-2015-2016/article/metallic-ink-used-in-the-herculaneum-scrolls>
