



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

**ΔΙΟΙΚΗΤΙΚΟ
ΣΥΜΒΟΥΛΙΟ:**

Κ. Πολυκρέτη (πρόεδρος),
Ε. Αλούπη (αντιπρόεδρος),
Μ. Γεωργακοπούλου
(γραμματέας),
Ε. Κουλουμπή (ταμίας),
Θ. Βάκουλης (μέλος),
Β. Κυλίκογλου (μέλος),
Γ. Φακορέλλης μέλος)

Πληροφορίες:

Γ. Φακορέλλης

E-mail: yfacorel@teiath.gr

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

BOARD:

Κ. Polikreti (president),
Ε. Aloupi (vice-president),
Μ. Georgakopoulou
(secretary),
Ε. Kouloumpi (treasurer),
Τ. Vakoulis (member),
Β. Kilikoglou (member),
Υ. Facorellis (member)

Information: Υ. Facorellis

E-mail: yfacorel@teiath.gr

Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

- Φεβρουάριος 2010 -

Newsletter of the Hellenic Society of Archaeometry

- February 2010 -

Nr. 107

ΠΙΝΑΚΑΣ ΠΕΡΙΕΧΟΜΕΝΩΝ – TABLE OF CONTENTS

ΣΥΝΕΔΡΙΑ – CONFERENCES/WORKSHOPS

New Light on Old Glass: Byzantine Glass and Mosaics, British Museum, London 27-29 May 2010	page 5
Architectural Records, Inventories, and Information Systems for Conservation (ARIS)	page 6
Experimental Archaeology Field School in Cyprus, University of Manchester, University of Edinburgh and Lemba Archaeological Research Centre, Cyprus ..	page 7
8 th International Conference on the Mesolithic in Europe - MESO2010, 13 - 17 September 2010. Santander, Spain	page 9
ΑΡΧΑΙΟΛΟΓΙΚΟ ΜΟΥΣΕΙΟ ΘΕΣΣΑΛΟΝΙΚΗΣ Ημερίδα: Αρχαιομετρικές Εφαρμογές στην Ελλάδα Αίθουσα Μανόλης Ανδρόνικος Παρασκευή 26 Φεβρουαρίου 2010	page 11
Ανασκαφές Ακρωτηρίου Θήρας. Όραμα και πραγματικότητα	page 14
RADIOCARBON DATING & THE EGYPTIAN CHRONOLOGY SYMPOSIUM Oxford, UK, 17th-18th March 2010	page 15

ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ – JOB VACANCIES/FELLOWSHIPS

TYTUS SUMMER RESIDENCY PROGRAM, UNIVERSITY OF CINCINNATI, Department of Classics	page 16
Fitch Laboratory Senior Visiting Fellowship (BSA)	page 18
Michael Ventris memorial award for Mycenaean studies	page 19

ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS

Google and UNESCO announce alliance to provide virtual visits of several World Heritage sites	page 21
---	---------

INTERNET SITES

OxCal-Announcement, IntCal09 added to OxCal	page 22
Kavrochori excavation: Geometric tomb in private land	page 23

ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

Minoan Architecture: Materials and Techniques, by J.W. Shaw	page 24
IntCal09 online	page 26
Archeomatica, Cultural Heritage Technologies: call for papers	page 27
Floor sequences in Neolithic Makri, Greece: micromorphology reveals cycles	

of renovation, Panagiotis Karkanis and Nikos Efstratiou page 28

Journal of World Prehistory - 2 volume on early metals page 29

Current Anthropology, Volume 51, Number 1 page 31

Παρουσίαση βιβλίων Τρίτη 9 Φεβρουαρίου στο σπίτι της Κύπρου page 35

ΕΙΛΗΣΕΙΣ - NEWS RELEASE

Did Unemployed Minoan Artists Land Jobs in Ancient Egypt? page 36

Zeus' altar of ashes, News from the Archaeological Institute of America's annual meeting in Anaheim, Calif, By Bruce Bower page 39

Wild Iberian Horses Contributed to Origin of Current Iberian Domestic Stock . page 40

Treasure found off La Manga, Sally Bengtsson page 42

The Legacy of Howard Carter, Did King Tut's Discoverer Steal from the Tomb? By Matthias Schulz, Translated from the German by Ella Ornstein page 43

Tools point to early Cretan arrivals, by Norman Hammond page 50

Stable climate and plant domestication linked page 52

AKROTIRI PENINSULA EXCAVATIONS page 53

Neolithic Tel Aviv page 54

How the Alexander Mosaic was Seen, By Rossella Lorenzi page 55

Egyptian Eyeliner May Have Warded Off Disease, By Katie Cottingham page 58

First Minoan Shipwreck page 60

Egypt announces find of ancient cat goddess temple, By HAMZA HENDAWI page 62

Lost city of Atlantis 'could be buried in southern Spain, By Fiona Govan in Madrid page 63

Uncovering Secrets of the Sphinx page 65

Alcohol's Neolithic Origins - Brewing Up a Civilization, By Frank Thadeusz .. page 72

Dead Sea Scroll dating now possible, by Julian Isherwood page 75

Chemical analyses uncover secrets of an ancient amphorapage 76

4 Israeli women work tirelessly to save Dead Sea Scrolls, By Nir Hasson, Haaretz Correspondent page 78

Birthplace of Roman emperor 'found' in Lazio **page 81**

Lost Roman law code discovered in London **page 83**

The sea level has been rising and falling over the last 2,500 years**page 85**

British film-makers uncover Trajan's hidden Roman aqueduct - News,
Archaeology **page 87**

Tracing ancient roots of Penn Museum's gold By Tom Avril Inquirer Staff
Writer **page 89**

Avenue of the sphinxes will be restored, By Alexander Dziadosz **page 97**

ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS

NEW LIGHT ON OLD GLASS: BYZANTINE GLASS AND MOSAICS, BRITISH MUSEUM, LONDON 27-29 MAY 2010

A 3-day conference on Byzantine glass will be held at the British Museum in London 27-29 May 2010. The conference is being organised by Chris Entwistle, Curator of the Late Roman and Byzantine Collections, and Liz James, Director of the Leverhulme International Network for the Composition of Byzantine Glass Mosaic Tesserae (University of Sussex, www.sussex.ac.uk/arthistory/Byzantineglass).

The three days will cover topics such as glass and mosaics, gold glass, the Lycurgus Cup, techniques of manufacture, new discoveries in Byzantine glass. Confirmed speakers include: Tassos Antonaras (Thessaloniki), Claudia Bolgia (Edinburgh), Cristina Boschetti (Nottingham), Jas' Elsner (Oxford and Chicago), Ian Freestone (Cardiff), Yael Gorin Rosen (Jerusalem), Daniel Howells (Sussex), Judith Mckenzie (Oxford), Martine Newby, Nadine Schibille (Oxford), Marianne Stern (Netherlands), Ann Terry (USA), Marco Verità (Venice), Hanna Witte (Germany), David Whitehouse (Corning), and Gary Vikan (Walters Art Gallery).

The programme with booking information will be sent out to you on email soon. Preliminary email interest or questions can be sent to Bente Bjornholt on B.K.Bjornholt@sussex.ac.uk, Art History, University of Sussex, Falmer, Brighton BN1 9QQ, UK.

ARCHITECTURAL RECORDS, INVENTORIES, AND INFORMATION SYSTEMS FOR CONSERVATION (ARIS)

The Architectural Records, Inventories, and Information Systems for Conservation (ARIS) course is designed to lead to better-informed conservation decisions through the use of appropriate tools and techniques of documentation. Specific objectives include understanding emerging technologies, organizing data for easy access and use, and applying the most appropriate form of recording for conservation.

Jointly sponsored by the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) and the Getty Conservation Institute, this advanced international course in architectural conservation, heritage recording, and information management is unique among conservation training courses because it examines the conservation of built heritage through the use of high-technology documentation tools and through easy-to-use techniques and research. The course looks at the proper use of these technologies to ensure that the tool selection is determined by conservation needs.

Please visit the site:

http://www.getty.edu/conservation/field_projects/aris/index.html?cid=gci009

EXPERIMENTAL ARCHAEOLOGY
FIELD SCHOOL IN CYPRUS,
UNIVERSITY OF MANCHESTER,
UNIVERSITY OF EDINBURGH AND
LEMBA ARCHAEOLOGICAL RESEARCH
CENTRE, CYPRUS

29th March - 16th April 2010 and 1st - 30th July 2010

Applications are invited from archaeology students, and others, interested in participating in an experimental archaeology field school to run during UK spring and summer breaks 2010. The goal of the project is to reconstruct a Late Chalcolithic (c. 2,800 BC) roundhouse at the archaeological site of Kissonerga-Mopshilia, one of the largest and most important Chalcolithic sites on the island. The village of Kissonerga is extremely rich in archaeological remains and other nearby sites include some of the earliest Neolithic wells in the world and a Bronze Age settlement at Kissonerga-Skalia. The experimental field school forms part of a larger ongoing project to integrate all of the sites into a long-term narrative in order to raise awareness of cultural heritage issues and to engage non-specialists with prehistoric remains.

The settlement of Kissonerga-Mosphilia was excavated by Professor Edgar Peltenburg of the University of Edinburgh from 1979-1992 and part of the excavated area now constitutes a fenced and roofed tourist attraction, within which the replicated roundhouse will be situated.

Chalcolithic dwellings were built with stone footings, a mud superstructure and a wood and brush roof. Interior features include work installations, internal partitions and hearths. The specific building chosen for the reconstruction is Building 3, dating to the Late Chalcolithic period (c. 2800-2400 BC). This building is also known as the 'Pithos House' as it contained an unprecedented number of storage vessels. In tandem with the physical reconstruction, The Archaeological Institute of America's Site Preservation Grant has provided funds to conduct filming of the project and to create a computer reconstruction of the roundhouse, showing the building as it would have appeared prior to destruction with finds in situ.

The field school will be run as a joint project between Archaeology at the University of Manchester and the University of Edinburgh, under the supervision of Dr Paul Croft, also responsible for the reconstructions at the Lemba Experimental Village. Participants will be taught and apply experimental archaeological building techniques and receive a series of site tours and lectures on Cypriot archaeology and material culture by Paul Croft and Lindy Crewe. Accommodation will be at the Lemba Archaeological Research Centre, located 4km north of Paphos in the village adjacent to Kissonerga.

Minimum participation time is two weeks. The total charge of £240 covers the two-week course fee, on-site picnic lunches, accommodation and excursions and lectures that form

part of the course. Participants wishing to stay for the entire three-week spring period or the four-week summer period of the field school may pay an additional £120 per week. A non-refundable deposit of £200 is required upon acceptance to secure your place and the balance may be paid on arrival in Cyprus.

Travel to and from Cyprus, and food, are not included. For food and personal expenses participants are advised to allow not less than £70 per week.

Prospective applicants are advised that spring weather in Cyprus is pleasant but may be unpredictable, with temperatures between 15?25°C.

Evenings will be cooler so a mixture of wet/dry, warm/cool weather clothing is advised. Summer temperatures may reach 38°C and conditions are humid.

Most importantly, a willingness to pitch in and get muddy is essential!

Please email Dr Lindy Crewe, Archaeology, University of Manchester, for further details and an application form.

Lindy.crewe@manchester.ac.uk

Dr Lindy Crewe

Lecturer in Archaeology of Artefacts and Technology Research Fellow Manchester Museum

Mansfield Cooper Building

University of Manchester

Oxford Road

Manchester M13 9PL

UK

8TH INTERNATIONAL CONFERENCE ON THE MESOLITHIC IN EUROPE - MESO2010, 13 - 17 SEPTEMBER 2010, SANTANDER, SPAIN

The Eighth International Conference on the Mesolithic in Europe will be held in Santander from 13th to 17th September 2010, organised by the Cantabrian International Institute for Prehistoric Research with the support of the *Department of Culture, Tourism and Sport* of the Cantabrian Government and the University of Cantabria.

This is the first time this prestigious series of conferences is held in southern Europe; furthermore, in a region with a long tradition in prehistoric studies, particularly on the Mesolithic. Santander is situated in the centre of the north coast of Spain and is one of the classic areas for the study of hunter-gatherers in southwest Europe, not only because of its famous Palaeolithic sites and its outstanding collections of cave art, but also because of its concentration of Mesolithic sites. The study of these sites has been decisive in shaping current ideas about the Mesolithic in the south of Europe. Since 1910, when the Count of Vega del Sella began his exploration of shell middens in the east of Asturias, Cantabria's Mesolithic remains have been the object of sustained research which, in recent years, has culminated in the intense activity of a young, dynamic community of researchers. We are sure that the Santander Conference will be an excellent opportunity for colleagues from other parts of Europe to get to know at first hand the research and sites of this corner of Atlantic Europe.

The Santander Conference will attempt to reconcile the challenge set by increasing research specialisation, with the tradition of this series of conferences. It will try, therefore, to maintain the ethos set by the previous seven successful conferences. The Santander Conference has, therefore, been deliberately designed to be open and non-specialised. The conference aims to act as a forum for delegates from many different places and at different stages in their careers to meet and discuss any topic related to the Mesolithic on our continent. Delegates will also have the chance to attend as many lectures and debates as possible. Parallel sessions will, therefore, be kept to a minimum and an effort will be made to ensure that timetables are respected as strictly as possible.

There is, however, a growing interest in using this type of meeting in the discussion of highly specialized topics. Consequently, the Santander programme includes a new aspect: two sessions set aside for workshops and round tables based on topics proposed by delegates.

An important aspect of these conferences is the direct contact with the archaeology of the host region and, of course, the possibility to meet colleagues in a more informal setting. The Santander Conference will try to maintain this tradition by including a day trip to Mesolithic sites in the region and a full social programme. Those who would like to get to know the archaeology of Cantabria even better can join the post-conference fieldtrip to be held the weekend after the conference.

The Organising Committee and supporting institutions are honoured to invite the community of researchers to the Eighth International Conference on the Mesolithic in Europe.

Organizers: Cantabrian International Institute for Prehistoric Research with the support of the Department of Culture, Tourism and Sport of the Cantabrian Government and the University of Cantabria.

Contact: meso2010@afidcongresos.com

More info: <http://www.meso2010.com/>

ΑΡΧΑΙΟΛΟΓΙΚΟ ΜΟΥΣΕΙΟ
ΘΕΣΣΑΛΟΝΙΚΗΣ ΗΜΕΡΙΔΑ:
ΑΡΧΑΙΟΜΕΤΡΙΚΕΣ ΕΦΑΡΜΟΓΕΣ ΣΤΗΝ
ΕΛΛΑΔΑ
ΑΙΘΟΥΣΑ ΜΑΝΩΛΗΣ ΑΝΔΡΟΝΙΚΟΣ
ΠΑΡΑΣΚΕΥΗ 26 ΦΕΒΡΟΥΑΡΙΟΥ 2010

Αγαπητοί φίλοι,

Το Αρχαιολογικό Μουσείο Θεσσαλονίκης και ο Τομέας Γεωφυσικής του Α.Π.Θ. διοργανώνουν ημερίδα Αρχαιομετρίας στη Θεσσαλονίκη την Παρασκευή 26 Φεβρουαρίου 2010 με θέμα Αρχαιομετρικές Εφαρμογές στην Ελλάδα. Η ημερίδα θα πραγματοποιηθεί στο Αρχαιολογικό Μουσείο Θεσσαλονίκης στην αίθουσα Μανώλης Ανδρόνικος.

Στόχος της ημερίδας είναι η προβολή των μεθόδων, αλλά και των δυνατοτήτων της Αρχαιομετρίας. Η Αρχαιομετρία ορίζεται ως εκείνη η επιστήμη που αποτελείται από το σύνολο των μεθόδων των θετικών επιστημών, που εφαρμόζονται στην αρχαιολογική έρευνα. Συστάθηκε αρχικά από μεθόδους και τεχνικές δανεισμένες από διάφορα πεδία. Όμως, πολύ γρήγορα αυτονομήθηκε γιατί τα δάνεια αυτά έπρεπε να προσαρμοστούν στα ιδιαίτερα χαρακτηριστικά της αρχαιολογικής έρευνας και παράλληλα να αναπτυχθούν αυτόνομες μέθοδοι για να επιλυθούν συγκεκριμένα αρχαιολογικά προβλήματα.

Η θεματική της ημερίδας περιλαμβάνει μεθόδους ανάλυσης αρχαίων υλικών, προσδιορισμού της προέλευσής τους, προσδιορισμού ηλικίας, εντοπισμού και χαρτογράφησης θαμμένων αρχαιοτήτων, τυπολογικής και μορφολογικής ανάλυσης, Αρχαιοαστρονομίας και Βιοαρχαιολογίας. Για πρακτικούς λόγους, η ημερίδα θα συνίσταται από περίπου 14 εικοσάλεπτες παρουσιάσεις. Οι ομιλίες έχουν το χαρακτήρα ανασκόπησης των εφαρμογών των αρχαιομετρικών μεθόδων, για τις οποίες ο κάθε ομιλητής είναι ειδικός, με έμφαση σε πεπραγμένα στον ελληνικό χώρο.

Για την Οργανωτική Επιτροπή
Γρηγόρης Τσόκας, Καθηγητής Εφαρμοσμένης Γεωφυσικής Α.Π.Θ.
Πολυξένη Αδάμ-Βελένη, Δρ. Αρχαιολόγος, Δ/τρια του Αρχαιολογικού Μουσείου Θεσσαλονίκης

Ανακοίνωση: <http://www.amth.gr/pdf/archaeometry.pdf>

Πρόγραμμα: http://www.amth.gr/pdf/archaeometria_program.pdf

Gregory N. Tsokas,
Prof. of Exploration Geophysics
Laboratory of Exploration Geophysics
Aristotle University of Thessaloniki

54124 Thessaloniki
Greece
Tel: +2310 998507
Fax: + 2310 998528
Mobile +6937 -334653
email: gtsokas@geo.auth.gr

Πρόγραμμα

- 9:00 – 9:20 Έναρξη – Φαιρетиμοί
- Εισηγήσεις**
- 9:20 – 9:40 Γ. Μανιάτης, Εργαστήριο Αρχαιομετρίας, Ινστιτούτο Επιστήμης Υλικών, ΕΚΕΦΕ «Δημόκριτος» *Χρονολόγηση πολιτισμικών φάσεων με άνθρακα-14: Εφαρμογές και συμπεράσματα στη Βόρεια Ελλάδα*
- 9:40 – 10:00 Ι. Μπασιάκος, Εργαστήριο Αρχαιομετρίας, Ινστιτούτο Επιστήμης Υλικών, ΕΚΕΦΕ «Δημόκριτος» *Μελέτες για την παραγωγή αρχαίων μετάλλων στην Ελλάδα*
- 10:00 – 10:20 Σ. Ζορμπά, Ε. Παυλίδου, Κ.Μ. Παρασκευόπουλος, Τμήμα Φυσικής, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης *Η συνδυασμένη χρήση της φασματοσκοπίας υπερέθρου και μικροανάλυση ακτίνων Χ στην μελέτη των υλικών και των τεχνικών κατασκευής τοιχογραφιών και φορητών εικόνων*
- 10:20 – 10:40 Ι. Στράτης, Τμήμα Χημείας, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης *Αρχαιομετρικά πεπραγμένα του εργαστηρίου αναλυτικής χημείας*
- 10:40 – 11:00 Ν. Τσιρλιγκάνης, Δ. Τσιαφάκη, Α. Σακαλής, Τμήμα Αρχαιομετρίας, Ινστιτούτο Πολιτιστικής και Εκπαιδευτικής Τεχνολογίας/Ε.Κ. Αθηνά *Εργαστηριακές μέθοδοι διερεύνησης και τεκμηρίωσης αρχαιολογικών ευρημάτων*
- 11:00 - 11:20 Ν. Ζαχαριάς, Τμήμα Ιστορίας, Αρχαιολογίας και Διαχείρισης Πολιτισμικών Αγαθών, Πανεπιστήμιο Πελοποννήσου *Αρχαιομετρικές και τεχνολογικές προσεγγίσεις στην πολιτιστική κληρονομιά*
- 11:20 – 12:00 Διάλειμμα
- 12:00 – 12:20 Ε. Αλούπη, Thetis Authentics *Αρχαιομετρία Αύριο/Ανάλυση-Ανάκτηση-Αναβίωση*
- 12:20 – 12:40 Ντ. Ούρεμ-Κώτσου, Κ. Κωτσάκης, Σ. Μητκίδου, Ε. Δημητρακούδη, Ι. Στράτης, Τμήμα Ιστορίας Εθνολογίας, Δημοκρίτειο Πανεπιστήμιο Θράκης, Τμήμα Ιστορίας και Αρχαιολογίας, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, Γενικό Τμήμα Θετικών Επιστημών, ΤΕΙ Καβάλας, Τμήμα Χημείας, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης *Χρήση φυσικών υλικών στην κεραμική από την προϊστορία ως τα ρωμαϊκά χρόνια*
- 12:40 – 13:00 Γ. Ναζλής, Ε. Στεφανής, Αρχαιολογικό Μουσείο Θεσσαλονίκης, 10η Ε.Β.Α *Εφαρμογές της φθορισμομετρίας ακτίνων Χ στην ανάλυση ανόργανων μελανιών και χρωστικών σε χειρόγραφα.*

- 13:00 – 13:20 **Γ. Φακορέλλης**, Εργαστήριο Φυσικοχημικών Μεθόδων, Τμήμα Συντήρησης Έργων Τέχνης και Αρχαιοτήτων, Σχολή Γραφικών και Καλλιτεχνικών Σπουδών, ΤΕΙ Αθήνας *Οι δυνατότητες βαθμονόμησης με αξιοπιστία συμβατικών ηλικιών ραδιοάνθρακα δειγμάτων θαλάσσιας προέλευσης από αρχαιολογικές θέσεις στο Αιγαίο*
- 13:20 – 13:40 **Ε. Αηδονά, Δ. Κοντοπούλου**, Τμήμα Γεωλογίας, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης *Αρχαιομαγνητική μέθοδος: Εφαρμογές σε αρχαιολογικούς χώρους της Βόρειας Ελλάδας*
- 13:40 – 14:00 **Ν. Παπαδόπουλος, Α. Σαρρής, Σ. Θεοδωρόπουλος, Ε. Ψεφένου, Α. Κοκκινάκη, Α. Κυδωνάκης**, Εργαστήριο Γεωφυσικής-Δορυφορικής Τηλεπισκόπησης και Αρχαιοπεριβάλλοντος, Ινστιτούτο Μεσογειακών Σπουδών, Ίδρυμα Τεχνολογίας και Έρευνας *Εφαρμογές γεωπληροφορικής και τρισδιάστατης μοντελοποίησης για την ανάδειξη και διατήρηση της πολιτιστικής κληρονομιάς*
- 14:00 – 14:20 **Γ. Τσόκας, Γ. Βαργεμέζης, Π. Σσούρλος, Α. Σταμπολίδης**, Τμήμα Γεωλογίας, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης *Εντοπισμός και χαρτογράφηση θαμμένων αρχαιοτήτων με γεωφυσικές μεθόδους: παραδείγματα εφαρμογών στην Ελλάδα*
- 14:20 – 14:40 **Μ. Βαβελίδης**, Τμήμα Γεωλογίας, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης *Μεταλλευτική και λατομική δραστηριότητα κατά την αρχαιότητα και μελέτη μεταλλικών και λίθινων αρχαιολογικών ευρημάτων*
- 14:40 – 15:00 **Συζήτηση – Λήξη**
-



ΕΤΑΙΡΕΙΑ ΣΤΗΡΙΞΗΣ ΣΠΟΥΔΩΝ ΠΡΟΪΣΤΟΡΙΚΗΣ ΘΗΡΑΣ

Ανασκαφή Ακρωτηρίου Θήρας
Δ/ση Αθηνών: Θόλου 10, Πλάκα, ΤΚ: 105 56 - Τηλ: 210 3216902 - Fax: 210
3311068

E-mail: akrotiri@otenet.gr - Διαδίκτυο: <http://theranstudies.santorini.net>

ΔΕΛΤΙΟ ΤΥΠΟΥ

Η Εταιρεία Στήριξης Σπουδών Προϊστορικής Θήρας διοργανώνει διάλεξη του
Διευθυντού των Ανασκαφών Ακρωτηρίου Θήρας, καθηγητή Χρίστου Ντούμα, με θέμα :

«Ανασκαφές Ακρωτηρίου Θήρας. Όραμα και πραγματικότητα»

Η διάλεξη θα πραγματοποιηθεί στην αίθουσα της «Εν Αθήναις Αρχαιολογικής
Εταιρείας», Πανεπιστημίου 22, την Πέμπτη 4 Φεβρουαρίου 2010, στις 19.00.

29 Ιανουαρίου 2010 – Πληροφορίες : κ. Δεβετζή, τηλ. 210 3216902

RADIOCARBON DATING & THE EGYPTIAN CHRONOLOGY SYMPOSIUM OXFORD, UK, 17TH-18TH MARCH 2010

On 17th-18th March 2010, the Research Laboratory for Archaeology and the History of Art at the University of Oxford will be hosting a symposium at the Ashmolean Museum to discuss the results of the Egyptian Chronology Project.

The Egyptian Chronology Project has investigated synchronisms between the Egyptian historical chronology and dates that have been obtained by radiocarbon measurements, including a new series of radiocarbon measurements on Egyptian material from collections in Europe and the USA. The project has also been developing methodologies and protocols for the sampling and analysis of archaeological materials and investigating such issues as the reservoir effect, thought to have an impact on the viability of the use of radiocarbon dating in Egypt. The chronological scope under discussion during the symposium will be that from the 1st until the 21st Dynasty and the impact of the radiocarbon results on the historical chronology will be considered by specialists in the periods concerned.

There will also be a public lecture and reception at Oxford University's Museum of Natural History on the evening of 17th March.

Further details (including a provisional schedule) and on-line registration can be found at: http://c14.arch.ox.ac.uk/LEC_Symposium.html

Please note that spaces are limited, so early booking is advised. All enquiries can be sent to Egyptian.chronology@rlaha.ox.ac.uk.

The Egyptian Chronology project team: Christopher Bronk Ramsey, Andrew Shortland, Thomas Higham, Joanne Rowland, Fiona Brock & Michael Dee.

ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ –
JOB VACANCIES/FELLOWSHIPS

TYTUS SUMMER RESIDENCY
PROGRAM, UNIVERSITY OF
CINCINNATI, DEPARTMENT OF
CLASSICS

The University of Cincinnati Classics Department is pleased to announce the Margo Tytus Summer Residency Program. Summer Residents, in the fields of philology, history and archaeology will come to Cincinnati for a minimum of one month and a maximum of three during the summer. Applicants must have the Ph.D. in hand at the time of application. Apart from residence in Cincinnati during term, the only obligation of Summer Residents is to pursue their own research. They will receive free university housing. They will also receive office space and enjoy the use of the University of Cincinnati and Hebrew Union College Libraries.

The University of Cincinnati Burnam Classics Library (<http://www.libraries.uc.edu/libraries/classics/>) is one of the world's premier collections in the field of Classical Studies. Comprising 240,000 volumes and other research materials, the library covers all aspects of the Classics: the languages and literatures, history, civilization, art, and archaeology. Of special value for scholars is both the richness of the collection and its accessibility -- almost any avenue of research in the classics can be pursued deeply and broadly under a single roof. The unusually comprehensive core collection, which is maintained by three professional classicist librarians, is augmented by several special collections such as 15,000 nineteenth century German *Programmschriften*, extensive holdings in Palaeography, Byzantine and Modern Greek Studies. At neighboring Hebrew Union College, the Klau Library (<http://library.cn.huc.edu/>), with holdings in excess of 450,000 volumes and other research materials, is rich in Judaica and Near Eastern Studies.

Application Deadline: February 15.

A description of the Tytus Summer Residency Program and an application form is available online at <http://classics.uc.edu/index.php/tytus>. Questions can be directed to program.coordinator@classics.uc.edu.

Getzel M. Cohen
Professor of Classics and History
Director, Tytus Visiting Scholars Program
Phone: 513-556-1951; Fax: 513-631-1715
Dept. of Classics, 410 Blegen Library, University of Cincinnati, Cincinnati, Ohio 45221-0226



FITCH LABORATORY SENIOR VISITING FELLOWSHIP (BSA)

Deadline: February 28, 2010.

The Fitch Laboratory funds established scholars or scientists (normally at least 5 years beyond receipt of the Ph.D.) to spend up to three months at its premises undertaking research in any of the fields of its interest (e.g. inorganic material analysis, geophysical prospection, zooarchaeology, archaeo-botany, soil micromorphology, ethnoarchaeology, landscape archaeology, archaeology of technology; normally in the context of Aegean/Mediterranean archaeology). One or two Senior Visiting Fellows will be appointed in each year depending on requests for the Fellowship duration. The Fellowship covers a monthly stipend (ca. 800€), accommodation and airfare (up to 500€), as well as limited research expenses (up to 1000€).

Please visit the site: <http://www.bsa.ac.uk/>

MICHAEL VENTRIS MEMORIAL **AWARD FOR MYCENAEAN STUDIES**

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

The Award is open to applicants from all countries who have completed their doctorate within the past eight years. Applications are also accepted from postgraduate students who are about to complete their doctorate, but the Award is not intended to fund doctoral research per se.

Applications must reach the Deputy Director, Institute of Classical Studies, Senate House, Malet Street, London WC1E 7HU not later than 23 February 2010. Applicants should give particulars of their age, qualifications, academic record, and should outline the work they intend to pursue in the event of the Award being made to them, including projected costs. **Applications should not exceed 6 single-sided pages (A4). They may be submitted either as hard copy or by email (the attachment to be compatible with Word 2003).**

Applicants must also supply the names and addresses of two referees, and, at the same time, ask the referees to write independently in support of their application. For further information please contact admin.ics@sas.ac.uk

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

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

Dr O. H. Krzyszkowska
Deputy Director
Institute of Classical Studies
Senate House South Block 245A
Malet Street
London WC1E 7HU
020 7862 8700

admin.icls@sas.ac.uk



ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS

GOOGLE AND UNESCO ANNOUNCE ALLIANCE TO PROVIDE VIRTUAL VISITS OF SEVERAL WORLD HERITAGE SITES

Sites of outstanding universal value inscribed on the World Heritage List – the historic centre of Prague in the Czech Republic and the old town of Cáceres in Spain, for example – can now be explored online by internet users around the world, thanks to an alliance signed by UNESCO and the international corporation Google.

The agreement makes it possible for internet users to visit 18 of the 890 World Heritage properties via Google's Street View interface. All the other sites on the List will be shown on the Google Earth and Google Maps interfaces. The 19 sites are located in Spain, France, Italy, the Netherlands, the Czech Republic and the United Kingdom. Street View provides nearly spherical panoramic (360° horizontal and 290° vertical) views taken by cameras mounted on vehicles. Once obtained, these images are overlaid on Google Maps' satellite views – the process can take several months. When the specially-equipped cars cannot reach sites to be photographed, tricycles are used.

“The alliance with Google makes it possible to offer virtual visits of the sites to everyone, to increase awareness and to encourage participation in the preservation of these treasures,” said UNESCO's Director-General, Irina Bokova. *“Cultural and natural heritage sites are an irreplaceable source of inspiration and fascination. This is an exciting project and we're thrilled to be working with UNESCO to make more World Heritage sites universally accessible and useful to all,”* said Carlo d'Asaro, Google's Vice-President for Southern Europe, Middle East and Africa.

At UNESCO's suggestion, Google will soon be visiting and photographing other sites on the List. The focus is on harder-to-access sites, which will be photographed with the permission of site managers. They can then be appreciated by millions of people who might never have the opportunity to visit them otherwise. The sites are located notably in South Africa, Brazil, Canada, Mexico and the Netherlands.

In future, Google and UNESCO will also work together to provide online access, via Google Maps, YouTube and Google Earth, to maps, texts and videos pertaining to UNESCO's Biosphere Reserves, to documentary heritage inscribed on the Memory of the World Register and to endangered languages.

Please visit the site:

**[http://portal.unesco.org/en/ev.php-
URL_ID=47015&URL_DO=DO_TOPIC&URL_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=47015&URL_DO=DO_TOPIC&URL_SECTION=201.html)**

INTERNET SITES

OXCAL-ANNOUNCEMENT, INTCAL09 ADDED TO OXCAL

I have updated the current version of OxCal to include (and use as default) the IntCal09 and Marine09 calibration curves. As ever when using the program you should reference the calibration curve used.

There are no other changes to OxCal in this update except minor updates to the help files and references relevant to the change in curves. IntCal04 and Marine04 are still included, so if you are in the middle of projects and wish to continue to use them, you can do so but you will need to explicitly choose them.

The paper detailing the new Curves (Reimer et al. 2009) is online at Radiocarbon: <http://www.radiocarbon.org/>

Please let me know if there are any problems.

Christopher Ramsey

Email: christopher.ramsey@rlaha.ox.ac.uk

KAVROCHORI EXCAVATION: **GEOMETRIC TOMB IN PRIVATE LAND**

Please visit the site: <http://kavrochori.blogspot.com/>

ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

MINOAN ARCHITECTURE: MATERIALS AND TECHNIQUES, BY J.W. SHAW

Dear colleagues,

we are pleased to announce that the volume “Minoan Architecture: Materials and Techniques” by J.W. Shaw is now available. This book is the seventh of the series Studi di Archeologia Cretese and it costs € 175. More information about the book and other publications of the Centro di Archeologia Cretese are at the following link: <http://www.cac.unict.it/publicazioni.php>

I urge everyone interested in Minoan archaeology and architecture to get hold of this important book.

For order please apply to Bottega d’Erasmus AAGEP Aldo Ausilio Editore in Padova - Ausilio Arti Grafiche Editoriali Padova (AAGEP) - Via A. da Bassano 70/D - 35135 Padova - P.O. Box 9/1062 Padova Centro

Tel: +39 049.864.28.29

Fax: +39 049.864.28.28

Mail: info@ausilioeditore.com

Site: <http://www.ausilioeditore.com>

All good wishes

Luca Girella

CONTENTS

Introduction

Chapter 1. Stone

- A) Building Stone
- B) Quarrying and the Transportation of Stone
- C) Tools for Building
- D) Masonry

Chapter 2. Wood and Timber

- A) Types of, Evidence for, and Chief Structural Uses of Wood in Architecture
- B) Wooden Clamps and Dowels

Chapter 3. Sundried mudbrick and terracotta

- A) Sun-dried Mud Brick
- B) Terracotta

Chapter 4. Lime and Clay Plasters

- A) Composition and Early Uses
- B) Later Uses of Lime Plaster and its Preparation
- C) Floors
- D) Ceilings and Upper Floors
- E) Roofs and Parapets
- F) Calcestruzzo

Chapter 5. Conspectus and beyond

- A) Development and Change
- B) The Builders
- C) Diffusion: Minoan Architectural Styles Abroad

Appendixes

- A) Metal Used in Building
- B) Column Bases: Stone Types and Sites
- C) Column Bases with Mortises
- D) Dimensions of Mud Bricks
- E) Terracotta Pipes, Channels, and Catch-Basins
- F) Analyses of Plasters

Abbreviations

Bibliography

Guide to site plans

Illustration credits

List of Tables

List of Illustrations

Illustrations

Index

INTCAL09 ONLINE

Hello all,

The special IntCal09 issue (Vol. 51, Nr. 4) is now online here:

<https://www.uair.arizona.edu/holdings/journal/issue?r=http://radiocarbon.library.arizona.edu/Volume51/Number4/>

Supplemental Information corresponding to IntCal09 is here:

<http://www.radiocarbon.org/IntCal09.htm>

We congratulate the IntCal group for all their good work, which is always eagerly anticipated. There is a lot of interest in IntCal09, with various outlets publicizing its release (i.e. Science magazine, among others).

It's also a good time to remind everyone that Radiocarbon is now publishing quarterly, so look for 4 issues a year now instead of the 3/year we have done in the past.

Happy New Year to all,

Mark

Mark McClure

RADIOCARBON Managing Editor

Univ. of Arizona, Dept. of Geosciences

4717 E. Fort Lowell Rd, #104

Tucson, AZ USA 85712

520-881-0857 phone | 520-881-0554 fax

www.radiocarbon.org | <http://radiocarbon.library.arizona.edu/>

ARCHEOMATICA, CULTURAL HERITAGE TECHNOLOGIES: CALL FOR PAPERS

Archeomatica is a new, multidisciplinary journal, printed in Italy, devoted to the presentation and the dissemination of advanced methodologies, emerging technologies and techniques for the knowledge, documentation, safeguard, conservation and exploitation of cultural heritage.

The journal aims to publish papers of significant and lasting value written by scientists, conservators and archaeologists involved on this field with the diffusion of specific new methodologies and experimental results. Archeomatica will also emphasize fruitful discussion on the best up-to-date scientific applications and exchanging ideas and findings related to any aspect of the cultural heritage sector. The journal is divided in three sections Documentazione (Survey and documentation), Rivelazioni (Analysis, diagnostics and monitoring), Restauro (Materials and intervention techniques).

The issues are also published on line at the website www.archeomatica.it Archeomatica invites submissions of high-quality papers and interdisciplinary works for the next issues in all areas related to science and technology in cultural heritage, particularly on recent developments.

Please submit an original paper to paper-submission@archeomatica.it

Please visit the site: <http://www.archeomatica.it>

FLOOR SEQUENCES IN NEOLITHIC MAKRI, GREECE: MICROMORPHOLOGY REVEALS CYCLES OF RENOVATION, PANAGIOTIS KARKANAS AND NIKOS EFSTRATIOU

Antiquity 83 (No. 322, December 2009): 955–967.

Abstract

Dating and examination of plaster floor sequences by micromorphology at a tell site in Greece shows when they were made and how they were composed. While numerous informal floor surfaces using recycled rubbish were put in place, as and when, by the occupants, formal floors rich in plaster seem to have been re-laid at regular intervals in reflection of a communal decision – even if the actual floors followed a recipe determined by each household. The authors rightly champion the potential of the technique as a possible indicator of social change at the household and settlement level.

JOURNAL OF WORLD PREHISTORY - 2 **VOLUME ON EARLY METALS**

Dear All,

The first of two special issues of the Journal of World Prehistory is finally in print! (See table of contents below). Stemming from a session entitled "Modelling Early Metallurgy: Old and New World Perspectives" at the 2008 Society of American Archaeology (put together by Ben Roberts and myself), these papers seek to provide up-to-date syntheses of the beginnings of metallurgy in various regions, but with a view towards anthropological and archaeological models for the integration of this new technology(ies) into various socio-cultural milieux. In other words, the focus is very anthro-archy, but there's a lot of new data (and some comprehensive bibliographies) included as well.

see here: <http://www.springerlink.com/content/0892-7537>

Cheers,

Chris

Volume 22 Number 3 is now available on SpringerLink

In this issue:

Editorial Notes

Introduction: The Beginnings of Metallurgy in Global Perspective

Author(s) Christopher P. Thornton & Benjamin W. Roberts

DOI10.1007/s10963-009-9026-2

Online since October 15, 2009

Page181 - 184

Original Paper

West Mexican Metallurgy: Revisited and Revised

Author(s) Dorothy Hosler

DOI10.1007/s10963-009-9021-7

Online since October 31, 2009

Page185 - 212

Original Paper

Copper Working Technologies, Contexts of Use, and Social Complexity in the Eastern Woodlands of Native North America

Author(s) Kathleen L. Ehrhardt

DOI10.1007/s10963-009-9020-8

Online since September 30, 2009

Page213 - 235

Original Paper

Production and Consumption of Copper-base Metals in the Indus Civilization

Author(s) Brett C. Hoffman & Heather M.-L. Miller

DOI10.1007/s10963-009-9024-4

Online since November 04, 2009

Page 237 – 264 π.

Original Paper

Metallurgy in Ancient Eastern Asia: Retrospect and Prospects

Author(s) Kathrin M. Linduff & Jianjun Mei

DOI10.1007/s10963-009-9023-5

Online since October 27, 2009

Page 265 - 281

Original Paper

New Light on the Development of Chalcolithic Metal Technology in the Southern Levant

Author(s) Jonathan Golden

DOI10.1007/s10963-009-9022-6

Online since October 27, 2009

Page 283 - 300

Original Paper

The Emergence of Complex Metallurgy on the Iranian Plateau: Escaping the Levantine Paradigm

Author(s) Christopher Peter Thornton

DOI10.1007/s10963-009-9019-1

Online since September 30, 2009

Page 301 - 327

CURRENT ANTHROPOLOGY, VOLUME **51, NUMBER 1**

is now available at <http://www.journals.uchicago.edu/toc/ca/51/1>

Editorial: Intergenerational Wealth Transmission and Inequality in Premodern Societies
Mark Aldenderfer
Current Anthropology February 2010, Vol. 51, No. 1: 1.
Citation | Full Text | PDF Version (81 KB)

Anthropological Currents
Current Anthropology February 2010, Vol. 51, No. 1: 3-4.
Citation | Full Text | PDF Version (91 KB)

Current Applications
M. K. Zuckerman
Current Anthropology February 2010, Vol. 51, No. 1: 5.
Citation | Full Text | PDF Version (83 KB)

Special Section: Intergenerational Wealth Transmission and Inequality in Premodern Societies
The Emergence and Persistence of Inequality in Premodern Societies:
Introduction to the Special Section
Samuel Bowles, Eric Alden Smith, and Monique Borgerhoff Mulder
Current Anthropology February 2010, Vol. 51, No. 1: 7-17.
Abstract | Full Text with Enhancements | PDF Version (225 KB)

Wealth Transmission and Inequality among Hunter-Gatherers
Eric Alden Smith, Kim Hill, Frank W. Marlowe, David Nolin, Polly Wiessner, Michael Gurven, Samuel Bowles, Monique Borgerhoff Mulder, Tom Hertz, and Adrian Bell
Current Anthropology February 2010, Vol. 51, No. 1: 19-34.
Abstract | Full Text with Enhancements | PDF Version (330 KB)

Pastoralism and Wealth Inequality: Revisiting an Old Question
Monique Borgerhoff Mulder, Ila Fazzio, William Irons, Richard L. McElreath, Samuel Bowles, Adrian Bell, Tom Hertz, and Leela Hazzah
Current Anthropology February 2010, Vol. 51, No. 1: 35-48.
Abstract | Full Text with Enhancements | PDF Version (317 KB)

Domestication Alone Does Not Lead to Inequality: Intergenerational Wealth Transmission among Horticulturalists
Michael Gurven, Monique Borgerhoff Mulder, Paul L. Hooper, Hillard Kaplan, Robert Quinlan, Rebecca Sear, Eric Schniter, Christopher von Rueden, Samuel Bowles, Tom Hertz, and Adrian Bell
Current Anthropology February 2010, Vol. 51, No. 1: 49-64.
Abstract | Full Text with Enhancements | PDF Version (386 KB)

Intergenerational Wealth Transmission among Agriculturalists:
Foundations of Agrarian Inequality

Mary K. Shenk, Monique Borgerhoff Mulder, Jan Beise, Gregory Clark, William Irons, Donna Leonetti, Bobbi S. Low, Samuel Bowles, Tom Hertz, Adrian Bell, and Patrizio Piraino

Current Anthropology February 2010, Vol. 51, No. 1: 65-83.
[Abstract](#) | [Full Text with Enhancements](#) | [PDF Version \(379 KB\)](#)

Production Systems, Inheritance, and Inequality in Premodern
Societies: Conclusions

Eric Alden Smith, Monique Borgerhoff Mulder, Samuel Bowles, Michael Gurven, Tom Hertz, and Mary K. Shenk

Current Anthropology February 2010, Vol. 51, No. 1: 85-94.
[Abstract](#) | [Full Text with Enhancements](#) | [PDF Version \(356 KB\)](#)

Comments and Reply: Intergenerational Wealth Transmission and Inequality in
Premodern Societies

Comments on the Emergence and Persistence of Inequality in Premodern Societies
Kenneth M. Ames

Current Anthropology February 2010, Vol. 51, No. 1: 95-96.
[Citation](#) | [Full Text](#) | [PDF Version \(100 KB\)](#)

Does It Matter What Form Inheritance Takes? Comments on Bowles, Smith, and
Borgerhoff Mulder

James L. Boone

Current Anthropology February 2010, Vol. 51, No. 1: 97-98.
[Citation](#) | [Full Text](#) | [PDF Version \(94 KB\)](#)

Studying Wealth Transmission and Inequality in Premodern Societies:
Some Caveats

Dan Bradburd

Current Anthropology February 2010, Vol. 51, No. 1: 99-100.
[Citation](#) | [Full Text](#) | [PDF Version \(100 KB\)](#)

Measuring Inequality through the Strength of Inheritance
Gregory Clark

Current Anthropology February 2010, Vol. 51, No. 1: 101-102.
[Citation](#) | [Full Text](#) | [PDF Version \(166 KB\)](#)

Evolution Is Not Egalitarian

Mark V. Flinn

Current Anthropology February 2010, Vol. 51, No. 1: 103-104.
[Citation](#) | [Full Text](#) | [PDF Version \(92 KB\)](#)

History and the Problem of Synchronic Models

N. Thomas Håkansson

Current Anthropology February 2010, Vol. 51, No. 1: 105-107.
[Citation](#) | [Full Text](#) | [PDF Version \(97 KB\)](#)

A Good Start

Robert L. Kelly

Current Anthropology February 2010, Vol. 51, No. 1: 109-110.

Citation | Full Text | PDF Version (93 KB)

Inheritance and Inequality of Wealth: A Comment

Frederic L. Pryor

Current Anthropology February 2010, Vol. 51, No. 1: 111-113.

Citation | Full Text | PDF Version (109 KB)

Comparative Anthropology and Human Inequality

Stephen Shennan

Current Anthropology February 2010, Vol. 51, No. 1: 115-116.

Citation | Full Text | PDF Version (93 KB)

The Emergence and Persistence of Inequality in Premodern Societies: A Historical Perspective

Richard Waller

Current Anthropology February 2010, Vol. 51, No. 1: 117-118.

Citation | Full Text | PDF Version (96 KB)

Intergenerational Wealth Transmission and Inequality in Premodern Societies: Reply

Eric Alden Smith, Samuel Bowles, Tom Hertz, Monique Borgerhoff Mulder, Mary K. Shenk, and Michael Gurven

Current Anthropology February 2010, Vol. 51, No. 1: 119-126.

Citation | Full Text with Enhancements | PDF Version (215 KB)

Reports

Analysis of Stable Isotopes: From the Archaic to the Horticultural Communities in Central Chile

Lorena Sanhueza and Fernanda Falabella

Current Anthropology February 2010, Vol. 51, No. 1: 127-136.

Abstract | Full Text | PDF Version (516 KB)

Sleeping Activity Area within the Site Structure of Archaic Human Groups: Evidence from Abric Romaní Level N Combustion Activity Areas

Josep Vallverdú, Manuel Vaquero, Isabel Cáceres, Ethel Allué, Jordi Rosell, Palmira Saladié, Gema Chacón, Andreu Ollé, Antoni Canals, Robert Sala, M. A. Courty, and Eudald Carbonell

Current Anthropology February 2010, Vol. 51, No. 1: 137-145.

Abstract | Full Text with Enhancements | PDF Version (551 KB)

Books

Entering a Bolted Place (Ramble's The Navel of the Demoness: Tibetan Buddhism and Civil Religion in Highland Nepal)

Michael Oppitz

Current Anthropology February 2010, Vol. 51, No. 1: 147-148.

Citation | Full Text | PDF Version (100 KB)

Whole Lot of Spending Money (Cattelino's High Stakes: Florida Seminole Gaming and Sovereignty)

George Pierre Castile

Current Anthropology February 2010, Vol. 51, No. 1: 149-150.

Citation | Full Text | PDF Version (76 KB)

A Qualitative Approach Can Be Rigorous (Olivier de Sardan's La rigueur du qualitatif: les contraintes empiriques de l'interprétation socio-anthropologique)

Jean-François Baré

Current Anthropology February 2010, Vol. 51, No. 1: 150-151.

Citation | Full Text | PDF Version (76 KB)

From Politics to Practice (McGuire's Archaeology as Political Action)

Bryn Williams

Current Anthropology February 2010, Vol. 51, No. 1: 151-152.

Citation | Full Text | PDF Version (76 KB)

Dilemmas of Decolonization in Bolivia (Gustafson's New Languages of the State: Indigenous Resurgence and the Politics of Knowledge in Bolivia)

María Elena García

Current Anthropology February 2010, Vol. 51, No. 1: 153-154.

Citation | Full Text | PDF Version (78 KB)

Books Received

Current Anthropology February 2010, Vol. 51, No. 1: 154-157.

Citation | PDF Version (76 KB)

To access the Issue Table of Contents, see: <http://www.journals.uchicago.edu/toc/ca/51/1>

To subscribe to Current Anthropology see:

<https://subfill.uchicago.edu/JournalPUBS/WebForm2.aspx?webpub=ca>

To order single articles or back issues see:

<http://www.journals.uchicago.edu/page/ca/order.html>

From University of Chicago Press: etoc@press.uchicago.edu

ΠΑΡΟΥΣΙΑΣΗ ΒΙΒΛΙΩΝ ΤΡΙΤΗ 9 ΦΕΒΡΟΥΑΡΙΟΥ ΣΤΟ ΣΠΙΤΙ ΤΗΣ ΚΥΠΡΟΥ

Terracotta Statues and Figurines of Cypriote Type found in the Aegean - Provenance Studies

A.G. Leventis Foundation, Nicosia 2009

V. Karageorghis, N. Kourou, V. Kilikoglou and M. D. Glascock

En collaboration with J. Karageorghis and P. Marantidou

Cyprus and the East Aegean - Intercultural Contacts from 3000 to 500 BC, An International Archaeological Symposium held at Pythagoreion, Samos, October 17th - 18th 2008

A.G. Leventis Foundation, Nicosia 2009

V. Karageorghis and O. Kouka (eds)

EΙΔΗΣΕΙΣ - NEWS RELEASE

DID UNEMPLOYED MINOAN ARTISTS LAND JOBS IN ANCIENT EGYPT?

One of the most perplexing mysteries that Egyptologists and Aegean experts are tackling is that of the frescoes of Tell el-Dab'a, also known as Avaris.

This site was used as the capital of the Hyksos, at a time when they ruled much of Egypt, from 1640 – 1530 BC. It is on the Nile Delta and would have provided access to the Sinai, Levant and southern Egypt.

The site appears to have been abandoned for a time after the Hyksos were driven out. However, by the end of the 18th dynasty (when the Egyptians were back in control of their land), the site was in use and sported with three – yes three – large palaces. They were ringed by an enclosure wall. The whole complex was about 5.5 hectares in size.

There is no question that the frescoes at Tell el-Dab'a are Aegean influenced

Now here's the mystery –

Two of those palaces were decorated, for a very short period of time, with Minoan frescoes. These include drawings of bull-leaping scenes – which are well known from the Palace of Knossos in Crete.

Site excavator Manfred Bietak published a book in 2007 that discussed these frescoes and compared them with the more famous scenes at the Palace of Knossos.

There is no question that the frescoes at Tell el-Dab'a are Aegean influenced, and it seems likely that the artists are from Crete. Dating them is tricky but from the stratigraphy and pottery they seem to date to around the time of Thutmose III.

What are They Doing in Egypt?

It's an important question - but one that is difficult to decisively answer.

Bietak said in his book that the paintings may symbolize the marriage of a Minoan princess into the Egyptian royal family.

“Ancient Near Eastern history is full of examples which prove that matchmaking was an important instrument of Egyptian and Near Eastern foreign politics,” he said, citing the well-known Amarna letters.

Another idea, which Bietak brings up, is that the frescoes may have been painted for the purpose of a state visit of Minoan leaders to Egypt. This is backed up by excavation which reveals that the paintings appear to have fallen off the walls after a short period of time – possibly only a few years.

These ideas certainly have quite a ring to them - a royal marriage with special painters? An ancient international summit? It sounds like the stuff of legend.

Now there's a new idea emerging – one that is decidedly lacking in romance.
Unemployed Minoan Artists

At a lecture a few weeks ago in Toronto Professor Maria Shaw, of the University of Toronto, proposed her own theory. Shaw has done extensive archaeological work in Crete so her background is more from the Aegean side of the coin.

She believes that the frescoes were drawn by out of work Minoan artists – who travelled to Egypt as the Minoan civilization was declining.

Professor Shaw's argument works like this-

Cretan rulers controlled their art extremely carefully. Shaw said that the bull-leaping scenes are a symbol of the Palace of Knossos and are found nowhere else on the island. "I stress in no other palaces," she said.

Also half-rosettes, the flowery decoration seen on the scenes at Tell el-Dab'a, are "a sign of royalty... it's amazing that it was appropriated and used at Tell el-Dab'a."

Given that the bull-leaping and half-rosette symbols were tightly controlled on Crete, it makes no sense that the rulers would let their artists paint them in a foreign country.

So, again, what are they doing in Egypt?

Shaw believes that the paintings date to a time when the Palace of Knossos was in decline (ca. 1400 BC). The artists that worked there would have found themselves out of work and needing a new benefactor.

"Artists must have left from there and went find jobs in Egypt," said Shaw.

Also, as the Palace of Knossos declined so did the willingness to honour its symbols of rule. "The respect or fear that people had not to imitate Knossos - went with Knossos," said Shaw.

It's also no surprise that Egyptian rulers would sanction the use of Minoan art.

Egypt at that time was open to foreign influences. The Amarna letters show that Egypt was wheeling and dealing diplomatically in the Near East. Paintings have been found showing people from the Aegean bringing gifts to Egypt. Minoan motifs have also been found in Egyptian tombs.

"There was an interest in Egypt of things Minoan," said Shaw.

Further backing up her point is evidence from the site of Mycenae in Greece. Fragments of a bull leaping scene, similar to those found at Knossos, have been found there as well - further proof that when Knossos fell, its art and artists travelled far and wide.

Please visit the site: http://heritage-key.com/blogs/owenjarus/did-unemployed-minoan-artists-land-jobs-ancient-egypt?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+hk_digest+%28Heritage+Key+Digest%29&utm_content=Google+Reader [Go there for nice pix]

ZEUS' ALTAR OF ASHES, NEWS FROM THE ARCHAEOLOGICAL INSTITUTE OF AMERICA'S ANNUAL MEETING IN ANAHEIM, CALIF, BY BRUCE BOWER

Excavations at the Sanctuary of Zeus atop Greece's Mount Lykaion have revealed that ritual activities occurred there for roughly 1,500 years, from the height of classic Greek civilization around 3,400 years ago until just before Roman conquest in 146.

“We may have the first documented mountaintop shrine from the ancient Greek world,” says project director David Romano of the University of Pennsylvania in Philadelphia.

Ritual ceremonies were conducted in a part of the open-air sanctuary called the ash altar of Zeus. It now consists of a mound of ash, stone and various inscribed dedications to Zeus, the head god of Greek mythology. Romano's team has found no evidence of a temple or structures of any kind on Mount Lykaion.

Work conducted over the past two years at the ash altar of Zeus has unearthed material from many phases of Greek civilization. Finds include pottery of various types, terra cotta figurines of people and animals, and burned bones of sheep and goats.

Chemical analyses have revealed traces of red wine on the inside surfaces of some pottery fragments, Romano says. His team reported initial evidence of ritual activity at the ash altar of Zeus in 2007. The new discoveries indicate that ancient Greeks kept returning to the sacred site for a remarkably long time.

Please visit the site:

http://www.sciencenews.org/view/generic/id/54964/title/Zeus_altar_of_ashes

WILD IBERIAN HORSES CONTRIBUTED TO ORIGIN OF CURRENT IBERIAN DOMESTIC STOCK

The earliest known domestic horses are around 4,600 years old. They were originated in the steppes between modern Ukraine and Kazakhstan.

Using this evidence, two different hypotheses have been suggested:

- 1) domestic horses spread from this area over the rest of Eurasia;
- 2) horse domestication was a multiregional process, having occurred several times in different local places.

"Previous analysis on mitochondrial DNA from modern Iberian horses pointed to the D1 haplogroup as the most likely group involved in an independent domestication event, maybe in Iberia or in North Africa" explains Anders Götherström from the Department of Evolutionary Biology at Uppsala University, who headed the project together with Juan Luis Arsuaga of the Centro Mixto UCM-ISCIH from Madrid (Spain).

The researchers have compared the ancient Iberian sequences from Iberian Neolithic, Bronze Age and Middle Ages obtained in this study with more than 1,000 modern horse sequences from different Iberian and non-Iberian breeds, as well as with ancient sequences from other studies.

The researchers found the earliest occurrence of the D1 group in Iberia in a medieval horse. "We have not found sequences from the Neolithic or the Bronze Age period associated to the most important modern Iberian haplogroup, the D1 group. That means that D1 group can be a foreigner group, which entered in Iberia during historical times" says Jaime Lira, of the Centro Mixto UCM-ISCIH from Madrid and the main author of this study.

Furthermore, wild horses from Iberia contributed to the domestication process, and the Lusitano group C is a witness from this event. "The Lusitano C is a small group constituted only by modern horses from Iberian origin. We have found that maternal lineages from this group were already present in wild Iberian horses from the Early Neolithic, continuing through the Bronze Age until nowadays." explains Juan Luis Arsuaga. These results suggest the possibility of a completely independent domestication episode, or the use of Iberian maternal lineages in a restocking process from the wild.

Collaborators on the research included scientists from Centro UCM-ISCIH de Investigación sobre Evolución y Comportamiento Humanos in Spain, Universidad Complutense de Madrid in Spain, Stockholm University in Sweden, Universitat Jaume I in Spain, Swedish University of Agricultural Sciences, University of Copenhagen in Denmark and Uppsala University in Sweden.

Please visit the site:

<http://www.sciencedaily.com/releases/2010/01/100107114431.htm>

TREASURE FOUND OFF LA MANGA, **SALLY BENGTTSSON**

Buried beneath shells, rocks and sand, for 2,600 years, while the construction boom has been completely changing the surrounding landscape, a treasure of incalculable value has lain just off La Manga.

Now, 26 centuries later, archaeologists from eleven countries are bringing these antique objects to the light of day once again. The find appears to be the cargo of a commercial ship carrying ivory from African elephants, amber and lots of ceramic objects.

The find has been kept secret for the past three years by the team of divers led by the Spaniard Juan Pinedo Reyes and the American Mark Edward Polzer. The recovery project is being financed by National Geographic, who have reached an agreement with the Spanish Minister of Culture, the Institute of Nautical Archaeology and the University A&M of Texas.

The recovery is taking place around Grosa Island and El Farallon Island, just off La Manga. Over the last three years 1,400 objects have been collected. Even some of the wood from the bottom of the ship has survived since the 7th Century before Christ (620 BC), and has been recovered. It is believed the vessel measured approximately 15 metres long.

The find has been described as one of the most important of all archaeological discoveries. The Ivory tusks measure between 70 and 150 centimetres, with Phoenician writing inscribed. They have come from a race of elephants which are now believed to be extinct. There are also copper ingots and stones containing silver and lead. Ceramic pots which were used for transporting fish and oil have been found too, as well as plates, bowls, combs, ivory knife handles, bronze needles and chandeliers.

It is believed the ship crashed into rocks off the island, which are just a metre and a half below the surface. The ship would have set sail from Cadiz, and was probably heading towards Guardamar to a factory there, or to deliver items to a prince living in the area.

Please visit the site:

<http://www.theleader.info/article/21305/spain/costa-calida/treasure-found-off-la-manga/>

THE LEGACY OF HOWARD CARTER, DID KING TUT'S DISCOVERER STEAL FROM THE TOMB? BY MATTHIAS SCHULZ, TRANSLATED FROM THE GERMAN BY ELLA ORNSTEIN

Howard Carter, the British explorer who opened the tomb of Tutankhamun in 1922, will forever be associated with the greatest trove of artifacts from ancient Egypt. But was he also a thief?

Dawn was breaking as Howard Carter took up a crowbar to pry open the sealed tomb door in Egypt's Valley of the Kings. With shaking hands, he held a candle to the fissure, now wafting out 3,300-year-old air. What did he see, those behind him wanted to know. The archaeologist could do no more than stammer, "Wonderful things!"

This scene from Thebes in November, 1922, is considered archaeology's finest hour. Howard Carter, renowned as the "last, greatest treasure seeker of the modern age," had arrived at his goal.

Carter obtained about 5,000 objects from the four burial chambers, including furniture, jars of perfume, flyswatters, and ostrich feathers -- the whole place was a dream of jasper, lapis lazuli, and turquoise. He even discovered a ceremonial staff adorned with beetles' wings.

The "unexpected treasures," as Carter described them, suddenly brought to light an Egyptian king previously almost unknown -- Tutankhamun, born approximately 1340 B.C., who ascended the throne as a child. A statue shows the boy king with chubby cheeks and a delicate face. Tutankhamun later married his older sister and conceived two children with her, both born prematurely. The fetuses were found in small but magnificent coffins.

The king died at the age of 18. An ardent racer -- six of his chariots were also discovered in the tomb -- who often went ostrich hunting in the Eastern Desert with his dog, Tutankhamun may have suffered a chariot accident and died of subsequent blood poisoning.

Lotus Flowers and Nightshade Berries

Interest in the young Egyptian monarch remains high today. An exhibit of replicas currently on show in Hamburg has drawn 150,000 visitors to date. Nothing even nearly comparable has ever been recovered from these earliest periods of human culture. With 27 gloves, 427 arrows, 12 stools, 69 chests, and 34 throwing sticks, the sheer volume of objects is breathtaking.

When Carter first opened the cavern, it still smelled of embalming oil. Lotus flowers and nightshade berries still rested on the coffins.

The grandeur of the find rubbed off on its discoverer. Carter was awarded an honorary doctorate and US President Calvin Coolidge invited him to tea. Horst Beinlich, Egyptologist at Würzburg University, calls him a "thoroughly honest man full of idealism."

It appears, however, that this isn't quite true. Documents show that the hero of the tombs cheated on many counts, manipulating photographs, forging documentation on the discovery and deceiving the Egyptian Antiquities Service.

The discoveries in that tomb set in motion a power struggle that has been only partially uncovered. Carter wanted to send as much of the treasure as possible to England and the United States. This plan quickly met with resistance. Egypt had been a British protectorate since 1914, but the administration of antiquities lay in the hands of a particularly intractable Frenchman.

In the end, Carter's entire scheme went awry and the pharaoh's golden treasures remained in Cairo, marking the end of an era of ruthless appropriation of cultural assets. Carter and his team went away empty-handed.

Pocketing This and That

Or at least, that was the official word. Secretly, however, the Carter team helped themselves, despite lacking authorization. Objects in several museums have now been revealed to belong to Tutankhamun's treasures.

The most recent example is a small ushabti, or servant for the dead, made of white faience and standing in the Louvre. On a recent visit to the Paris museum, Egyptologist Christian Loeben couldn't believe his eyes. "Tutankhamun's throne name is written on the figure," he explains. "It can only have come from his tomb."

Forbidden treasures in the form of two golden hawk's heads were also found in Kansas City. Examination revealed them to be part of a collar that had lain directly on the mummy's skin, which was coated with 20 liters (5 gallons) of embalming oil. The jewelry broke when it was pulled away, and Carter collected the pieces to give as a present to his dentist.

Objects of Tutankhamun's have also wound up in Germany. A museum director in the state of Saxony, who wishes to remain anonymous, confessed to SPIEGEL that he is in possession of several blue faience beads. "Carter pocketed them as the tomb chambers were being cleaned and later gave them to his secretary," he says. The museum director came across these dubious items through an auction house.

'Unstamped Things'

Such handling of foreign property only serves to strengthen a suspicion Thomas Hoving, former director of the Metropolitan Museum of Art in New York, raised in the 1970s. Based on internal file notes, he documented cases in which Carter and his partner, the

English Earl of Carnarvon, allowed their fingers to wander. They gave a clasp that showed the pharaoh on a war chariot as a present to Egyptian King Fouad I, for example. American oil baron Edward Harkness received a gold ring.

Carnarvon himself was looking for a fresh supply of such treasures. He wanted "unstamped things," he wrote from Highclere Castle to Thebes on December 22, 1922, meaning pieces without a cartouche containing a name, so that they would be difficult to identify.

Carter was only caught in the act once. He'd slipped a painted bust of the young pharaoh into a side chamber, without a registration number. Inspectors discovered the bust, a "masterpiece of antique sculpture" in Hoving's words, in a wine crate. The archaeologist talked his way out of the situation, and the scandal was never made public.

Most of the time, Carter's subterfuge worked. A series of mostly small objects disappeared. Who stole what when -- and where the pieces ended up -- remains one of Egyptology's greatest mysteries.

Ancient Tomb Robbers?

What's known for sure is that the Metropolitan Museum of Art alone contains around 20 objects presumed to have originated from KV 62, Tutankhamun's tomb. These include a small dog made of ivory, a gazelle, rings, a splendid painter's palette, and even two silver coffin nails.

The Brooklyn Museum has in its possession, among other things, a statue of a girl, an ointment spoon, and a blue glass vase. A cat carved from black hematite turned up in Cleveland. The owners release very little information on the disputed objects.

"Nobody likes to talk about these unpleasant things," explains Loeben, the Egyptologist. In England, Carter is known as a brilliant counterpart to Heinrich Schliemann, the German archeologist who excavated ancient Troy. That Carter earned his money through antique dealing, though, is normally hushed up.

The most recent allegations go further. Carter is said to have fudged archaeological facts, leading generations of researchers astray. The focal point of the criticism is Carter's theory that the tomb had been looted multiple times in antiquity.

Thieves broke into the sanctuary "immediately following the burial rituals," Carter wrote. Backed up by corrupt necropolis officials, they ransacked all the tomb's chambers, he claimed, and other bandits later came and stole cosmetic oils.

The archaeologist gave signs of a break-in as proof, saying he had to force his way through a series of doors that had been broken open and then re-sealed by necropolis guards, all in ancient times.

Robbers With a Thing for Small Jewelry

Carter described the robbers' destruction in vivid detail. Chests had been rifled through and stoppers pulled from alabaster vases and thrown to the ground, he said. The robbers

had torn ornamentation made of precious metals from the furniture and chariots, as well as stealing a 30-centimeter (12-inch) solid gold statue.

That scenario represents the prevailing opinion today. In his standard work "The Complete Tutankhamun," British Egyptologist Nicholas Reeves accepts the figure that 60 percent of the tomb's small ornaments and jewelry were lost. But is it true? No independent witnesses were present when Carter first entered the tomb.

It's also clear that he lied on at least a few points. Alfred Lucas, one of Carter's employees, revealed that his boss secretly broke open the door to the burial chamber himself, afterward relocking it with deceptive authenticity using an antique seal, to hide his transgression. That report appeared in 1947, but only in a little-read scientific journal in Cairo. Hardly anyone took notice.

'The Break-In Was Faked'

Hoving's revelations in the 1970s similarly attracted little interest. Many saw him as fouling the nest.

But suspicions continue to grow, especially among German Egyptologists, who doubt that the looting of the tomb in antique times really played out the way Carter described. "Much of the story is exaggerated," Loeben believes. His colleague Rolf Krauss goes further and says, "The break-in was faked."

Feeding these suspicions are articles 9 and 10 of the excavation license, which allowed goods from a tomb to be contractually divided up only if it had been previously robbed. If a pharaoh's tomb was found intact, all its contents would go to Egypt.

"Under these conditions, it's clear the discoverers must have tried construe the state of their find in their favor," is Krauss' analysis. This casts a dubious light on the man considered a leader in his field.

The Ambitious Young Carter

The son of an artist known for his portraits of animals, Carter arrived in Egypt in 1891, when Victorian-era colonialism was at its height. The young man developed a knack for finding hidden burial chambers. Before hitting it big with Tutankhamun's tomb, Carter had already found three other royal tombs -- all of them empty. He liked being connected to the powerful, working intermittently for American millionaire and amateur archaeologist Theodore Davis.

The young Carter was somewhat awkward in his personal interactions. After coming to blows with some French tourists, he lost his job as inspector for the Egyptian Antiquities Service. Carter was stubborn and hot-tempered, Hoving says, adding, "Few people could be around him for an extended period without being driven up the wall." But his knack for finding tombs is undisputed. Starting in 1907, Carter began his obsessive pursuit of the child pharaoh whose corpse had never been found, hunting every possible clue.

Eventually he defined a triangle in the Valley of the Kings. The untouched sanctuary would be found there, he believed, somewhere under the mounds of detritus.

Carter quickly found a sponsor for the plan, although dozens had failed before him in the same pursuit. Lord Carnarvon was in poor health after a serious car accident, but the nobleman dandy, who had once circumnavigated the globe, had a mania for eerie shrines to the dead and embalmed mummies.

The Path to Tutankhamun

During the Tutankhamun project, Carnarvon's teeth fell out one after another, and he died of an inflamed mosquito bite five months later -- the beginnings of the myth of the "curse of the pharaoh."

Carter didn't have an easy time either. Oppressed by the heat and buffeted by dusty winds, he urged on a team of local laborers. One unsuccessful season followed another. After four years, the group was only a few centimeters from the discovery site. Suddenly, though, the boss withdrew his workers and continued the dig elsewhere.

There is a strong case for the theory that Carter had tracked down the entrance to the tomb at this point, but kept silent for tactical reasons, keeping a trump card up his sleeve. It can be said, at the very least, that when Carnarvon wanted to cut off funds in the summer of 1922, things moved surprisingly fast. Carter returned to Britain and begged for financial backing for one last campaign.

'A Magnificent Tomb With Seals Intact'

Hardly had he arrived back in Thebes, or so runs the legend, when an assistant dashed into the excavation tent and reported a sensational find -- a buried set of stairs leading down to a sealed door. Was there intrigue behind this announcement? A half brother of Lord Carnarvon thought so. He claimed Carter had crept secretly into the underground chambers three months before.

The official story is that Carter, by his own account, felt "almost overwhelmed" by the urge to break open the irksome door, but resisted, and buried the stairs once again. The next day, November 6, 1922, he cabled Lord Carnarvon, "At last have made wonderful discovery in the Valley. A magnificent tomb with seals intact. Recovered same for your arrival. Congratulations."

Then he waited more than two weeks, ostensibly without taking any action, for his chain-smoking sponsor to arrive. Carnarvon traveled to Luxor by ship, railroad, and steamboat on the Nile. Together with his daughter Evelyn, then 21, he alighted at the glamorous Winter Palace Hotel and rushed, having barely slept, to the Valley of the Kings. Not until then did the men open the sealed door, whose mortar showed clues of a previous break-in.

Behind it lay a corridor filled with rubble.

By afternoon on November 26, the workers had removed the debris and exposed a further walled-in doorway. Carter managed to clear a peephole in the blockade, and caught a glimpse of the "wonderful things" in the antechamber.

Again and again, authors have attested to this "solemn moment," in which the archaeologist looked in on that "eternal place," dazzled, spellbound, awed -- yet managing to keep his head. Then, according to the excavation leader, he stopped, in order to notify the Egyptian inspector general as duty required.

Carter's words: "We had seen enough. We plugged the hole again."

Lord Carnarvon's Alternate Story

All that is a lie. What really took place can be gathered from a report -- to this day never published, but studied in detail by Hoving -- that Lord Carnarvon wrote shortly before his death. Instead of waiting dutifully as regulations required, the party forced its way through the narrow opening right away.

Using tallow candles and a weak electrical lamp, the interlopers first entered the antechamber. Golden beds and beautifully carved chairs were piled up in the narrow room, as well as gaming tables and precious vases. Oval basins held food for the dead pharaoh.

Animal figures shone from the posts of gilded litters, monstrous in the weak cone of light from the lamp. The explorers moved chests, trampled brittle woven baskets, and pocketed perfume jars, opening chests in the side chamber as well.

But the most important question remained: Where was the mummy? At last the intruders discovered another bricked-in entranceway, framed by two life-sized black sentinels. Although being found out would have cost them their license, the group broke blocks of stone away from the door. And everyone pushed their way through.

Now they stood inside the room with the four gilded wooden shrines, each inside the next, with four coffins nested inside. In the innermost of these lay the mummy, with a beaded skullcap on its shaved head. Carter rattled the outermost door and the hinges sprang open, creaking. It wasn't until yet another seal obstructed his progress that he paused, with a shiver.

A Holy Mess

The conspirators left the underground tomb chambers hours later. Overwhelmed and blissful, they rode home by donkey in the wan moonlight, agreeing to keep silent about their activities. Only Lady Evelyn hinted at the events of that night in a letter, thanking Carter for taking her into that "most holy place."

The negative scientific consequences of those nighttime misdoings are still felt to this day. No one knows how the tomb really looked in its untouched state. Carter always attributed this to the barbarism of ancient thieves -- but the chaos in the tomb could just as well have been caused by Carter himself.

In any case, he exaggerated the damages, asserting for example that seals were already broken off the jugs of wine. But where, in that case, are the remains of those seals? Carter also claimed that objects had been stolen out of the chests. "But that can't be substantiated using the content labels attached to the chests," Loeben says.

Loeben also considers the claim that previous thieves had broken off golden figures from the wagons absurd: "That kind of ornamentation didn't even exist."

Thus the suspicion remains that the tomb's discoverer systematically lied and misled. He wanted to present Tutankhamun's tomb as already defiled, hoping in this way to obtain permission to remove half of the finds from the country, in accordance with the license agreement.

That the British explorer left empty-handed after all had to do with Carnarvon's untimely death in April 1923. With Carnarvon went the excavation license, and the cards were reshuffled. Even the US State Department intervened -- on Carter's side -- in the political and legal tug-of-war that ensued.

In the end, Egypt won. Carnarvon's heirs received £36,000 (about \$137,000 at the time) in compensation for costs incurred by the excavation.

'The Very Footprints...'

It can hardly be denied any longer that antique dealer Howard Carter grabbed Tutankhamun's valuables and helped himself to artifacts from the 3,300-year-old tomb. The details of the swindle, however, have only come to light in bits and pieces.

Carter's theory of grave robbery in ancient times has also lost most of its clout. It has become increasingly clear that his arguments are often based on exaggerations -- or are simply nonsense.

The British archaeologist claimed, for example, to have discovered "the very footprints of the last intruder" on a white bow case.

Krauss, the German Egyptologist, examined the photographic evidence from the 1920s. "A footprint is indeed visible in the photograph," he explains, "However, it was made not by Egyptian sandals, but by modern shoes with heels."

His suspicion? "They could be Howard Carter's own prints."

Please visit the site:

<http://www.spiegel.de/international/world/0,1518,671993,00.html>

TOOLS POINT TO EARLY CRETAN ARRIVALS, BY NORMAN HAMMOND

Evidence for the world's earliest seafaring has emerged from an archaeological survey in Crete. Tools of Lower Palaeolithic type, at least 130,000 years old, have been found on the Greek island, which has been isolated by the Mediterranean Sea for at least the past five million years, so that any human ancestors must have arrived by boat. At this date, they would have been of a pre-modern species: the earliest Neanderthals or even *Homo heidelbergensis*, the species to which Boxgrove Man belonged, are among possible contenders, but no such remains have so far been found on Crete.

“The early inhabitants of Crete reached the island using sea craft capable of open-sea navigation and multiple journeys — a finding that pushes the history of seafaring in the Mediterranean back by more than 100,000 years and has implications for the dispersal of early humans,” Professor Curtis Runnels said. The oldest uncontested marine crossing until recently was from Indonesia to Australia, dating to perhaps 60,000 years ago and made by anatomically modern humans of our own species, *Homo sapiens*, although we now know that earlier settlement on the island of Flores in Indonesia also necessitated a sea-crossing.

Professor Runnels, the Palaeolithic expert in the survey team, said that the investigation was carried out along the southwestern coast of Crete near the town of Plakias, facing Libya more than 200 miles to the south. These first Cretans may have crossed the Libyan Sea rather than island-hopping through the Cyclades from mainland Greece. Recent finds of what are claimed to be Palaeolithic tools from the island of Gavdos, off the south coast of Crete, would support this southern approach.

The survey has focused on the area from Plakias to Ayios Pavlos, including the Preveli Gorge, and has recovered more than 2,000 stone artefacts from 28 sites; the early tools were found at nine of these, eight in the area between Plakias and Preveli. “The existence of Lower Palaeolithic artefacts in association with datable geological contexts was a complete surprise: until now there has been no certain evidence of Lower Palaeolithic seafaring in the Mediterranean,” Professor Runnels said.

Early human penetration of Spain across the Strait of Gibraltar at a much earlier Palaeolithic date has been proposed, on the basis of occupation at Atapuerca, near Burgos, dating to at least 1.3 million years ago. These first Europeans could also have come along the north side of the Mediterranean from Anatolia, via Greece and the Balkans, however. The impact of this Cretan evidence is to show that a sea-crossing by pre-modern humans from Morocco to Spain cannot be ruled out.

The Plakias survey team, headed by Dr Thomas Strasser, of Providence College in Rhode Island, and Dr Eleni Panagopoulou, of the Greek Ministry of Culture, and funded partly by the National Geographic Society, sought caves and rock shelters near the mouths of freshwater perennial streams and rivers emptying into the Libyan Sea and within five kilometres of the present coast. Because erosion has cut back many of these, the team sought artefacts on the slopes in front of their present entrances. Much of the material was found on old marine terraces up to 92 metres above modern sea level.

Up to 300 pieces were found at each of the early sites, and at five sites the geological context allowed an approximate date to be assigned. Professor Runnels considers his estimate of 130,000 years to be a minimum and cautions that the artefacts could be much older. The tools included handaxes, cleavers and scrapers, and the quartz rocks used were sufficiently abundant for tools to be discarded after only short periods of use.

What sort of water-craft might have been used remains a matter of speculation, but it seems that our forebears were forging their way across Homer's "wine-dark sea" tens of millennia earlier than anybody had supposed.

Please visit the site:

http://www.timesonline.co.uk/tol/life_and_style/court_and_social/article6991643.ece

STABLE CLIMATE AND PLANT DOMESTICATION LINKED

[Full bibliographic information: 1. Abbo S et al (2010). Yield stability: an agronomic perspective on the origin of Near Eastern Agriculture. *Vegetation History and Archaeobotany*; DOI 10.1007/s00334-009-0233-7]

12 January 2010 16:50 Springer Science+Business Media

Sustainable farming and the introduction of new crops relies on a relatively stable climate, not dramatic conditions attributable to climate change. Basing their argument on evolutionary, ecological, genetic and agronomic considerations, Dr. Shahal Abbo, from the Levi Eshkol School of Agriculture at the Hebrew University of Jerusalem, Israel, and colleagues, demonstrate why climate change is not the likely cause of plant domestication in the Near East. Rather, the variety of crops in the Near East was chosen to function within the normal east Mediterranean rainfall pattern, in which good rainy years create enough surplus to sustain farming communities during drought years. In the authors' view, climate change is unlikely to induce major cultural changes. Their thesis is published online in Springer's journal *Vegetation History and Archaeobotany*.

Climate-based explanations for the beginning of new agricultural practices give environmental factors a central role, as prime movers for the cultural-economic change known as the Near Eastern Neolithic or Agricultural Revolution (about 8500 B.C., 10500 cal. B.P.*). Dr.

Abbo and team studied the traditional farming systems which existed until the early twentieth century in the Near East, looking for insights into the agronomic basis of the early days of Near Eastern farming, and to shed light on the possible role of climatic factors as stimuli for the Agricultural Revolution.

Their detailed analysis demonstrates that climate change could not have been the reason for the emergence of grain farming in the Near East. They find that farming requires a relatively stable climate to function as a sustainable economy and therefore is not a sustainable option in times of climatic deterioration.

The authors conclude, "We argue against climate change being at the origin of Near Eastern agriculture and believe that a slow but real climatic change is unlikely to induce revolutionary cultural changes."

*calibrated years before the present

Please visit the site:

<http://www.alphagalileo.org/ViewItem.aspx?ItemId=65852&CultureCode=en>

AKROTIRI PENINSULA EXCAVATIONS

The completion of the excavations at the site of Katalymmata ton Plakoton of the Akrotiri peninsula, which brought to light new important findings, was announced today by the Department of Antiquities of the Ministry of Communications and Works.

This was the third season of systematic excavations (12.10-20.11.2009), conducted at the site of Katalymmata ton Plakoton, of the Akrotiri peninsula, on the south coast, under the directions of the Senior Archaeological Officer of the Department Eleni Procopiou.

During this season the excavation of the rest of the western part of what was most probably the narthex of a very important ecclesiastical building of the end of the 6th or the beginning of the 7th century A.D., which began in 2007, was completed. The narthex has a total length of 14m on an E-W axis and a width of 36m on a N-S axis. It consists of a raised central area, which extends to the west and terminates with an apse. On the east of the raised area, the stylobates of the aisles of the central nave have been found. The remainder of the nave has not yet been excavated. It has been established that this area communicates with the pulpit (ambo) and the Holy Bema to the East by means of a narrow corridor (solea) along the axis of the central aisle.

The arrangement of the central raised area allows its identification with a mitatorium, (the area used by the clergy during the certain parts of the liturgies held at that period in the narthex). According to the Antiquities Department, it is clear from the above evidence that the building was planned and executed with great care from bishops with a deep knowledge of the religious rites and by the most skilled builders of the island or the empire, so as to honour those buried there, who must have been very important people but their memory, for some unknown reason, was not preserved in the tradition of the area.

**Please visit the site: http://www.hri.org/news/cyprus/cna/2010/10-01-11_2.cna.html
[Scroll down a bit]**

NEOLITHIC TEL AVIV

The Israel Antiquities Authority uncovered the earliest building ever found in Tel Aviv, dating to the Neolithic period. Among the fascinating artifacts discovered there: hippopotamus bones and 100,000 year old flint tools

Remains of a prehistoric building, which is the earliest ever discovered in the Tel Aviv region and estimated to be c. 7,800-8,400 years old, were exposed in an archaeological excavation the Israel Antiquities Authority recently carried out prior to the construction of an apartment building in the “Green Fichman” project in Ramat Aviv. Ancient artifacts that are thought to be 13,000 and 100,000 years old were also discovered there.

According to archaeologist Ayelet Dayan, director of the excavation on behalf of the Israel Antiquities Authority, “This discovery is both important and surprising to researchers of the period. For the first time we have encountered evidence of a permanent habitation that existed in the Tel Aviv region c. 8,000 years ago. The site is located on the northern bank of the Yarkon River, not far from the confluence with Nahal Ayalon. We can assume that this fact influenced the ancient settlers in choosing a place to live. The fertile alluvium soil along the fringes of the streams was considered a preferred location for a settlement in ancient periods”.

During the Neolithic period (also known as the New Stone Age) man went from a nomadic existence of hunting and gathering to living in permanent settlements and began to engage in agriculture. Remains of an ancient building that consisted of at least three rooms were discovered at the site. The pottery sherds that were found there attest to the age of the site, which dates to the Neolithic period. In addition, flint tools such as sickle blades were discovered, as well as numerous flakes left over from the knapping of these implements, which are indicative of an ancient tool-making industry. Flint implements that are also ascribed to earlier periods were discovered at the site: a point of a hunting tool from the Middle Paleolithic period (c. 100,000 YBP) and items that date to c. 13,000 YBP.

Other interesting finds were also uncovered in the excavation, among them a fragment of a base of a basalt bowl and animal remains: hippopotamus bones and teeth that probably belonged to sheep or goat.

To download high resolution pictures:

http://www.antiquities.org.il/images/press/iaa_tel_aviv.zip

Photographs: Assaf Peretz, courtesy of the Israel Antiquities Authority.

1. IAA workers during the archaeological excavation.
2. Ayelet Dayan, excavation director on behalf of the IAA, showing finds from the excavation.
3. The hippopotamus tooth at the time it was exposed in the ground.

Please visit the site: http://www.antiquities.org.il/about_eng.asp?Modul_id=14

HOW THE ALEXANDER MOSAIC WAS SEEN, BY ROSSELLA LORENZI

Wear patterns on one of the most celebrated mosaics of antiquity have allowed researchers to reconstruct exactly how ancient Romans viewed the artwork.

Found during the 1831 excavations in the lava-buried town of Pompeii, the Alexander mosaic (now on display at the National Archaeological Museum in Naples) is the most famous example of an early tessellated mosaic.

Measuring 19 feet by 10 feet, the piece was made around 100 B.C. out of roughly 4 million tesserae (small mosaic tiles).

The artwork once decorated the floor of a room in the House of the Faun, one of Pompeii's grandest residences.

The tiny tesserae, applied following the "opus vermiculatum" technique (basically set in worm-like rows), depicted a dramatic scene from a battle between Alexander the Great and the Persian king Darius III.

"Although there is some disagreement as to exactly which battle the mosaic depicts [either the Battle of Issus in 333 B.C. or the Battle of Gaugamela in 331 B.C.], we know many things about this mosaic. For example, it is uniformly agreed [that the mosaic is] a copy of a famous Hellenistic painting executed sometime around 300 B.C.," Martin Beckmann, of the University of Western Ontario, Canada, told Discovery News.

"What is less known is the mosaic's role as a floor surface in an Italian house. In this role, it has the potential to provide evidence of the tastes, interests and desires of the wealthy Romans during the late Republic," Beckmann said.

In his study, presented today in Anaheim, Calif., at the annual meeting of the Archaeological Institute of America, Beckmann looked at some large, entirely destroyed areas of the mosaic.

These areas were filled in ancient times with mortar and have been in the same condition since they were originally discovered.

Beckmann identified four main patterns of wear: a large, crescent-shaped area around the portrait of Alexander, two patches in the upper portion of the mosaic and two other patches in the lower portion.

"The patches basically show us the mosaic through the Romans' eyes, and tell us what interested the ancient viewer. Although Darius is the most prominent figure in the mosaic, the Romans were much more interested in Alexander," he said.

"They were also apparently fascinated by the plight of two Persians crushed beneath Darius' chariot, especially one who is shown with his face turned from the viewer but reflected in a shield -- a skillful artistic trick," he added.

"There is clear evidence of multiple ancient repairs in these damaged areas. The most recent restorations filled the gaps with mortar, while more ancient repairs used tesserae," Beckmann said.

According to Beckmann, the repairs tell a story. They indicate that the mosaic had been damaged by overuse, and often in exactly the same areas.

"Over time, even careful footsteps would have loosened the very small stone tesserae from their tenuous hold in the mortar of the mosaic's bedding. At least once, substantial repairs were attempted, but clearly by the first century A.D., these had been given up in favor of simple patching with plain mortar," Beckmann said.

The two upper patches of wear even allowed Beckmann to reconstruct a theoretical "tour" of the mosaic. Here is Beckmann's explanation:

Alexander Mosaic

Once the visitors had entered the room -- we might imagine a group of dinner-guests led by their host -- the tour would begin with Darius and his Persians.

The host would have stood above Darius' horses (1), explained why the great king was fleeing, and pointed out the artistic novelties in the lower portion of the mosaic.

The guests would have milled about at the foot of the mosaic, taking in the overall scene, and then briefly concentrated themselves around the figures of the two doomed Persians (a - b).

Persian soldier b) A Persian soldier is about to be crushed beneath Darius' chariot. The Romans were particularly interested in the reflection of the Persian's face in the polished shield, a skillful artistic device employed to highlight the pathos of the scene.

Persian soldier

a) The Romans were interested in the figure of the unfortunate Persian who crouches below the horses, surely about to perish beneath their hooves. Presumably the extreme nature of his plight attracted their attention.

Then the host moved to the left and stationed himself in the area above the figure pair composed of Alexander and the unfortunate Persian he is spearing (2).

The guests marched right onto the mosaic and crowded around the image of the Macedonian king, standing right on top of his body (c), being careful however not to step on his head or that of his horse.

The guests arranged themselves in a semicircle, so as to leave a line of sight open between them and their host, who was also able to see Alexander's head from his vantage point above.

Here the guests stayed the longest and here is where the ancient tour would end.

Please visit the site: <http://news.discovery.com/archaeology/how-the-alexander-mosaic-was-used.html> [Best to go there for pix and captions]

EGYPTIAN EYELINER MAY HAVE WARDED OFF DISEASE, BY KATIE COTTINGHAM

Clearly, ancient Egyptians didn't get the memo about lead poisoning. Their eye makeup was full of the stuff. Although today we know that lead can cause brain damage and miscarriages, the Egyptians believed that lead-based cosmetics protected against eye diseases. Now, new research suggests that they may have been on to something.

Previous work indicates that the Egyptians added lead to their cosmetics on purpose. When analytical chemist Philippe Walter and colleagues at CNRS and the Louvre Museum in Paris analyzed the composition of several samples of the Egyptians' famous bold, black eyeliner in the Louvre's collection, they identified two types of lead salt not found in nature. That means that ancient Egyptians must have synthesized them. But making lead salt is a tricky, delicate process that requires tending for weeks--and unlike other common makeup components, the salts are not glossy. So why did they bother?

Ancient manuscripts gave the scientists a clue. It turns out that in those days, people made lead salts and used them as treatments for eye ailments, scars, and discolorations. When Walter told analytical chemist Christian Amatore of the Ecole Normale Supérieure in Paris about the findings, Amatore says he was intrigued because lead is now known to have so many toxic effects.

To see if the lead might confer any health benefits, Amatore, Walter, and colleagues added lead salts to human skin cells called keratinocytes, which were grown in the lab. The researchers hypothesized that the lead would stress the cells and cause them to make hydrogen peroxide, nitric oxide, and other compounds involved in the body's immune response. And indeed, cells treated with lead began pumping out more nitric oxide than did control cells, the team reports online in *Analytical Chemistry*.

Amatore says that nitric oxide sets off a series of biochemical processes in the body that ultimately send immune cells called macrophages to the site of infection, where they engulf invading organisms. That's probably not what's happening in keratinocytes, says immunologist Martin Olivier of McGill University in Montreal, Canada, who was not involved in the study. It's unlikely that macrophages or other immune cells would exit the body and burst through the skin to fight off infectious agents at the surface, he notes. Instead, nitric oxide released by keratinocytes could directly kill eye-disease-causing bacteria on the skin or near the eye by breaking down a bacterium's structure or DNA. Another plausible scenario, says Olivier, is that lead itself could directly stimulate immune cells already present in the eyelid.

This potential benefit of lead is contrary to everything we know about the substance, but it could fit the model of hormesis, says epidemiologist Jennifer Weuve of Rush University Medical Center in Chicago, Illinois. "The premise behind hormesis is that, for certain exposures, there might be a window where the exposure is harmful but also one where it's helpful," she explains.

Still, Weuve cautions against adding lead to the eyeliner in your makeup case. Modern people live a lot longer than did the ancient Egyptians--many of whom died in their 30s--and the dangers of prolonged lead exposure outweigh any antimicrobial benefit, she says. Indeed, the Egyptians' eyeliner strategy would have backfired on them if they had lived long enough, she notes, as long-term exposure to lead may increase the risk of developing cataracts.

Please visit the site: <http://sciencenow.sciencemag.org/cgi/content/full/2010/108/1>

FIRST MINOAN SHIPWRECK

Archaeologist Elpida Hadjidaki plots the location of ceramic artifacts on the floor of the Mediterranean. They were lost when a Minoan ship likely transporting wine and olive oil in hundreds of large vessels sank between 1800 and 1675. (Courtesy Nike Marder)

Crete has seduced archaeologists for more than a century, luring them to its rocky shores with fantastic tales of legendary kings, cunning deities, and mythical creatures. The largest of the Greek islands, Crete was the land of the Minoans (3100-1050 B.C.), a Bronze Age civilization named after its first ruler, King Minos, the "master of the seas" who is said to have rid the waters of pirates. According to Thucydides, he also established the first thalassocracy, or maritime empire. The Minoans were renowned for their seafaring prowess, which opened trade routes with the powerful kingdoms of Egypt, Anatolia, and the Levant.

With the island of Pseira in the background, Hadjidaki proudly displays an intact, oval-mouth amphora she has just excavated at a depth of 131 feet. (Courtesy V. Mentoyannis)

Depictions of ships abound on Minoan seals and frescoes. They are detailed enough to show that the vessels were impressive: generally, they had 15 oars on each side and square sails, and were probably about 50 feet long. But little more was known about actual Minoan seafaring--until Greek archaeologist Elpida Hadjidaki became the first to discover a Minoan shipwreck.

Hadjidaki, a self-described "harbor girl," was born and grew up in the Cretan seaside town of Chania. An experienced and passionate diver trained in classical archaeology, she received funding from the Institute for Aegean Prehistory in 2003 to search for early ships near Crete. "I always wanted to find a Minoan shipwreck," she says, "so I started looking for one."

For nearly a month, she and a team of three sponge and coral divers aboard a 20-foot-long wooden fishing boat searched up and down the island's shores. On the second-to-last day of the survey, Hadjidaki decided to ditch the technology and go on gut instinct. She knew that in 1976, Jacques Cousteau had brought a team to the small island of Pseira, a Bronze Age port about one and a half miles from the northeastern coast of Crete in the Gulf of Mirabello. He was in search of Atlantis, thought by some to be associated with the nearby island of Thera. Cousteau had found Minoan pottery underwater near the shore, and suggested it came from ships sunk in the harbor by the volcanic eruption that destroyed Thera in 1650 or 1520 B.C. (The finds are now believed to be from houses on Pseira that fell into the sea during an earthquake.)

Intrigued, Hadjidaki and the team headed to a spot about 300 feet off Pseira, near where Cousteau had been. "I thought, why don't I go there and check it out myself?" she recalls. "But I said, I'm not going to go where Jacques Cousteau dived. I'm going to go to the deeper part."

Eti Bonn-Muller is managing editor at ARCHAEOLOGY.

Please visit the site:

http://www.archaeology.org/1001/abstracts/minoan_shipwreck.html

EGYPT ANNOUNCES FIND OF ANCIENT CAT GODDESS TEMPLE, BY HAMZA HENDAWI

Archaeologists have unearthed a 2,000-year-old temple that may have been dedicated to the ancient Egyptian cat goddess, Bastet, the Supreme Council of Antiquities said Tuesday.

The ruins of the Ptolemaic-era temple were discovered by Egyptian archaeologists in the heart of the Mediterranean port city of Alexandria, founded by Alexander the Great in the 4th century B.C.

The city was the seat of the Greek-speaking Ptolemaic Dynasty, which ruled over Egypt for 300 years until the suicide of Queen Cleopatra.

The statement said the temple was thought to belong to Queen Berenice, wife of King Ptolemy III who ruled Egypt in the 3rd century B.C.

Mohammed Abdel-Maqsood, the Egyptian archaeologist who led the excavation team, said the discovery may be the first trace of the long-sought location of Alexandria's royal quarter.

The large number of statues depicting Bastet found in the ruins, he said, suggested that this may be the first Ptolemaic-era temple dedicated to the cat goddess to be discovered in Alexandria.

This would indicate that the worship of the ancient Egyptian cat-goddess continued during the later, Greek-influenced, Ptolemaic period, he said.

Statues of other ancient Egyptian deities were also found in the ruins, he added.

Zahi Hawass, Egypt's chief archaeologist, said the temple may have been used in later times as a quarry as evidenced by the large number of missing stone blocks.

Modern Alexandria was built squarely on top of the ruins of the classical-era city and many of its great temples, palaces and libraries remain undiscovered.

The temple was found in the Kom el-Dekkah neighborhood near the city's main train station and home to a Roman-era amphitheater and well preserved mosaics.

Please visit the site:

<http://www.washingtonpost.com/wp-dyn/content/article/2010/01/19/AR2010011901203.html>

LOST CITY OF ATLANTIS 'COULD BE BURIED IN SOUTHERN SPAIN, BY FIONA GOVAN IN MADRID

A team of researchers from Spain's Higher Council for Scientific Study (CSIC) are examining a marshy area of Andalusian parkland to find evidence of a 3,000-year-old settlement.

They believe that Tartessos, a wealthy civilization in southern Iberia that predates the Phoenicians, may have had its capital in the heart of what is now the Donana national park.

Until now historians had dismissed the region as a possible site believing that it had been submerged since the ice age. But it is claimed new evidence suggests the waters may have receded in time for the Tartessians to build an urban centre, which was later destroyed in a tsunami.

The Hinojos marshes, an area close to the mouth of the Guadalquivir river where it meets the Atlantic, have now been pinpointed as the site most likely to provide evidence of a lost city.

Archaeological findings have already proved the existence of Tartessian culture at sites on the opposite bank of the river.

"If they existed on the other side, they must also have been here (in Donana)," Sebastian Celestino, the archaeologist leading the project told the newspaper El Pais.

"There were earthquakes and one of them caused a tsunami that razed everything and which coincided with the era in which Tartessian power was at its height."

Aerial photos show the existence of large circular and rectangular forms that could not have been produced by nature.

The images, together with literary accounts by ancient Greek geographers have given weight to the theory that a great Tartessian city once existed within the park.

The Tartessian civilization, which developed in southern Spain between the 11th and 7th centuries BC and became rich trading gold and silver from local mines, has long been linked by mythologists to the Atlantis legend.

While the Spanish researchers refuse to speculate on whether they are on the brink of discovering Atlantis others believe their research could be a breakthrough in a centuries old quest.

"Evidence is mounting that suggests the story of Atlantis was not mere fiction, fable or myth, but a true story as Plato always maintained,"

said Georgeos Diaz-Montexano, a Cuban archeologist who has spent the last 15 years searching for the submerged city.

"Atlantis is not exactly where the CSIC is looking, but it is close," he claimed.

The theory is just the latest in a long list of suggested locations for Atlantis, including various Mediterranean islands, the Azores, the Sahara desert, Central America and Antarctica.

Please visit the site:

<http://www.telegraph.co.uk/news/worldnews/europe/spain/7019522/Lost-city-of-Atlantis-could-be-buried-in-southern-Spain.html>

UNCOVERING SECRETS OF THE SPHINX

After decades of research, American archaeologist Mark Lehner has some answers about the mysteries of the Egyptian colossus

* By Evan Hadingham

* Smithsonian magazine, February 2010

When Mark Lehner was a teenager in the late 1960s, his parents introduced him to the writings of the famed clairvoyant Edgar Cayce. During one of his trances, Cayce, who died in 1945, saw that refugees from the lost city of Atlantis buried their secrets in a hall of records under the Sphinx and that the hall would be discovered before the end of the 20th century.

In 1971, Lehner, a bored sophomore at the University of North Dakota, wasn't planning to search for lost civilizations, but he was "looking for something, a meaningful involvement." He dropped out of school, began hitchhiking and ended up in Virginia Beach, where he sought out Cayce's son, Hugh Lynn, the head of a holistic medicine and paranormal research foundation his father had started. When the foundation sponsored a group tour of the Giza plateau—the site of the Sphinx and the pyramids on the western outskirts of Cairo—Lehner tagged along. "It was hot and dusty and not very majestic," he remembers.

Still, he returned, finishing his undergraduate education at the American University of Cairo with support from Cayce's foundation. Even as he grew skeptical about a lost hall of records, the site's strange history exerted its pull. "There were thousands of tombs of real people, statues of real people with real names, and none of them figured in the Cayce stories," he says.

Lehner married an Egyptian woman and spent the ensuing years plying his drafting skills to win work mapping archaeological sites all over Egypt. In 1977, he joined Stanford Research Institute scientists using state-of-the-art remote-sensing equipment to analyze the bedrock under the Sphinx. They found only the cracks and fissures expected of ordinary limestone formations. Working closely with a young Egyptian archaeologist named Zahi Hawass, Lehner also explored and mapped a passage in the Sphinx's rump, concluding that treasure hunters likely had dug it after the statue was built.

No human endeavor has been more associated with mystery than the huge, ancient lion that has a human head and is seemingly resting on the rocky plateau a stroll from the great pyramids. Fortunately for Lehner, it wasn't just a metaphor that the Sphinx is a riddle. Little was known for certain about who erected it or when, what it represented and precisely how it related to the pharaonic monuments nearby. So Lehner settled in, working for five years out of a makeshift office between the Sphinx's colossal paws, subsisting on Nescafé and cheese sandwiches while he examined every square inch of the structure. He remembers "climbing all over the Sphinx like the Lilliputians on Gulliver, and mapping it stone by stone." The result was a uniquely detailed picture of the statue's

worn, patched surface, which had been subjected to at least five major restoration efforts since 1,400 B.C. The research earned him a doctorate in Egyptology at Yale.

Recognized today as one of the world's leading Egyptologists and Sphinx authorities, Lehner has conducted field research at Giza during most of the 37 years since his first visit. (Hawass, his friend and frequent collaborator, is the secretary general of the Egyptian Supreme Council of Antiquities and controls access to the Sphinx, the pyramids and other government-owned sites and artifacts.) Applying his archaeological sleuthing to the surrounding two-square-mile Giza plateau with its pyramids, temples, quarries and thousands of tombs, Lehner helped confirm what others had speculated—that some parts of the Giza complex, the Sphinx included, make up a vast sacred machine designed to harness the power of the sun to sustain the earthly and divine order. And while he long ago gave up on the fabled library of Atlantis, it's curious, in light of his early wanderings, that he finally did discover a Lost City.

The Sphinx was not assembled piece by piece but was carved from a single mass of limestone exposed when workers dug a horseshoe-shaped quarry in the Giza plateau. Approximately 66 feet tall and 240 feet long, it is one of the largest and oldest monolithic statues in the world. None of the photos or sketches I'd seen prepared me for the scale. It was a humbling sensation to stand between the creature's paws, each twice my height and longer than a city bus. I gained sudden empathy for what a mouse must feel like when cornered by a cat.

Nobody knows its original name. Sphinx is the human-headed lion in ancient Greek mythology; the term likely came into use some 2,000 years after the statue was built. There are hundreds of tombs at Giza with hieroglyphic inscriptions dating back some 4,500 years, but not one mentions the statue. "The Egyptians didn't write history," says James Allen, an Egyptologist at Brown University, "so we have no solid evidence for what its builders thought the Sphinx was....Certainly something divine, presumably the image of a king, but beyond that is anyone's guess." Likewise, the statue's symbolism is unclear, though inscriptions from the era refer to Ruti, a double lion god that sat at the entrance to the underworld and guarded the horizon where the sun rose and set. The face, though better preserved than most of the statue, has been battered by centuries of weathering and vandalism. In 1402, an Arab historian reported that a Sufi zealot had disfigured it "to remedy some religious errors." Yet there are clues to what the face looked like in its prime. Archaeological excavations in the early 19th century found pieces of its carved stone beard and a royal cobra emblem from its headdress. Residues of red pigment are still visible on the face, leading researchers to conclude that at some point, the Sphinx's entire visage was painted red. Traces of blue and yellow paint elsewhere suggest to Lehner that the Sphinx was once decked out in gaudy comic book colors.

For thousands of years, sand buried the colossus up to its shoulders, creating a vast disembodied head atop the eastern edge of the Sahara.

Then, in 1817, a Genoese adventurer, Capt. Giovanni Battista Caviglia, led 160 men in the first modern attempt to dig out the Sphinx. They could not hold back the sand, which poured into their excavation pits nearly as fast as they could dig it out. The Egyptian archaeologist Selim Hassan finally freed the statue from the sand in the late 1930s. "The Sphinx has thus emerged into the landscape out of shadows of what seemed to be an impenetrable oblivion," the New York Times declared.

The question of who built the Sphinx has long vexed Egyptologists and archaeologists. Lehner, Hawass and others agree it was Pharaoh Khafre, who ruled Egypt during the Old Kingdom, which began around 2,600 B.C. and lasted some 500 years before giving way to civil war and famine.

It's known from hieroglyphic texts that Khafre's father, Khufu, built the 481-foot-tall Great Pyramid, a quarter mile from where the Sphinx would later be built. Khafre, following a tough act, constructed his own pyramid, ten feet shorter than his father's, also a quarter of a mile behind the Sphinx. Some of the evidence linking Khafre with the Sphinx comes from Lehner's research, but the idea dates back to 1853.

That's when a French archaeologist named Auguste Mariette unearthed a life-size statue of Khafre, carved with startling realism from black volcanic rock, amid the ruins of a building he discovered adjacent to the Sphinx that would later be called the Valley Temple. What's more, Mariette found the remnants of a stone causeway—a paved, processional road—connecting the Valley Temple to a mortuary temple next to Khafre's pyramid. Then, in 1925, French archaeologist and engineer Emile Baraize probed the sand directly in front of the Sphinx and discovered yet another Old Kingdom building—now called the Sphinx Temple—strikingly similar in its ground plan to the ruins Mariette had already found.

Despite these clues that a single master building plan tied the Sphinx to Khafre's pyramid and his temples, some experts continued to speculate that Khufu or other pharaohs had built the statue. Then, in 1980, Lehner recruited a young German geologist, Tom Aigner, who suggested a novel way of showing that the Sphinx was an integral part of Khafre's larger building complex. Limestone is the result of mud, coral and the shells of plankton-like creatures compressed together over tens of millions of years. Looking at samples from the Sphinx Temple and the Sphinx itself, Aigner and Lehner inventoried the different fossils making up the limestone. The fossil fingerprints showed that the blocks used to build the wall of the temple must have come from the ditch surrounding the Sphinx. Apparently, workmen, probably using ropes and wooden sledges, hauled away the quarried blocks to construct the temple as the Sphinx was being carved out of the stone.

That Khafre arranged for construction of his pyramid, the temples and the Sphinx seems increasingly likely. "Most scholars believe, as I do," Hawass wrote in his 2006 book, *Mountain of the Pharaohs*, "that the Sphinx represents Khafre and forms an integral part of his pyramid complex."

But who carried out the backbreaking work of creating the Sphinx? In 1990, an American tourist was riding in the desert half a mile south of the Sphinx when she was thrown from her horse after it stumbled on a low mud-brick wall. Hawass investigated and discovered an Old Kingdom cemetery. Some 600 people were buried there, with tombs belonging to overseers—identified by inscriptions recording their names and titles—surrounded by the humbler tombs of ordinary laborers.

Near the cemetery, nine years later, Lehner discovered his Lost City. He and Hawass had been aware since the mid-1980s that there were buildings at that site. But it wasn't until they excavated and mapped the area that they realized it was a settlement bigger than ten football fields and dating to Khafre's reign. At its heart were four clusters of eight long

mud-brick barracks. Each structure had the elements of an ordinary house—a pillared porch, sleeping platforms and a kitchen—that was enlarged to accommodate around 50 people sleeping side by side. The barracks, Lehner says, could have accommodated between 1,600 to 2,000 workers—or more, if the sleeping quarters were on two levels. The workers’ diet indicates they weren’t slaves.

Lehner’s team found remains of mostly male cattle under 2 years old—in other words, prime beef. Lehner thinks ordinary Egyptians may have rotated in and out of the work crew under some sort of national service or feudal obligation to their superiors.

This past fall, at the behest of “Nova” documentary makers, Lehner and Rick Brown, a professor of sculpture at the Massachusetts College of Art, attempted to learn more about construction of the Sphinx by sculpting a scaled-down version of its missing nose from a limestone block, using replicas of ancient tools found on the Giza plateau and depicted in tomb paintings. Forty-five centuries ago, the Egyptians lacked iron or bronze tools. They mainly used stone hammers, along with copper chisels for detailed finished work.

Bashing away in the yard of Brown’s studio near Boston, Brown, assisted by art students, found that the copper chisels became blunt after only a few blows before they had to be resharpened in a forge that Brown constructed out of a charcoal furnace. Lehner and Brown estimate one laborer might carve a cubic foot of stone in a week. At that rate, they say, it would take 100 people three years to complete the Sphinx.

Exactly what Khafre wanted the Sphinx to do for him or his kingdom is a matter of debate, but Lehner has theories about that, too, based partly on his work at the Sphinx Temple. Remnants of the temple walls are visible today in front of the Sphinx. They surround a courtyard enclosed by 24 pillars. The temple plan is laid out on an east-west axis, clearly marked by a pair of small niches or sanctuaries, each about the size of a closet. The Swiss archaeologist Herbert Ricke, who studied the temple in the late 1960s, concluded the axis symbolized the movements of the sun; an east-west line points to where the sun rises and sets twice a year at the equinoxes, halfway between midsummer and midwinter. Ricke further argued that each pillar represented an hour in the sun’s daily circuit.

Lehner spotted something perhaps even more remarkable. If you stand in the eastern niche during sunset at the March or September equinoxes, you see a dramatic astronomical event: the sun appears to sink into the shoulder of the Sphinx and, beyond that, into the south side of the Pyramid of Khafre on the horizon. “At the very same moment,” Lehner says, “the shadow of the Sphinx and the shadow of the pyramid, both symbols of the king, become merged silhouettes. The Sphinx itself, it seems, symbolized the pharaoh presenting offerings to the sun god in the court of the temple.” Hawass concurs, saying the Sphinx represents Khafre as Horus, the Egyptians’ revered royal falcon god, “who is giving offerings with his two paws to his father, Khufu, incarnated as the sun god, Ra, who rises and sets in that temple.”

Equally intriguing, Lehner discovered that when one stands near the Sphinx during the summer solstice, the sun appears to set midway between the silhouettes of the pyramids of Khafre and Khufu. The scene resembles the hieroglyph akhet, which can be translated as “horizon” but also symbolized the cycle of life and rebirth. “Even if coincidental, it is hard to imagine the Egyptians not seeing this ideogram,” Lehner wrote in the Archive of

Oriental Research. “If somehow intentional, it ranks as an example of architectural illusionism on a grand, maybe the grandest, scale.”

If Lehner and Hawass are right, Khafre’s architects arranged for solar events to link the pyramid, Sphinx and temple. Collectively, Lehner describes the complex as a cosmic engine, intended to harness the power of the sun and other gods to resurrect the soul of the pharaoh. This transformation not only guaranteed eternal life for the dead ruler but also sustained the universal natural order, including the passing of the seasons, the annual flooding of the Nile and the daily lives of the people. In this sacred cycle of death and revival, the Sphinx may have stood for many things: as an image of Khafre the dead king, as the sun god incarnated in the living ruler and as guardian of the underworld and the Giza tombs.

But it seems Khafre’s vision was never fully realized. There are signs the Sphinx was unfinished. In 1978, in a corner of the statue’s quarry, Hawass and Lehner found three stone blocks, abandoned as laborers were dragging them to build the Sphinx Temple. The north edge of the ditch surrounding the Sphinx contains segments of bedrock that are only partially quarried. Here the archaeologists also found the remnants of a workman’s lunch and tool kit—fragments of a beer or water jar and stone hammers. Apparently, the workers walked off the job.

The enormous temple-and-Sphinx complex might have been the pharaoh’s resurrection machine, but, Lehner is fond of saying, “nobody turned the key and switched it on.” By the time the Old Kingdom finally broke apart around 2,130 B.C., the desert sands had begun to reclaim the Sphinx. It would sit ignored for the next seven centuries, when it spoke to a young royal.

According to the legend engraved on a pink granite slab between the Sphinx’s paws, the Egyptian prince Thutmose went hunting in the desert, grew tired and lay down in the shade of the Sphinx. In a dream, the statue, calling itself Horemakhet—or Horus-in-the-Horizon, the earliest known Egyptian name for the statue—addressed him. It complained about its ruined body and the encroaching sand. Horemakhet then offered Thutmose the throne in exchange for help.

Whether or not the prince actually had this dream is unknown. But when he became Pharaoh Thutmose IV, he helped introduce a Sphinx-worshiping cult to the New Kingdom (1550-1070 B.C.). Across Egypt, sphinxes appeared everywhere in sculptures, reliefs and paintings, often depicted as a potent symbol of royalty and the sacred power of the sun.

Based on Lehner’s analysis of the many layers of stone slabs placed like tilework over the Sphinx’s crumbling surface, he believes the oldest slabs may date back as far as 3,400 years to Thutmose’s time. In keeping with the legend of Horemakhet, Thutmose may well have led the first attempt to restore the Sphinx.

When Lehner is in the United States, typically about six months per year, he works out of an office in Boston, the headquarters of Ancient Egypt Research Associates, a nonprofit organization Lehner directs that excavates the Lost City and trains young Egyptologists. At a meeting with him at his office this past fall, he unrolled one of his countless maps of the Sphinx on a table. Pointing to a section where an old tunnel had cut into the statue, he

said the elements had taken a toll on the Sphinx in the first few centuries after it was built.

The porous rock soaks up moisture, degrading the limestone. For Lehner, this posed yet another riddle—what was the source of so much moisture in Giza’s seemingly bone-dry desert?

The Sahara has not always been a wilderness of sand dunes. German climatologists Rudolph Kuper and Stefan Kröpelin, analyzing the radiocarbon dates of archaeological sites, recently concluded that the region’s prevailing climate pattern changed around 8,500 B.C., with the monsoon rains that covered the tropics moving north. The desert sands sprouted rolling grasslands punctuated by verdant valleys, prompting people to begin settling the region in 7,000 B.C. Kuper and Kröpelin say this green Sahara came to an end between 3,500 B.C. and 1,500 B.C., when the monsoon belt returned to the tropics and the desert reemerged. That date range is 500 years later than prevailing theories had suggested.

Further studies led by Kröpelin revealed that the return to a desert climate was a gradual process spanning centuries. This transitional period was characterized by cycles of ever-decreasing rains and extended dry spells. Support for this theory can be found in recent research conducted by Judith Bunbury, a geologist at the University of Cambridge. After studying sediment samples in the Nile Valley, she concluded that climate change in the Giza region began early in the Old Kingdom, with desert sands arriving in force late in the era.

The work helps explain some of Lehner’s findings. His investigations at the Lost City revealed that the site had eroded dramatically—with some structures reduced to ankle level over a period of three to four centuries after their construction. “So I had this realization,” he says, “Oh my God, this buzz saw that cut our site down is probably what also eroded the Sphinx.” In his view of the patterns of erosion on the Sphinx, intermittent wet periods dissolved salt deposits in the limestone, which recrystallized on the surface, causing softer stone to crumble while harder layers formed large flakes that would be blown away by desert winds. The Sphinx, Lehner says, was subjected to constant “scouring” during this transitional era of climate change.

“It’s a theory in progress,” says Lehner. “If I’m right, this episode could represent a kind of ‘tipping point’ between different climate states—from the wetter conditions of Khufu and Khafre’s era to a much drier environment in the last centuries of the Old Kingdom.”

The implication is that the Sphinx and the pyramids, epic feats of engineering and architecture, were built at the end of a special time of more dependable rainfall, when pharaohs could marshal labor forces on an epic scale. But then, over the centuries, the landscape dried out and harvests grew more precarious. The pharaoh’s central authority gradually weakened, allowing provincial officials to assert themselves—culminating in an era of civil war.

Today, the Sphinx is still eroding. Three years ago, Egyptian authorities learned that sewage dumped in a nearby canal was causing a rise in the local water table. Moisture was drawn up into the body of the Sphinx and large flakes of limestone were peeling off the statue.

Hawass arranged for workers to drill test holes in the bedrock around the Sphinx. They found the water table was only 15 feet beneath the statue. Pumps have been installed nearby to divert the groundwater. So far, so good. “Never say to anyone that we saved the Sphinx,” he says. “The Sphinx is the oldest patient in the world. All of us have to dedicate our lives to nursing the Sphinx all the time.”

Evan Hadingham is senior science editor of the PBS series “Nova.” Its “Riddles of the Sphinx” aired on January 19.

Please visit the site:

<http://www.smithsonianmag.com/history-archaeology/Uncovering-Secrets-of-the-Sphinx.html#ixzz0dANs39IQ>

ALCOHOL'S NEOLITHIC ORIGINS - BREWING UP A CIVILIZATION, BY FRANK THADEUSZ

Did our Neolithic ancestors turn to agriculture so that they could be sure of a tippie? US Archaeologist Patrick McGovern thinks so. The expert on identifying traces of alcohol in prehistoric sites reckons the thirst for a brew was enough of an incentive to start growing crops.

It turns out the fall of man probably didn't begin with an apple. More likely, it was a handful of mushy figs that first led humankind astray.

Here is how the story likely began -- a prehistoric human picked up some dropped fruit from the ground and popped it unsuspectingly into his or her mouth. The first effect was nothing more than an agreeably bittersweet flavor spreading across the palate. But as alcohol entered the bloodstream, the brain started sending out a new message -- whatever that was, I want more of it!

Humankind's first encounters with alcohol in the form of fermented fruit probably occurred in just such an accidental fashion. But once they were familiar with the effect, archaeologist Patrick McGovern believes, humans stopped at nothing in their pursuit of frequent intoxication.

A secure supply of alcohol appears to have been part of the human community's basic requirements much earlier than was long believed. As early as around 9,000 years ago, long before the invention of the wheel, inhabitants of the Neolithic village Jiahu in China were brewing a type of mead with an alcohol content of 10 percent, McGovern discovered recently.

McGovern analyzed clay shards found during excavations in China's Yellow River Valley at his Biomolecular Archaeology Laboratory for Cuisine, Fermented Beverages, and Health at the University of Pennsylvania Museum.

The bearded archaeologist is recognized around the world as an expert when it comes to identifying traces of alcoholic drinks on prehistoric finds. He ran so-called liquid chromatography coupled with mass spectrometry on the clay remnants from Asia and found traces of tartaric acid -- one of the main acids present in wine -- and beeswax in the shards' pores. It appears that prehistoric humans in China combined fruit and honey into an intoxicating brew.

Clever Survival Strategy

Additionally, plant sterols point to wild rice as an ingredient. Lacking any knowledge of chemistry, prehistoric humans eager for the intoxicating effects of alcohol apparently mixed clumps of rice with saliva in their mouths to break down the starches in the grain and convert them into malt sugar.

These pioneering brewers would then spit the chewed up rice into their brew. Husks and yeasty foam floated on top of the liquid, so they used long straws to drink from narrow necked jugs. Alcohol is still consumed this way in some regions of China.

McGovern sees this early fermentation process as a clever survival strategy. "Consuming high energy sugar and alcohol was a fabulous solution for surviving in a hostile environment with few natural resources," he explains.

The most recent finds from China are consistent with McGovern's chain of evidence, which suggests that the craft of making alcohol spread rapidly to various locations around the world during the Neolithic period. Shamans and village alchemists mixed fruit, herbs, spices, and grains together in pots until they formed a drinkable concoction.

But that wasn't enough for McGovern. He carried the theory much further, aiming at a complete reinterpretation of humanity's history. His bold thesis, which he lays out in his book "Uncorking the Past. The Quest for Wine, Beer and Other Alcoholic Beverage," states that agriculture -- and with it the entire Neolithic Revolution, which began about 11,000 years ago -- are ultimately results of the irrepressible impulse toward drinking and intoxication.

"Available evidence suggests that our ancestors in Asia, Mexico, and Africa cultivated wheat, rice, corn, barley, and millet primarily for the purpose of producing alcoholic beverages," McGovern explains. While they were at it, he believes, drink-loving early civilizations managed to ensure their basic survival.

A Hybrid Swill

Archaeologists have long pondered the question of which came first, bread or beer. McGovern surmises that these prehistoric humans didn't initially have the ability to master the very complicated process of brewing beer. However, they were even more incapable of baking bread, for which wild grains are extremely unsuitable. They would have had first to separate the tiny grains from the chaff, with a yield hardly worth the great effort. If anything, the earliest bakers probably made nothing more than a barely palatable type of rough bread, containing the unwanted addition of the grain's many husks.

It's likely, therefore, that early farmers first enriched their diet with a hybrid swill -- half fruit wine and half mead -- that was actually quite nutritious. Neolithic drinkers were devoted to this precious liquid. At the excavation site of Hajji Firuz Tepe in the Zagros Mountains of northwestern Iran, McGovern discovered prehistoric wine racks used to store airtight carafes. Inhabitants of the village seasoned their alcohol with resin from Atlantic Pistachio trees. This ingredient was said to have healing properties, for example for infections, and was used as an early antibiotic.

The village's Neolithic residents lived comfortably in spacious mud brick huts, and the archaeologist and his team found remnants of wine vessels in the kitchens of nearly all the dwellings. "Drinking wasn't just a privilege of the wealthy in the village," McGovern posits, and he adds that women drank their fair share as well.

A Mysterious Inscription?

In Iran of all countries, where alcohol consumption is now punishable by whipping, the American scientist found vessels containing the first evidence of prehistoric beer. At first he puzzled over the purpose of the bulbous vessels with wide openings found in the prehistoric settlement Godin Tepe. Previously known wine vessels all had smaller spouts.

McGovern was also perplexed by crisscrossed grooves scratched into the bottoms of the containers. Could it be some kind of mysterious inscription?

But back in the laboratory, he isolated calcium oxalate, known to brewers as an unwanted byproduct of beer production. Nowadays, breweries can filter the crystals out of their brew without any difficulty. Their resourceful predecessors, working 3,500 years B.C., scratched grooves into their 50-liter (13-gallon) jugs so that the tiny stones would settle out there. McGovern had discovered humankind's first beer bottles.

The ancient farmers in Godin Tepe harvested barley from fields near the village and mashed the crop using basalt stone. Then they brewed the ground grain into a considerable range of varieties, enjoying a sweet, caramel-flavored dark beer, an amber-hued lager-like concoction, and other pleasant-tasting beverages.

Around the same time, the Sumerians were paying homage to their fertility goddess Nin-Harra, whom they considered to be the inventor of beer. The creators of Mesopotamian civilization scratched instructions for brewing beer onto small clay tablets in Nin-Harra's honor. The main ingredient in their variety of beer was emmer, a variety of wheat that has since nearly disappeared.

Thus the human project that started with the first hominids to stumble around under fruit trees reached completion with these prehistoric beer drinkers. "Moderate alcohol consumption was advantageous for our early ancestors," McGovern speculates, "and they adapted to it biologically."

It is a legacy that still burdens humankind today. The archaeologist, however, sees himself as reasonably balanced in this respect. Ancestors on one side of his family, the McGoverns, opened the very first bar in their hometown of Mitchell, South Dakota. On the other side, however, an especially puritanical branch of the family originated from Norway and strictly avoided alcohol consumption.

Please visit the site:

<http://www.spiegel.de/international/zeitgeist/0,1518,668642,00.html>

DEAD SEA SCROLL DATING NOW POSSIBLE, BY JULIAN ISHERWOOD

A group of researchers have found a way to precisely date the Dead Sea Scrolls.

After a decade of intense laboratory tests, a Danish archaeochemist has found a way to enable scientists to precisely date the Dead Sea Scrolls, the ownership of which is currently a bone of contention between Israel and Jordan, according to videnskab.dk.

The Dead Sea Scrolls and other ancient documents were discovered between 1947 and 1956 in caves near the Qumran Wadi northwest of the Dead Sea.

Treatment of the rolls has included them being spread out using plant oil, which in turn made precise carbon dating of the scrolls almost impossible.

A Danish archaeochemist and an international team of researchers, have, however now found a chemical method to remove the oil without harming the parchment of the scrolls, and thus allowing precise carbon dating.

“For more than a decade we’ve been saying that there was no point in dating the scrolls before we found a method to remove the oil. Now we have found just such a method,” Associate Professor and Archaeochemist Kaare Lund Rasmussen of the University of Southern Denmark tells videnskab.dk.

Carbon dating tests of the scrolls were carried out in the 1990s by the Zurich Institute of Technology and the University of Arizona, but precise dating has remained controversial.

It is not yet clear when a new set of carbon dating tests will be carried out.

Please visit the site: <http://politiken.dk/newsinenglish/article883600.ece> Go also <http://politiken.dk/newsinenglish/article884685.ece>

CHEMICAL ANALYSES UNCOVER SECRETS OF AN ANCIENT AMPHORA

A team of chemists from the University of Valencia (UV) has confirmed that the substance used to hermetically seal an amphora found among remains at Lixus, in Morocco, was pine resin. The scientists also studied the metallic fragments inside the 2,000-year-old vessel, which could be fragments of material used for iron-working.

In 2005, a group of archaeologists from the UV discovered a sealed amphora among the remains at Lixus, an ancient settlement founded by the Phoenicians near Larache, in Morocco. Since then, researchers from the Department of Analytical Chemistry at this university have been carrying out various studies into its components.

The latest study, published recently in the journal *Analytical Letters*, focuses on the resinous material that sealed the vessel. There are remains of a circular rope-effect decoration around the mouth of the amphora, and on which some fingerprints of the craftsman who moulded it can still be seen. It would probably have been sealed with a lid of cork or wood, of which nothing remains, possibly including a ceramic operculum, such as those found nearby.

"We have studied the substance that was used to seal the container using three different techniques, and we compared it with pine resin from today", José Vicente Gimeno, one of the authors of the study and a senior professor at the UV, tells SINC.

The results confirm that the small sample analysed, which is 2,000 years old, contains terpenic organic compounds (primaric, isoprimary and dehydroabietic acids), allowing this to be classified as resin from a tree from the *Pinus* genus.

The researchers have identified some substances that indicate the age of resins, such as such as 7-oxo-DHA acid, although this kind of compound was not abundant in the sample due to the amphora's good state of preservation. In addition, Gimeno says that the archaeological resin of the amphora found was hard and blackish with yellow spots, unlike present-day resin, which is more malleable and orange in colour, similar to the fresh sap of the tree.

Italic amphora in the Straits of Gibraltar

"The jar was found in an area that must have been the amphora store of a house from the period between 50 BCE and 10 CE", Carmen Aranegui, coordinator of the excavations at Lixus and also a senior professor at the UV, tells SINC.

The archaeologist, who has been working at the site for the past 15 years with the Institut National des Sciences de l'Archéologie et du Patrimoine of Rabat, says the amphora is Italic, probably from the region of Campania. It is currently being housed in the archaeological warehouse at Larache. These jars were used as containers for wine or salted products, but after serving this purpose they could be re-used as watertight storage containers. The amphora found contains metallic fragments, and the scientists have analysed these too.

According to the experts, it is likely that this vessel was undergoing a second use, protecting pieces of iron from corrosion, so that they could later be used in the iron-forging process in a local foundry at the time.

Not far from this amphora, another has been found at Lixus bearing the mark in Latin 'A.MISE', which is the name of the person who made the jar, and has also been found on another similar one found in Cadiz, Spain. "This was a period when there was great contact between these two cities on either side of the Straits of Gibraltar", points out Aranegui.

Please visit the site: http://www.eurekaalert.org/pub_releases/2010-01/f-sf-cau012010.php

4 ISRAELI WOMEN WORK TIRELESSLY TO SAVE DEAD SEA SCROLLS, BY NIR HASSON, HAARETZ CORRESPONDENT

For the past two and a half months, Tania Treiger, a conservator with the Israel Antiquities Authority, has been pouring over a piece of parchment about 20 centimeters square. It began with a microscopic examination of the fragment to gauge its condition, and continued with the placement of special paper over the writing to very slowly remove the circa 1970s adhesive tape.

Treiger, whose tools include Q-tips, tweezers and lots of patience, is one of four "guardians" of the Dead Sea Scrolls. These four women, all from the former Soviet Union, are the only people in the world permitted to touch the scrolls.

The first of the Dead Sea Scrolls, among the most important archaeological finds in the world, were discovered in the mid-1940s in the Dead Sea area, and have been making headlines ever since. This week, the Hebrew daily Maariv reported that the IAA had decided to stop sending the scrolls abroad to exhibitions for fear of legal complications, after the Jordanian government demanded that Israel return scrolls to Jordan. In 1967 the Jordanians tried to remove the scrolls from the Rockefeller Museum in East Jerusalem to Jordan, but Israel took East Jerusalem before that could happen and found the scrolls in the museum storerooms.

The Jordanian claim does not extend to the well-known seven complete scrolls, which were purchased by Prof. Eliezer Sukenik and his son, former Israel Defense Forces chief of staff Yigael Yadin. Rather, it involves the tens of thousands of fragments discovered by archaeologists in the 1950s. They are pieces of some 900 different works written over a period of some 300 years at the end of the Second Temple period.

The IAA says that following the Jordanian move, the matter was being scrutinized, but declined to discuss the matter of future exhibitions.

But without the work of the four women in the conservation laboratory, Israel and Jordan would have nothing left to squabble over a few years from now. Innocent mistakes made in storing the scrolls led to their deterioration and disintegration over the years. Treiger and her colleagues are constantly fighting every source of damage to these 2,000-year-old treasures, including light, chemicals and heat.

Overseeing the efforts is Pnina Shor, head of Artifacts Treatment and Conservation at the authority. Shor is soon to be the first director of a special unit that will handle all the work on the Dead Sea Scrolls. "There is no other collection like this in the world, with such problems and such importance," she says.

The scrolls, dating from about 300 BCE to 70 CE, survived amazingly well in the dry conditions of the caves of Qumran, on the northwestern shore of the Dead Sea. The first scroll scholars, an international consortium of eight researchers, tried to piece together

the fragments as best they could. "They were geniuses who did amazing work, but they were not aware of the physical needs of the material," Shor says.

Using adhesive tape, they stuck together what they believed to be related fragments and laid them between two pieces of glass. The scholars created a total of 1276 such plates. But adhesive tape, an amazing invention in the 1950s, became a conservation catastrophe for the scrolls. The chemicals in the adhesive ate into the organic material, stained it and wiped out letters. Later scholars also did damage. In the 1970s, they began to piece together fragments using rice paper and plastic material, which caused additional damage. Luckily, this process was halted and most of the fragments remained within the glass plates.

The scroll conservation project began in 1991 under the auspices of the IAA. An international committee of experts determined a protocol, still in place, for the work on the scrolls in the laboratory established for that purpose. In 20 years, only about half the scrolls have been restored.

Most of the work on the scrolls is mechanical - careful scraping using a knife and tweezers - with some use of gentle chemicals. The reward is the revelation of words and letters written in Second Temple times.

At the table opposite Treiger is Asia Vexler's work station. She is actually retired, but the lab could not do without her amazing ability to deal with the most problematic fragments, those from the phylacteries found at Qumran. The scrolls of the phylacteries are written in tiny letters on fragments sometimes no bigger than a few millimeters. So Vexler has been asked to continue coming in once a week. She has spent the past 15 work-days removing a few millimeters of adhesive strips from a tiny inscribed segment.

When asked about the tools she uses in her work, Vexler says: "I have my hands, my nature, I can do things very precisely."

"It's a great deal of responsibility, and sometimes a frightening one," says Tanya Bitler, another conservator, who is now completing work on a relatively large fragment, about 10 x 10 centimeters, which is one of the sectarian writings, unknown before the discovery of the Dead Sea scrolls.

Shor has recently begun looking critically at the unit's own work. "We have been working for 20 years and we want to know we are not doing additional damage," she says. Shor called in Rome's Central Institute for Book Pathology. When its scientists asked for a piece of goat skin on which to conduct tests, none could be found - today's Torah scribes used cow skin. Finally, one Haredi Torah scribe in Jerusalem was found who works with goat skin, and he provided the necessary material.

The digitalizing of the scrolls, under preparation for three years, is to begin in about six months. The project, whose cost is estimated at more than \$5 million, will use special photographic techniques, including infrared and full-spectrum photography, which are also expected to reveal hidden letters. The intent of the project, which will take five years, is to place everything on the Internet so scholars around the world can take part in the greatest puzzle of all - piecing together tens of thousands of fragments of some 900 different compositions.

"The scrolls survived for 2,000 years; our aim is for them to survive another 2,000 years, and then - dayenu [it will be enough for us]," Shor says.

Please visit the site:

<http://www.haaretz.com/hasen/pages/ShArt.jhtml?itemNo=1144442>

BIRTHPLACE OF ROMAN EMPEROR **'FOUND' IN LAZIO**

An international team of archaeologists claims to have unearthed the 2000-year-old birthplace of the Roman emperor, Vespasian, north of the Italian capital. Vespasian ruled the Roman empire in the first century A.D. and was behind the construction of the Colosseum, one of Italy's most popular landmarks.

Archeologists believe they have located his birthplace in the Falacrinae valley near the hill town of Cittareale, 130 km northeast of Rome.

"Ancient Roman historian Suetonius says Vespasian was born in the Falacrinae valley area. Field surveys and information from locals have told us tell us this must be Vespasian's birthplace," one of the project's directors, British archaeologist Helen Patterson told Adnkronos International (AKI).

Vespasian was the ninth Roman emperor, who reigned from 69-79 AD. He was believed to come from humble beginnings and founded the short-lived Flavian dynasty after the civil wars that followed Nero's death in 68 AD.

During recent excavations, the archaeologists uncovered sumptuous marble floors and mosaics at the site of the 3,000-4,000 square metre Villa of Falacrinae, Patterson said.

The team of 30-60 archaeologists recovered pots, numerous coins, ceramic and metal artefacts from the site which is 820 metres above sea level, overlooking the surrounding Falacrinae valley.

The archeologists are hoping to recover more items in fresh excavations in July and August, Patterson said.

Archaeologists from the British School at Rome and the University of Perugia used geophysical surveys to give them an X-ray image of the buried building, Patterson explained.

"It was obviously a very,very big structure and very luxurious," she said adding that the marble used in the villa's floors had been imported from all over the Mediterranean.

"We have also discovered Roman baths, a garden and a dining room and have only excavated a portion of the villa since the dig began in 2007," she said.

The villa lies on a major Roman road, Via Salaria, which connects the capital, Rome, to the northeastern Italian Adriatic coast and that was once used to transport salt.

Italian archaeologist Filippo Coarelli, a retired archaeology professor at Perugia University is the project's co-director.

He told AKI excavations began in the Falacrinae area after a farmer found a block of marble with a Latin inscription on it dedicated to a local chieftain.

The local official is believed to have played a role in the Roman victory over the Italic peoples during the 91-88 BC wars between the Roman Republic and other Italian cities.

Excavations conducted in 2005 uncovered an ancient Christian cemetery and former necropolis at Pallotini, near Cittareale.

Vespasian was the son of Flavius Sabinus, a Roman knight, tax collector and banker. His mother, Vespasia Polla, also belonged to the equestrian order in society but had a brother who entered the Senate.

Little is known about his reign but the former soldier is best known for his fiscal reforms and the consolidation of the empire which generated political stability and a vast Roman building programme including the Colosseum.

"These digs are important for our understanding of ancient Roman history and of the Flavian dynasty," Coarelli said.

"He was a man from the provinces, a self-made man from a bourgeois not an aristocratic family.

"To find the place where Vespasian was born and lived can help us understand his career and the Roman occupation of Italy," Coarelli concluded.

Please visit the site:

<http://www.adnkronos.com/AKI/English/CultureAndMedia/?id=3.0.4244627106>

LOST ROMAN LAW CODE DISCOVERED **IN LONDON**

Part of an ancient Roman law code previously thought to have been lost forever has been discovered by researchers at UCL's Department of History. Simon Corcoran and Benet Salway made the breakthrough after piecing together 17 fragments of previously incomprehensible parchment. The fragments were being studied at UCL as part of the Arts & Humanities Research Council-funded "Projet Volterra" – a ten year study of Roman law in its full social, legal and political context.

Corcoran and Salway found that the text belonged to the Codex Gregorianus, or Gregorian Code, a collection of laws by emperors from Hadrian (AD 117-138) to Diocletian (AD 284-305), which was published circa AD 300. Little was known about the codex's original form and there were, until now, no known copies in existence.

"The fragments bear the text of a Latin work in a clear calligraphic script, perhaps dating as far back as AD 400," said Dr Salway. "It uses a number of abbreviations characteristic of legal texts and the presence of writing on both sides of the fragments indicates that they belong to a page or pages from a late antique codex book - rather than a scroll or a lawyer's loose-leaf notes.

"The fragments contain a collection of responses by a series of Roman emperors to questions on legal matters submitted by members of the public," continued Dr Salway. "The responses are arranged chronologically and grouped into thematic chapters under highlighted headings, with corrections and readers' annotations between the lines. The notes show that this particular copy received intensive use."

The surviving fragments belong to sections on appeal procedures and the statute of limitations on an as yet unidentified matter. The content is consistent with what was already known about the Gregorian Code from quotations of it in other documents, but the fragments also contain new material that has not been seen in modern times.

"These fragments are the first direct evidence of the original version of the Gregorian Code," said Dr Corcoran. "Our preliminary study confirms that it was the pioneer of a long tradition that has extended down into the modern era and it is ultimately from the title of this work, and its companion volume the Codex Hermogenianus, that we use the term 'code' in the sense of 'legal rulings'."

This particular manuscript may originate from Constantinople (modern Istanbul) and it is hoped that further work on the script and on the ancient annotations will illuminate more of its history.

Contact: Dave Weston
d.weston@ucl.ac.uk
44-020-767-97678
University College London

###

Notes to Editors

Contact details

For further information or images of the fragments please contact Dave Weston in the UCL Press Office on +44 (0) 20 7679 7678 or d.weston@ucl.ac.uk

Dr Simon Corcoran (Research Fellow) can be contacted on +44 (0) 20 7679 3614 or s.corcoran@ucl.ac.uk

Dr Benet Salway (Principal Investigator) can be contacted on +44 (0) 20 7679 3653, +44 (0) 7968 402004 or r.salway@ucl.ac.uk

Please visit the site: http://www.eurekaalert.org/pub_releases/2010-01/ucl-1rl012610.php

THE SEA LEVEL HAS BEEN RISING AND FALLING OVER THE LAST 2,500 YEARS

"Rising and falling sea levels over relatively short periods do not indicate long-term trends. An assessment of hundreds and thousands of years shows that what seems an irregular phenomenon today is in fact nothing new," explains Dr. Dorit Sivan, who supervised the research.*

The sea level in Israel has been rising and falling over the past 2,500 years, with a one-meter difference between the highest and lowest levels, most of the time below the present-day level. This has been shown in a new study supervised by Dr. Dorit Sivan, Head of the Department of Maritime Civilizations at the University of Haifa. "Rises and falls in sea level over relatively short periods do not testify to a long-term trend. It is early yet to conclude from the short-term increases in sea level that this is a set course that will not take a change in direction," explains Dr. Sivan.

The rising sea level is one of the phenomena that have most influence on humankind: the rising sea not only floods the littoral regions but also causes underground water salinization, flooded effluents, accelerated coastal destruction, and other damage.

According to Dr. Sivan, the changing sea level can be attributed to three main causes: the global cause – the volume of water in the ocean, which mirrors the mass of ice sheets and is related to global warming or cooling; the regional cause – vertical movement of the earth's surface, which is usually related to the pressure placed on the surface by the ice; and the local cause – vertical tectonic activity. Seeing as Israel is not close to former ice caps and the tectonic activity along the Mediterranean coast is negligible over these periods, it can be concluded that drastic changes in Israel's sea levels are mainly related to changes in the volume of water.

In the present study, in light of earlier studies, research student Ayelet Toker and Dr. Sivan, set out to examine Israel's sea level over the past 2,500 years, based on data deduced from many coastal archaeological findings. They made a careful selection of findings that have been reliably and accurately dated, and first focused on findings that were excavated by the Antiquities Authority in Acre of the Crusader period. These revealed that the sea level during the Crusader period – just 800 years ago – was some 50-90 centimeters lower than the present sea level. Findings from the same period at Caesarea and Atlit reinforced this conclusion. When additional sites were examined from periods before and after the Crusader period, it was revealed that there have been significant fluctuations in sea level: During the Hellenistic period, the sea level was about 1.6 meters lower than its present level; during the Roman era the level was almost similar to today's; the level began to drop again during the ancient Muslim period, and continued dropping to reach the same level as it was during the Crusader period; but within about 500 years it rose again, and reached some 25 centimeters lower than today's level at the beginning of the 18th century.

"Over the past century, we have witnessed the sea level in Israel fluctuating with almost 19 centimeters between the highest and lowest levels. Over the past 50 years Israel's mean sea level rise is 5.5 centimeters, but there have also been periods when it rose by 10

centimeters over 10 years. That said, even acute ups and downs over short periods do not testify to long-term trends. An observation of the sea levels over hundreds and thousands of years shows that what seems a phenomenon today is as a matter of fact "nothing new under the sun", Dr. Sivan concludes.

Contact: Rachel Feldman
rfeldman@univ.haifa.ac.il
972-482-88722
University of Haifa

###

Amir Gilat, Ph.D.
Communication and Media Relations
University of Haifa
Tel: +972-4-8240092/4
Cell: +972-52-6178200
press@univ.haifa.ac.il

Please visit the site: http://www.eurekalert.org/pub_releases/2010-01/uoh-tsl012610.php

BRITISH FILM-MAKERS UNCOVER TRAJAN'S HIDDEN ROMAN AQUEDUCT - NEWS, ARCHAEOLOGY

Two British film-makers have discovered what they believe to be the source of the 1,900-year old aqueduct built by the emperor Trajan in the early second century AD.

The underground chambers were found – and filmed – after some years of research into Roman hydraulics by the documentary-makers Ted O'Neill and his father Michael O'Neill.

According to Ted, it took some perseverance to find the location, which was hidden beneath a disused church some 30-40km north-west of Rome. Despite difficulties and delays in getting access to the site, the O'Neills were finally able to enter the underground chambers of the church in June 2009.

While the aqueduct was used from Roman times until the ninth or tenth centuries, by the Renaissance period it had fallen out of use. It was rebuilt by Pope Paul V between 1605 and 1615 and renamed the Aqua Paola after him. It still carries spring water to Rome to this day (culminating at 'Il Fontanone' on the Janiculum Hill).

Aqua Traiana: Huge Importance to Ancient Rome

However, the source of the Aqua Traiana/Aqua Paola had fallen out of the public consciousness, despite the fact that it was known as recently as 1935. A reference to it in a book, *The Aqueducts of Ancient Rome* by Thomas Ashby, who was director of the British School at Rome between 1906 and 1925, helped lead the O'Neill team to the right spot near the ruined chapel of Santa Fiore, on the shores of Lake Martignano (near Lake Bracciano).

The Aqua Traiana transported pure spring water to the Janiculum Hill, providing bathing and drinking water for people in that area, water for industry, as well as water for the original St Peter's church (built during the reign of Constantine I) from the fourth century onwards.

According to Mike O'Neill, this was of 'enormous importance' to ancient Rome. He adds: "The site of the water source was also of great religious importance."

The source is right in ancient Etruria – the area of northern Lazio and southern Tuscany today – and was also an important water source for the Etruscans. The Romans, under emperor Trajan at the start of the second century AD, then built a nymphaeum at the site and built their aqueduct to take the water to Rome.

"This enabled the Romans to bring about what could be seen as one of the first industrial revolutions," said Mike O'Neill. "With a plentiful water supply coming into the city from the north, the Romans were able to expand certain industries such as grain grinding and stone sawing.

“The water was also important as a domestic source. Trajan went to great lengths to collect very pure spring water, which enabled a big improvement in hygiene and sanitation, as well as drinking water. I don't think it's a coincidence that at the time, the empire was able to grow to its greatest extent, while the city of Rome also had a population of as many as 1.5 million.”

According to Ted O'Neill, the moment the film-crew entered the underground chambers for the first time, they were struck by the preservation of the Roman opus reticulatum brickwork. They were accompanied by professor Lorenzo Quilici, an expert of ancient Roman topography from the University of Bologna.

Filming Inside the Underground Spring

Ted O'Neill explained: “The chapel has two rooms extending off to each side, both of which are bricked off. The base of the structure is semi-oval shaped. The chapel is about 3m below today's ground level, so a ladder was needed to get down into a chamber behind a bricked-up arch, as well as lighting equipment.

There, the team found beautiful brickwork in pristine condition. Professor Quilici confirmed that they are in fact Roman. Beyond this subterranean chamber, there is a long gallery that leads to the beginnings of Trajan's aqueduct.”

The team was researching and filming another Roman aqueduct at the time – the Aqua Alsietina, which also begins at Lake Martignano. Ted O'Neill said: “We've been very interested in aqueducts from the north of Rome – although those that come into Rome from Tivoli and from the Castelli Romani are more commonly talked about.”

The shores of both Lake Bracciano and Lake Martignano were known to the ancient Romans as a leisure retreat from the city. The Aqua Alsietina transported water into the Trastevere area of Rome (to Augustus's 'naumachia' -a man-made lake where the Romans could re-enact sea battles).

The O'Neills run a small production company making documentaries and films. Filmmakers by trade, their work has led them to some in-depth research into the aqueducts of Rome since they first became interested in the Aqua Vergine Nuova some time ago. They are interested in documenting these ancient structures from an historical viewpoint, as well as covering the Renaissance restorations and the modern state and use of the aqueducts.

As Mike says, Rome is the only city in Europe that uses aqueducts for its entire water supply, which is particularly interesting at a time when water supply is a serious problem in many parts of the world.

Please visit the site:

<http://www.independent.co.uk/news/science/archaeology/news/british-filmmakers-uncover-trajans-hidden-roman-aqueduct-1879540.html>

TRACING ANCIENT ROOTS OF PENN MUSEUM'S GOLD BY TOM AVRIL INQUIRER STAFF WRITER

The scientist had traveled from Germany to examine the ancient items that lay before him on the University of Pennsylvania laboratory table, and he was dazzled.

Earrings with cascades of golden leaves. Brooches adorned with tightly coiled spirals. A necklace strung with hundreds of gold ringlets and beads.

The jewelry bore a striking resemblance to objects from one of the world's great collections - a controversial treasure unearthed long ago from the fabled city of Troy.

Were the objects on the lab table also from the city that inspired Homer's epic poem of war?

Ernst Pernicka suspected they were, but he could not be sure. The 24 pieces had been purchased from a Philadelphia antiquities dealer more than 40 years ago, and came with no documentation of their origin. Even if they were genuine, the items likely had been dug up by looters.

Pernicka, one of the world's foremost experts on ancient metals, had come to Penn's archaeology museum last February to rub off microscopic samples from the purported Trojan gold. He would then take them back to Germany for a high-tech analysis.

At best, he thought he might get a rough idea of where the gold had been mined. But where the items had lain for thousands of years, buried in the soil, was likely to remain a mystery.

Then suddenly, a colleague who had come to the lab with Pernicka spotted a clue that apparently no one had noticed in all the decades the museum had owned the jewelry: Encrusted inside one of the tiny gold loops was a speck of dirt.

Priam's treasure

The story begins 140 years ago, with another man who was interested in the ancient past.

A wealthy German businessman named Heinrich Schliemann was convinced there was a historical basis for Homer's Iliad, the mythical tale of Greeks fighting Trojans to secure the return of the beautiful Helen.

Unlike Pernicka, he had no formal training as an archaeologist. Still, he traveled to what was then the Ottoman Empire, a copy of The Iliad in hand, determined to find ancient Troy.

On a windy plain near the modern Turkish city of Canakkale, he started to excavate an earthen mound that had been rumored as the site of the ancient city. He dug vigorously

through the layers of history, inadvertently destroying some of what he found along the way.

In 1873, he discovered a dazzling assortment of gold, silver, and lapis lazuli. Schliemann proclaimed it the treasure of Priam, the Trojan king whose son marries Helen in Homer's poem, and he received worldwide acclaim.

"I find here a treasure of gold and silver articles, such as is now scarcely to be found in an emperor's palace," he wrote in an 1875 translation of his memoir, *Troy and Its Remains*.

Among the items was a golden headdress, which Schliemann placed on the head of his wife, Sophia - an act that makes modern archaeologists shudder.

Later research revealed he was wrong, that the objects dated from 1,000 years earlier than any conflict that might have occurred between Greeks and Trojans. Today's academics date Schliemann's finds at 2300 B.C. Even if there was a Priam, this was not his treasure.

Still, archaeologists generally agree that the city Schliemann found was Troy, though his methods smacked somewhat of a treasure hunt.

He removed many of his finds from what is now Turkey without informing the Ottoman authorities, who were outraged when they found out.

Schliemann bestowed the Trojan jewelry upon a museum in Berlin; it remained in the city for more than 70 years.

Then, at some point during the chaotic final days of World War II, the controversial golden objects disappeared.

Unknown origin

Penn's Museum of Archaeology and Anthropology was founded in 1887, and holds more than one million artifacts in its imposing, burgundy-brick structure on South Street.

Most of the collection was acquired through archaeological expeditions, dating back to the days when gentlemen scholars traipsed across distant continents and sent back their finds by steamship.

But every so often the museum bought from dealers, as it did in 1966.

George Allen of Hesperia Art, a few blocks from Rittenhouse Square, approached the museum with a rare opportunity: the chance to purchase 24 gold pieces that he said were from ancient Troy.

Allen had no evidence to back up his claim that the gold was of Trojan origin, other than what the museum's curators could see with their own eyes. The earrings and other baubles were in the same style as the famous objects found by Schliemann.

The pieces were so similar that initially the curators thought they might be from the Schliemann collection - which was still missing, its loss mourned by art historians worldwide.

In addition, the objects for sale bore tantalizing similarities to golden artifacts from another ancient stronghold: the royal Mesopotamian city of Ur, in what is now Iraq. Scholars already had theorized the existence of a trade network between the two civilizations. The new items, though they lacked a paper trail, seemed to support that theory.

"The purchase of this collection is urgently recommended," Penn curator Rodney Young wrote in a March 1966 memo to the museum's board.

Young also acknowledged that the items had an unsavory aspect, probably having been "looted by peasants and dealers."

Museum officials decided to buy the pieces, for \$10,000. But evidently they had misgivings.

Four years later, in 1970, the museum announced it would no longer acquire undocumented objects, arguing that such acquisitions encouraged the "wholesale destruction of archaeological sites."

It was the first museum to take such a stand, and it sparked a worldwide debate in the antiquities field about how best to protect the heritage of the distant past - one that continues to this day.

The United Nations Educational, Scientific and Cultural Organization - UNESCO - drafted a treaty that sought to discourage the purchase of items with a murky history.

Other museums followed Penn's move, though there was resistance from institutions that did not conduct their own expeditions - primarily art museums, which feared cutting off a major source of acquisitions.

Meanwhile, the purported Trojan gold went on display periodically at the Penn museum.

George Bass, one of the curators who had analyzed the collection, told Turkish officials about the museum's purchase, and they came to Philadelphia to see it.

But it was a hollow sort of addition to the museum. As there were no records of their origin, the golden objects had been robbed of their historical and cultural context, their voice.

Then in 1993, all of a sudden some context emerged. Schliemann's treasure turned up.

Lost and found

Confirming reports that had been circulating for several years, Russian officials announced that the original Trojan gold was in the Pushkin Museum of Fine Arts in Moscow.

It had been seized by the Soviet army as war booty and hidden from public view for decades.

Germany demanded it back, as did Turkey, to no avail.

As a result of the gold's reappearance, there was renewed interest in the similar items in Philadelphia.

Russian experts came to compare Penn's items with the Schliemann treasure in Moscow. German scholars, in turn, traveled to the Moscow museum.

The man best suited to sort it all out, perhaps, was Ernst Pernicka.

A professor at the University of Tübingen, in southern Germany near Stuttgart, Pernicka is the director of the modern-day excavations at Troy.

Each summer, he and his colleagues carefully sift through the ruins of a city that endured for thousands of years, on the dry, windy plains of western Turkey, where summer temperatures can reach 120 degrees.

A soft-spoken, gray-haired scholar who leads a team of excavators from 10 countries at Troy, Pernicka does not hog the spotlight.

"You would have no idea from talking to him that he is one of the world's leading archaeological scientists," said C. Brian Rose, a Penn professor who works alongside Pernicka at Troy.

Little by little, the team is piecing together the story of the city, which stood at the crossroads of East and West, its rulers able to charge handsome fees to those who would pass the nearby waterway between the Aegean and Black Seas. It was not the site of one war, as described by Homer, but of many - as revealed in numerous levels of habitation that span centuries.

While the focus is on the excavation, Pernicka was intrigued when, a few years ago, Rose told him about Penn's 24 items reputedly from the same city.

Though Penn's golden jewelry had not been scientifically excavated, Pernicka - who is also a chemist and metallurgist - thought that science might yet fill in some of the missing parts of the story.

Previously, he had applied his analytical techniques to objects such as Celtic gold coins and African ceramic vessels, helping to place them in history and, when necessary, identifying fakes.

Pernicka made plans to visit Philadelphia last year. He would come with Hermann Born, one of the German experts who had been allowed to examine the Schliemann finds in Russia.

He told Rose that an analysis of Penn's artifacts could suggest where the gold had been mined. It also could indicate whether the items belonged together, and were not some sort of hodgepodge from multiple excavations. Or, worse, a forgery.

Meanwhile, Rose, both a curator at the museum and its deputy director, searched Penn's archives for more information about the enigmatic gold. There wasn't much, aside from the 1966 memo urging its purchase.

But like Pernicka, Rose believed that the pieces had been looted.

The middleman

George Allen, the antiquities dealer who sold the gold to the Penn Museum, died in 1998. But in a telephone interview, his son Ernest recalled that he had a business associate named Hecht.

That's a name familiar to any scholar of the ancient world, and it's associated with controversy. Robert E. Hecht Jr. is a longtime antiquities dealer who has been periodically accused - though never convicted - of selling purloined artifacts. Now 90, he is on trial in Rome on charges of conspiring to sell looted items. He has denied any wrongdoing.

Under pressure from Italian authorities, the Metropolitan Museum of Art in New York two years ago returned one item it had purchased from Hecht in 1972 - a painted vessel known as the Euphronios krater, one of the most famous objects in the ancient art world. Authorities found evidence that it had been looted from a tomb in Italy and had passed through another dealer's hands before Hecht's.

In a letter and subsequent telephone interview last year from his apartment in Paris, Hecht confirmed that he was indeed the source of Penn's Trojan-style gold, with Allen acting as his agent.

Hecht easily recalled the pieces and proclaimed them "beautiful." He said he had purchased them from another dealer, George Zakos, who is dead.

Hecht, a Haverford College graduate and scion of the Hecht department-store clan, said he had "no idea" whether the gold had been excavated legally. He said Zakos, who lived in Switzerland, had not shared the objects' history.

"He didn't say, and I didn't ask," Hecht said. "I thought it was beautiful, and I thought it was genuine."

Asked if the lack of documentation deprived the items of important context, he said no.

"The main thing is the beauty of the thing," Hecht said. "The Venus de Milo, whether it came from the east side or the west side of the island doesn't really change its appeal to the modern world, I think."

As for Penn's collection, "undoubtedly it came from that part of the world, whether it was Troy, or 60 miles away, or 100 miles away,"

Hecht said.

That is exactly the kind of attitude that concerns archaeologists, who are as meticulous about preserving their sites as a police detective at a crime scene. To a detective of the past, an object's exact location reveals rich detail about its age, its purpose, its owners - its context.

With those avenues closed to him for the supposed Trojan gold, Pernicka turned to mass spectrometry.

The tests

Pernicka came last February with his colleague Born, who is head of conservation at the Museum of Pre- and Early History in Berlin.

In a lab at the museum in Philadelphia, Born examined the items with a microscope, looking for tool marks and other telltale signs of ancient manufacture. Right away, one characteristic jumped out:

Some of the artifacts were made from gold wire with an unusual shape. The wire was not rounded, in the form of a long, thin cylinder, but instead had squared-off edges. It seemed to have been made by slicing a flat piece of gold into strips - a technique Born knew had been used in ancient times.

Meanwhile, Pernicka painstakingly removed minute samples of gold from each artifact, in a way that would leave no trace visible to the eye. He rubbed the gold with a small, rough-surfaced quartz rod, removing at most a few millionths of an ounce of metal from each item.

In several places, where rubbing might have damaged an object, he worked instead with a small scalpel.

Pernicka was awed when he beheld the ancient handiwork. He noted that one necklace was strung with handmade gold beads measuring barely 1 millimeter across. Another item featured hundreds of tiny golden chain links.

"It is incredible," Pernicka said, trying to envision how a craftsman could create such things. "You would need tweezers and a magnifying glass."

Then the visiting scholars got a stroke of luck. Born found dirt lodged inside a tiny loop of gold on the back of one pendant - still there, evidently, from wherever it had been excavated.

It was a valuable source of information. Pernicka knew he could analyze the soil, perhaps telling him something about where the gold items had been buried.

Pernicka took the samples back to Germany. If his hypothesis was correct, the gold was alluvial, meaning it had been mined from a river, and thus would contain a mixture of other elements as well.

Alluvial gold figures strongly in ancient legend. King Midas was said to have turned a river to gold by bathing in it.

And the ancients sometimes mined such gold by holding a sheepskin in the water, a method thought to have inspired the tale of Jason and the Golden Fleece.

The results

Back in Germany, the metal samples were analyzed with mass spectrometry. They were dissolved in acid and subjected to a plasma flame, producing metallic ions that were forced through a tube. The ions took different paths depending on their mass - in such a way that Pernicka could measure just how much gold, silver, platinum, and other elements were in the samples.

He also tested the small sample of soil.

The analysis was conducted in the spring and reviewed over the summer; Pernicka plans to publish the findings this year. He was able to compare them with his results from testing a few stray items of the Schliemann gold that remained in Berlin - apparently overlooked by the Russians in 1945.

Pernicka's conclusion:

The 24 pieces from Philadelphia all appeared to be of ancient manufacture. And they were indeed consistent with the gold Schliemann had excavated at Troy in the 1870s.

The gold in both collections was far from pure - containing as much as a third silver. Even more distinctive was the fact that both contained small but significant amounts of platinum - roughly 100 to 200 parts per million, suggesting the metal might even have been mined from the same river.

Also similar were the ratios between the amount of platinum and another metal, palladium.

"This points to the same geological source," Pernicka said.

That doesn't necessarily mean anything about where Penn's jewelry was made, who wore it, and where it was excavated, he said.

The analysis of the soil, on the other hand, provided information from the artifacts' resting place. Using a technique called neutron activation, Pernicka revealed the amounts of a wide array of elements contained in the dirt, from arsenic to zinc.

His finding: The composition was consistent with the soil in the Trojan plain. In particular, the dirt from the gold pendant contained a high level of arsenic - about 40 parts per million.

It was not proof of anything, but Pernicka said it was a good bet that Penn's enigmatic collection had come from somewhere in the region of Trojan influence: Turkey, Greece, or southeastern Europe.

More than 4,000 years after the jewelry is believed to have been buried, even though it had been taken from the ground without care, science had filled in some of the missing story.

"It's astounding," said Rose, the museum curator.

Twenty of the 24 pieces are on loan to the Bowers Museum in Santa Ana, Calif., where they were viewed this month by attendees of the Archaeological Institute of America's annual conference. The other four - golden pendants - remain at Penn, exhibited alongside the Mesopotamian artifacts whose stylistic similarity had intrigued the museum's curators in 1966.

That similarity - highlighted in the exhibit, called "Iraq's Ancient Past" - intrigues Pernicka as well. He has told museum officials that he would like to test the Mesopotamian gold.

That famous civilization had few of its own natural resources and would have had to import gold and other metals. Could the gold have come from Troy? Could itinerant craftsmen or traders have traveled back and forth between Troy and Mesopotamia long ago?

Someday also, if authorities are willing, Pernicka would like to test the Schliemann gold that remains in Moscow. He acknowledged that some Germans would like to see that treasure returned to Germany.

But as a scientist, Pernicka said his primary goal was the pursuit of knowledge.

And in that quest, he said:

"We are now only at the beginning."

Please visit the site:

http://www.philly.com/philly/health_and_science/20100131_Tracing_ancient_roots_of_Penn_Museum_s_gold.html?page=1&c=y

AVENUE OF THE SPHINXES WILL BE RESTORED, BY ALEXANDER DZIADOSZ

Cairo - Excavations on part of an ancient 2.7km avenue of sphinxes that once linked temples in Luxor and Karnak should be completed in March, Egypt's antiquities chief said on Thursday.

Archaeologists have so far uncovered 65 of the 1 350 sphinxes that lined a path between temples during the time of Pharaoh Amenhotep III, who reigned 3 350 years ago.

The project will cost 60-million Egyptian pounds, half of which will be used to compensate about 2 000 families that must be relocated to make way for the roadway, Egypt's chief archaeologist Zahi Hawass told Reuters.

The Supreme Council of Antiquities was currently working on about a third of the 2.7km pathway lined with sphinxes, mythological creatures with the body of a lion and usually, although not always, the head of a human.

The remainder of the buried avenue will be uncovered in the next few years.

"In the area that we restored, we found many sphinxes," Hawass said. "We'll be excavating the rest of the road until it can go to Karnak, and this will take years."

Home to many of Egypt's most renowned antiquities, Luxor attracts thousands of sightseers to a country where tourism is a vital source of jobs and foreign currency.

In 2006 Egypt began a plan to demolish and relocate Gurna, a village near the Valley of the Kings, to access and preserve tombs buried beneath nearly 3 200 homes.

The government built the villagers new houses about 3km away, but many complained the new homes were too small for big families, and that people would lose their livelihoods in the tourist business.

"We are not moving anyone by force," Hawass said of the Sphinx Avenue project.

Please visit the site:

http://www.int.iol.co.za/index.php?set_id=1&click_id=588&art_id=nw20100129010733701C521010
