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Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

- Δεκέμβριος 2011 -

Παρακινούσαν τον Φίλιππο τον Μακεδόνα να εξορίσει κάποιον που τον κακολογούσε. Ο Φίλιππος απάντησε:

- Δεν είστε καλά!! Θέλετε να τον στείλω να με κατηγορεί και σ' άλλα μέρη;

Newsletter of the Hellenic Society of Archaeometry

- December 2011 -

Nr. 129

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ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS

FINAL CALL FOR PAPERS, TENTH BIENNIAL GRADUATE STUDENT FORUM, BOSTON UNIVERSITY DEPARTMENT OF ARCHAEOLOGY, FEBRUARY 17-19, 2012

The Graduate Student Association of the Boston University Department of Archaeology is would like to announce the FINAL call for papers for the Tenth Biennial Graduate Student Forum on February 17-19, 2012. The title of this year's conference is "Found objects, past lives: archaeological perspectives on material and materiality".

Our keynote speaker is Dr. Carl Knappett, Walter Graham / Homer Thompson Chair in Aegean Prehistory at the University of Toronto.

Topics for discussion could include, but are not limited to:

- The role of material culture in past societies
- Theoretical approaches to material agency
- Interpreting and exhibiting artifacts
- Artifact databases and collections management
- Scientific analysis of cultural assemblages

For consideration, graduate students should submit a 250-word abstract on our website by December 15, 2011:

<http://www.bu.edu/archaeology/2012-bu-graduate-student-forum/>

Selected participants will be notified by early January and the full paper will be due by February 1st. Paper presentations will be 20 minutes in length.

There is no registration fee for this conference.

We kindly request that faculty and graduate students forward this message to interested parties and related university departments. You can also download a pdf of our CFP for display in your department here:

http://www.bu.edu/archaeology/files/2011/10/2012_BU_GSF_CFP.pdf

If you have any questions, please direct them to:

Graduate Student Conference Committee
Department of Archaeology, Boston University
675 Commonwealth Avenue
Boston, MA 02215
bu.archaeoconf.2012@gmail.com

Best,

Allison Cuneo
Department of Archaeology
Boston University
675 Commonwealth Avenue
Boston, MA 02215

**SUMMER SCHOOL COURSE: ANCIENT
AND HISTORIC METALS:
TECHNOLOGY, MICROSTRUCTURE,
AND CORROSION, UNIVERSITY OF
SOUTHERN CALIFORNIA (USC), 16TH -
20TH JULY 2012**

Summer School in Ancient and Historic Metals: 2012 To be held at: The University of Southern California (USC) 16th -20th July 2012. Course is limited to 10 participants only.

Course Aims: This five-day course will act as both an introduction and a focus of more intensive study dealing with the examination, analysis, metallographic examination and deterioration of ancient and historic metals. The course is designed to benefit conservators, scientists and archaeologists who wish to learn how to prepare metallic samples for metallographic study, learn something of the technological aspects of the working and structure of metals, and how corrosion and patination can be discussed and examined.

Artefacts for examination: Over the past 30 years an unrivalled collection of mounted metallographic samples has been assembled, which are studied as part of the course practical work, involving both polarized light microscopy and metallographic microscopy of both freshly polished and etched samples. These samples range from cast iron from China to wootz steel from India, bronze coinage alloys from the Roman Empire to high-tin bronze from ancient Thailand, silver alloys from the Parthian period to ancient Ecuador, gilded copper and tumbaga from Peru and Colombia, to mention only a few of the geographical areas covered by available samples. Course participants will be instructed in the use of polishing and etching in the examination of ancient metals and are encouraged to keep digital images of the samples they have prepared during the week. Students may also bring their own samples for examination if mounted and ground, or if not mounted, then one or two samples may be brought which can be mounted and prepared during the course.

Course Instructor:

Professor David A. Scott, Founding Director of the MA program in Archaeological and Ethnographic Conservation at UCLA, 2003-2011, and Professor, Department of Art History.

His book, *Copper and Bronze in Art: Corrosion, Colorants, Conservation* won the prize from the Association of American Publishers as the best Scholarly/Art book published in the USA in 2002. Professor Scott has published over 100 papers in the peer-reviewed literature and is an Editor for the journal: *Studies in Conservation*.

Course Schedule: The course will be held over five days from 16th -20th July 2012. The course will be held at the Archaeological Research Center at the University of Southern California at the Ahmanson Center, Room ACB335 (ARC Lab) and Room ACB330 (Gallery Room) on the USC campus in Los Angeles from 9.15am ? 5pm each day. More detailed directions will be distributed to course participants. The course is open to a maximum of 10 participants only.

Course Costs: The cost of the instruction for the five days will be \$850.00. This cost also includes a free copy of Dr. Scott's book:

Ancient Metals: Microstructure & Metallurgy Volume I: Copper and Copper Alloys, published in 2011.

For details of payment and to register for this course, as well as to receive information concerning nearby hotels in the USC vicinity, please contact the course organizer and director:

Professor David A. Scott
Room A410
The Cotsen Institute of Archaeology, UCLA
405 Hilgard Avenue
Los Angeles CA 90095-1510, USA
dascott@ucla.edu

Course Details:

Monday:

Introduction, use of the metallurgical microscope, the mounting and polishing of samples, their preparation, use of resins, grinding and polishing. Introduction to phase diagrams and their application to ancient bronzes and copper alloys. Copper-arsenical, copper-nickel, and copper-tin alloys. Casting and working of metals and aspects of bronze casting in the ancient world. Etching of some copper alloys. Recording of samples with digital camera and case studies in the examination of a group of copper alloy plaques and a bronze figurine of the God Osiris will be discussed.

Tuesday:

Continuation of the examination of copper-tin and copper-tin-lead alloys. Ancient coinage alloys of the Roman period, examination of copper-arsenic bronzes, aspects of the corrosion of bronze and copper alloys. The Pourbaix diagram and some of its applications. The extraction of metals from their ores and some principles of the Ellingham diagram.

Wednesday:

The phase diagram for copper-silver and lead-tin alloys. Examination of silver and debased silver alloys. Surface

enrichment and corrosion. Problems in the authentication of ancient silver and bronze alloys. Metallographic examination of ancient silver alloys and techniques of etching silver. Discontinuous precipitation phenomena and the age of silver alloys. Colour etching of both copper alloys and silver alloys. The Philosopher plate and the Strozzi silver basin: case studies from the J. Paul Getty Museum.

Thursday:

Mounting of samples brought by students. Examination of some ternary phase issues in relation to gold-silver-copper alloys. The corrosion of tumbaga alloys and aspects of the Pourbaix diagram. Video concerning the extraction of iron and steel. Introduction to iron and steel. The principles of corrosion and the eight types of corrosion of metals. The examination of iron from meteorites. The technology of ancient iron and steel in the West, in India and in China will be contrasted and samples illustrating these different technologies examined. The metallography of ancient iron alloys.

Friday:

Corrosion issues of iron and steel. Weathering steel and patinas, the nature of iron corrosion products and their implications for the stabilization of iron artefacts during conservation treatments. Gold and gold alloys: gilding: examination of gold alloys. Lecture on the technology of ancient gold alloys in South America. Continuation of laboratory work in the examination of mounted samples.

21ST INTERNATIONAL RADIOCARBON CONFERENCE, 9-13 JULY 2012, PARIS, FRANCE

Dear Colleagues,

We are pleased to announce the initial release of the **21st International Radiocarbon Conference** website. For those of you who are interested in concepts, methodology and applications of radiocarbon we hope that this site will make you want to join the **RADIOCARBON2012** conference, 9-13 July 2012, Paris, France. Anyone can visit the site at: <http://www.radiocarbon2012.com>.

The Radiocarbon conferences are recurrent events organized every 3 years. They are designed by and for the international scientific community of Radiocarbon users. It is a worldwide forum to discuss and exchange recent developments, new ideas and challenges on the merging research fields of Radiocarbon. After long being used as a "chronometer" only, ^{14}C now appears as a powerful tracer of life and earth system processes. For this reason, besides the traditional sessions of ^{14}C such as calibration, archaeology and palaeoenvironmental studies, the **21th International Radiocarbon Conference** opens up to a broader range of scientific disciplines that make use of ^{14}C as tracer of fluxes and processes, such as hydrology, ocean sciences, medicine, ecology as well as other unusual applications (forensic, certification, ...). A special focus will be given to the efforts linking observations and models to produce accurate predictions across multiple spatial and time scales.

We are also very pleased to announce the start of the **Abstract submission**. You are warmly invited to browse through the Sessions at: <http://www.radiocarbon2012.com/content/programme>. The bottom of the "Abstract" tag shows the link Abstract Submission. Using this link you are asked to log in to the Meeting Organizer. You may submit the text of your contribution as plain text or MS Word content. Please pay attention to the Guidelines as described at: <http://www.radiocarbon2012.com/content/abstracts>.

The deadline for the receipt of Abstracts is February 1st, 2012.

Further information about the RADIOCARBON 2012 can be found at: <http://www.radiocarbon2012.com>.

If any question arises, please contact us!

Kind regards,

Christine Hatté
on behalf of the Organizing Committee

SECOND ANNOUNCEMENT FIRST **INTERNATIONAL CHARIOT** **CONFERENCE**

Chariots, the racecars of the ancient world, are amongst the most influential inventions in the history of warfare and a tribute to human inventiveness. Despite their prominence in different aspects of ancient Egyptian life, little is known about them. This conference serves, for the first time, to gather together specialists (archaeologists, philologists, art historians, technical specialists, and historians) who work on chariots and related subjects from ancient Egypt and the Near East.

The conference is scheduled for 1 & 2 December, 2012. Topics can include chariot technology, production, reconstruction, uses, social significance, typology, as well as other chariot-related subjects.

Posters will also be accepted. The conference language is English.

Both papers and posters will be published online in a special edition of PalArch's Journal of Archaeology of Egypt/Egyptology (PJAE; www.palarch.nl), an open-access peer-reviewed journal (ISSN 1567-214X) but will also be available as PoD volume in collaboration with Sidestone Press Academics (Leiden: www.sidestone.com), who are specialised in publishing archaeological scientific literature.

The conference will be held in Cairo (NVIC, 1, Dr. Sh. Mahmoud Azmi Str, Zamalek) and is jointly sponsored by the Netherlands Flemish Institute in Cairo (NVIC) and the American University in Cairo (AUC).

Please send titles and abstracts (500 words or less), by March 1 2012 to: veldmeijer@palarch.nl and salimaikram@gmail.com.

Notification of acceptances will be sent out by April 1 2012 and a final schedule will be sent out by May 20 2012. The next announcement will include suggestions for hotels as well as other details.

André J. Veldmeijer & Salima Ikram

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**INTERIM MEETING OF THE ICOM-CC
WORKING GROUP ART TECHNOLOGICAL
SOURCE RESEARCH, A NEW LEASE OF
LIFE: DOCUMENTED TRANSFORMATIONS
OF WORKS OF ART, 22-23 NOVEMBER 2012,
BRUSSELS-BELGIUM, ROYAL INSTITUTE
FOR CULTURAL HERITAGE (KIK-IRPA),
CALL FOR PAPERS**

Invitation

After four successful Symposia in Amsterdam (2004), Madrid (2006), Glasgow (2008) and Vienna (2010), the ICOM-CC working group *Art Technological Source Research* is organising its fifth international symposium, which will be hosted by the Royal Institute for Cultural Heritage (KIKIRPA) in Brussels, Belgium.

The meeting is focused on major transformation of works of art (all materials and periods), such as updates of format, function, iconography or appearance, documented by written source. The papers should involve both the use of written sources and technical examination.

The aim of the meeting is to be a forum for discussion of art technological source research, exploring artists' practice as recorded in technical treatises, manuals, correspondence and journals, and also in images such as photographs, films or prints. It is planned to have the first day closely focussed on the conference theme, and the second day dedicated to a wider range of art technological source research.

Language

The official conference language will be English.

Abstract submission for oral presentations and posters

Please send a preliminary title, abstract (maximum 500 words, no illustrations), short curriculum vitae and list of publications as soon as possible and at the latest by 9 January 2012 to H el ene Dubois, coordinator ATSR interim meeting 2012: atsr5@kikirpa.be. Please follow the instruction for the format of the abstract, below.

Publication

It is intended that Archetype Publications Ltd. will publish the conference post-print book. Instructions for the submission and preparation of contributed papers will be given in future announcements.

Information

The organizers seek to widen participation at this conference, so we would be grateful if you could publish this announcement in any available media and send it to anybody whom you might think will be interested.

For further information, please contact H el ene Dubois: atsr5@kikirpa.be, or Mark Clarke: (mark@clericus.org)

Information will also be posted on the institute's website: www.kikirpa.be.

Instructions for abstract formatting

The Title Should be Centred and Bold Times Font 18pt

(free line font 12pt)

Author A. Smitha, Author B. Smitha, Presenting Authora, and Author C. Smithb

(font 10pt) email : presenting.author@domain.com

(free line font 12pt)

a Institution A, Address, Country (font 10pt)

b Institution B, Address, Country (font 10pt)

---ORAL or POSTER--

(free line font 12pt)

One abstract (max 500 words) is required for both oral presentations and poster presentations and should follow the format on this page. The page should be set up as size A4 with a 2.5 cm margin on the left and 2 cm margins at the top, bottom, and on the right. In *Format...Paragraph...*, *Alignment* should be justified and *Indentations* should be Left: 0 cm and

Right 0 cm. *Spacing* should be single line and 0 pt before and 0 pt after. The first paragraph should not be indented.

The whole document should be typed in font Times New Roman and saved as a Word(2003) file, not in ".docx" Word(2007) format. The title should be centred and appear in bold 18pt. A free line of font 12pt should be left between the title and the list of contributing authors. The list of authors should be in font 12pt and should not show the author's academic qualifications. The presenting author should be identified by underlining their name. The following line, in font 10pt, should contain the presenting author's email address. This address will be used to notify the author of the result of the review. In the following line, the authors should indicate whether they would like the submission to be considered for an oral presentation or poster presentation by indicating either "ORAL or POSTER", "POSTER", or "ORAL". For the latter case, if an oral presentation cannot be offered, a poster presentation may be offered instead.

The deadline for submission of abstracts is 9 January 2012. Presenting authors will be notified of the decision of the review committee by 5 March 2012.

IPS2012 IS THE 12TH INTERNATIONAL PALEOLIMNOLOGY SYMPOSIUM OF THE INTERNATIONAL PALEOLIMNOLOGY ASSOCIATION

Note the special session on Advances in the development of lake chronologies

We are pleased to announce that further details have been released for IPS2012
<http://www.paleolim.org/ips2012>

IPS2012 is the 12th International Paleolimnology Symposium of the [International Paleolimnology Association](#).

New information is available on special sessions and keynote speakers, fees & excursions.

Please visit the website and find out about these exciting session topics:

- [Session 1: Isotopes and biogenic silica: understanding lake sediment archives](#)
- [Session 2: Applied palaeolimnology](#)
- [Session 3: Lurking beneath the surface: decadal to millennial scale records of environmental pollution](#)
- [Session 4: Environmental change in the high latitudes](#)
- [Session 5: Advances in development of lake chronologies](#)
- [Session 6: Regional integration of recent lake sediments for management of landscapes, ecosystems and ecosystem services \(PAGES Focus 4\)](#)
- [Session 7: Tibetan Plateau: disentangling the Asian monsoon system](#)
- [Session 8: Environmental records of climate change and human impacts in mountain regions](#)
- [Session 9: Thirty years of quantitative palaeoenvironmental reconstructions: lessons from the past and future challenges](#)
- [Session 10: Understanding low-latitude climate change: recent developments from palaeolimnology](#)
- [Session 11: Recent biomarker advances and applications in paleolimnology](#)
- [Session 12: Land, sea and society: palaeoenvironmental perspectives on coastal, brackish and saline systems](#)
- [Session 13: Past climates of the Southern Hemisphere](#)
- [Session 14: Palaeoecological reflections of biodiversity: challenges and new advances](#)
- [Session 15: Carbon and geochemical cycling in lakes](#)

- **Session 16: What have we learned from drilling large lakes?**

For symposium queries please contact: contact.ips2012@paleolim.org

Follow us on twitter <https://twitter.com/paleolim2012> and on Facebook ... <https://www.facebook.com/IPS12>

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ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ –
JOB VACANCIES/FELLOWSHIPS

THE COLLÈGE DE FRANCE IS
RECRUITING A STAFF RESEARCH
ENGINEER

Techniques and instrumentation in Analytical physics – staff research engineer, lab manager Specialty - mass spectrometry, isotope analysis, ion optics, electrostatic accelerator Field of Application - Isotope geochemistry, Earth and environmental sciences

Affiliation Research Unit

Collège de France, Aix-en-Provence Site

Chair in Climate and Ocean Evolution in partnership with the CEREGE UMR6635

(Aix-Marseille Univ., CNRS, IRD and Collège de France), Arbois Technological Pole

Job Description

Tasks and Professional Activities

The staff research engineer and lab manager will be in charge of ^{14}C measurement by accelerator mass spectrometry (AMS). His/Her efforts will be devoted to the development and automation of analytical protocols and the use of a small-size AMS system including a CO_2 gas source dedicated to precise measurements of small ion beams. He/She will contribute to international intercalibration studies by ensuring the quality of the isotopic analyses. The staff engineer will also perform the analyses necessary for the scientific research within the framework of the Chair of the Collège de France. He/She will also be in charge of the maintenance of the AMS lab. Recruitment will occur before the arrival of the AMS system, so the lab manager will be directly involved in the planning and installation of the future ^{14}C AMS laboratory in Aix-en-Provence.

Required skills

A strong background in applied physics and its use for the production and measurements of ion beams. The applicant should have a demonstrated knowledge in accuracy and precision in analytical physics. Other relevant skills also include ion optics, vacuum technology, electronics, signal processing and automation, computer programming and interfacing.

Scientific context

The staff engineer will be attached to the Chair in Climate and Ocean Evolution. The Chair forms part of the Geochemistry & Geochronology team of the CEREGE (UMR6635), the body responsible for steering the ASTER-CEREGE project funded through the EQUIPEX “Investissements d’Avenir” Program. Most of this recently-awarded grant, will be invested in the acquisition of a small-size AMS system dedicated

to ^{14}C measurement in ultra-small samples. The scientific research conducted by the team includes two main topics: study of changes in the carbon cycle, notably through the use of ^{14}C (cosmogenic and man-made) to trace the exchanges of natural and anthropogenic CO_2 between the atmosphere, ocean, vegetation and soils, and the reconstruction of past changes in sea level and climate.

Special Conditions

Education: Master or PhD in physics, engineering or chemistry. The initial contract will be for 3 years and will be renewable. Gross monthly salary ranges between € 2318 and € 2913, depending on previous experience. The starting date is early 2012. Applications should be submitted before December 31, 2011, but will be considered until the position is filled. Send a cover letter and CV to Prof. Edouard Bard: bard@cerege.fr

ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS
NEW JOURNAL: AEGEAN STUDIES

Dear all,

Aegeus - The Society of Aegean Prehistory is both proud and happy to announce the launch of its new journal, Aegean Studies, and to invite you to submit papers for the first issue. Please follow the link for the journal poster (<http://www.aegeussociety.org/images/uploads/pdf/Aegean-Studies-poster-En.pdf>) or contact the editorial team (e-mails in the poster) for further information.

G

Γιώργος Βαβουρανάκης
Συνεργαζόμενο Επιστημονικό Προσωπικό
Ελληνικό Ανοικτό Πανεπιστήμιο

Giorgos Vavouranakis
Adjunct Faculty
Hellenic Open University

INVITATION FOR ARTICLES ON TECHNOLOGIES FOR CULTURAL HERITAGE

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.

Please visit the site: www.archeomatica.it

THE CORNELL HALAI AND EAST LOKRIS PROJECT - NEOLITHIC CERAMICIST NEEDED

The Cornell Halai and East Lokris Project has need of a ceramic researcher in the summer of 2012 to work with Neolithic pottery from Halai. The work is to examine and write summaries of uncatalogued sherds from stratified contexts and remove and record individual sherds judged important enough to be added to the publication catalogue. The work will take place in the project's storeroom in Tragana in East Lokris during the period from July 3 to August 12. Those interested should contact John Coleman at jec13@cornell.edu for more details.

John E. Coleman

Professor Emeritus of Classics and Director, Halai and East Lokris Project CHELP, 120 Goldwin Smith Hall, Cornell University, Ithaca NY 14853 P.O. Box B03, Theologos, Phthiotida 35001, GREECE jec13@cornell.edu. Web page: halai.arts.cornell.edu Mobile phone in Greece: 698 215 6729

INTERNET SITES

THE INTERNATIONAL NETWORK OF THE COMPOSITION OF BYZANTINE GLASS MOSAIC TESSERAE

Dear All,

The International Network of The Composition of Byzantine Glass Mosaic Tesserae sponsored by the Leverhulme Trust 2007-2010 and directed by Prof Liz James at University of Sussex, has now published online databases of sites and sources of Byzantine mosaic glass tesserae: <http://www.sussex.ac.uk/byzantine/mosaic/>

There are three databases in total

1. 'Structures' records buildings (4C-15C) where we have archaeological evidence (finds) of glass wall mosaics.
2. 'Texts' contains records of primary Byzantine sources which mention mosaics.
3. 'References' is a bibliographical database of modern scientific publications about glass mosaics.

The databases can be searched or browsed for information.

All three are in a state of continuous updating and we therefore invite contributions, corrections and suggestions for improvement to keep developing the databases further. Please contact Liz James (e.james@sussex.ac.uk) or Bente Bjornholt (b.k.bjornholt@sussex.ac.uk) for enquiries.

Best wishes,
Liz and Bente

ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

FRANCHTHI CAVE REVISITED: THE AGE OF THE AURIGNACIAN IN SOUTH- EASTERN EUROPE

K. Douka., C. Perlès, H. Valladas, M. Vanhaeren & R.E.M. Hedges

ABSTRACT

The Aurignacian, traditionally regarded as marking the beginnings of Sapiens in Europe, is notoriously hard to date, being almost out of reach of radiocarbon. Here the authors return to the stratified sequence in the Franchthi Cave, chronicle its lithic and shell ornament industries and, by dating humanly-modified material, show that Franchthi was occupied either side of the Campagnian Ignimbrite super-eruption around 40 000 years ago. Along with other results, this means that groups of Early Upper Palaeolithic people were active outside the Danube corridor and Western Europe, and probably in contact with each other over long distances.

ANTIQUITY 85 (2011): 1131–1150 <http://antiquity.ac.uk/ant/085/ant0851131.htm>

KNOSSOS EXCAVATIONS 1957–61: **EARLY MINOAN**

Title: *Knossos Excavations 1957–61: Early Minoan*

Series: BSA Supplementary Volume 46

Volume authors: Sinclair Hood and Gerald Cadogan

Publisher: British School at Athens

Distributor: <http://www.oxbowbooks.com/>

From 1957 to 1961 the British School at Athens undertook an extensive programme of stratigraphical excavations at Knossos under Sinclair Hood, then Director of the School. This report publishes in detail the results of investigations into Early Minoan levels, which shed much new light on the era before the ‘Old Palace’ was established. The three excavations comprised: an Early Minoan I deep well, the oldest at Knossos; trials on the north side of the Royal Road, with Early Minoan II–III house remains; and similar trials in the Early Houses below the South Front of the Palace, which included investigation of the South Front House of Early Minoan III.

The volume provides invaluable data on the types and phased development of pottery in this major settlement site of the third millennium BC, a period when much of our Cretan evidence derives from tombs. It also helps to chronicle the expansion of Knossos during the Early Bronze Age, and offers new insights into the material culture of Prepalatial society, including possible feasting in Early Minoan I, new evidence for olives and wine, and well-dated Early Minoan III seal impressions of the Parading Lions group. A valuable addition is a chapter devoted to other Early Minoan pottery from Knossos, held in museums in Europe and the USA. Copiously illustrated with line drawings and photographs, the volume will serve as a major resource for all interested in early cultural developments in the Aegean and Eastern Mediterranean.

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EΙΔΗΣΕΙΣ - NEWS RELEASE

TEMPLE OF APHRODITE TO BE BURIED BY URBAN PROGRESS?

A 6th century BC temple to Aphrodite, the goddess of love, may end up buried beneath new construction indefinitely, leaving it invisible to future generations.

Tucked away behind metal construction fences lie some of the visible remains of an ancient temple. Most of the ancient temple foundations are now hidden, overlaid by urban sprawl, and what fraction can still be seen is eclipsed and sandwiched in by buildings. The unsuspecting pedestrian may never even notice it. It is shrouded in part by overhanging vegetation. It lies almost forgotten now within its modern context as the steady march of change and development has passed it by.

The Late Archaic period temple, 200 years older than the Parthenon, was originally built to honor the Greek goddess of Aphrodite (Venus), the goddess of love, in the 6th century B.C. It was later moved during Roman times to another location, which was considered a sacred area where there was a concentration of temples and shrines. There it has since remained, a part of the ancient area of Thessaloniki and now resting within the municipality of modern Thermaikos in the city Square of Antigonion. It is an example of the Ionic style of architecture that was a trademark of ancient Greece during the 6th - 5th centuries BC.

To be fair, not all of the ancient temple's elements and features have been left to oblivion beneath the surface. Some of its architectural features and artifacts can be seen today by visitors to the Archaeological Museum of Thessaloniki, thanks to the efforts of the archeologists and officers of the 6th Department of Prehistoric and Classical Antiquities. But, reports officials of the Temple of Venus project, "The height of the columns reaches seven meters and realistically cannot be exhibited in any exhibit halls of the museum in order to highlight the exact size."

The temple was first excavated in 1936, after which it fell off the map during the invasion and destruction of the Nazi occupation and subsequent postwar urban development. In 2000, excavations were renewed under the direction of well-known archaeologist A. Tassios in connection with the demolition of an apartment building that overlaid the remains. He uncovered the temple, Grecian-Roman statues, and architectural fragments, at least some of which are now exhibited in the Museum.

Like many of the other great monuments and antiquities of Greece, the temple is a symbol of national pride, thought of as not only a treasure of Greece but a priceless representation of global heritage.

In terms of priorities, however, not everyone sees it in quite the same way. Unless the land on which the temple rests can be expropriated by the Central Archaeological Council, new construction will ensure it remains buried and unseen, indefinitely. The owners of the land are opposed to expropriation. Continuing discussion between the

parties will decide the fate of the temple. The issue represents a classic case of urban development versus cultural preservation and development.

Maintains the officials of the Temple of Venus project: "The architectural and artistic value of the temple is immense. The temple can be saved and honored as part of Greece's rich history if its importance is realized and respected by the government. Cultural pride and history must be preserved and valued. Only one third of the possible artifacts have been excavated from this site."

The Thessaloniki urban and metropolitan area in which the temple is located is most noted for its numerous monumental Byzantine sites and antiquities, although its history extends back over 2,300 years, thus including some ancient Greek and Roman remains, both discovered and yet-to-be discovered. The city was founded around 315 BC by King Cassander of Macedon near the site of Thermae, the original location of the temple. The king named the new settlement after his wife, Thessalonike, who was a half-sister of Alexander the Great and the princess of Macedon, being the daughter of Philip II. The city eventually became the most important city in Macedon, and is today the second largest urban area of Greece.

More information about the Temple of Aphrodite and the issues surrounding the temple site can be obtained at the Temple of Venus site at <http://templeofvenus.gr/en>.

Please visit the site: <http://popular-archaeology.com/issue/september-2011/article/temple-of-aphrodite-to-be-buried-by-urban-progress>

EARLIEST SAMPLE OF MINOAN HIEROGLYPHICS FOUND IN WESTERN CRETE

A four-sided red jasper sealstone is among the finds unearthed during this season's excavation of the Minoan peak sanctuary at Vrysinas, located south of the city of Rethymnon. The whole area was officially announced and included in the archaeological sites list by the Central Archaeological Council of Greece.

The sealstone, which is carved on all four surfaces with characters of the Minoan Hieroglyphic script, constitutes the sole evidence to date for the presence of this earliest Minoan style of writing in Western Crete.

The excavation, which began in 2004, is conducted by the Ephorate of Prehistoric and Classical Antiquities under the supervision of the archaeologist Helena Papadopoulou in collaboration with Prof. Iris Tzachili from the Department of History and Archaeology of the University of Crete.

A preliminary study of the artefacts recovered thus far - including some 800 clay votive statuettes and a significant number of ceramic vessels - indicates that the peak sanctuary was in use throughout the First Palace period (1900-1700 BC) and continued until at least the beginning of the New Palace phase, after which time it was relocated to a lower part of the plateau.

The Vrysinas sanctuary is believed to have been the most sacred peak in Western Crete. The site's undeniable ritual context puts it on a par with other important Minoan peak sanctuaries like those at Iouktas, Petsofas and Traostalos Kofinas in central and eastern Crete.

Please visit the site: <http://greece.greekreporter.com/2011/11/17/earliest-sample-of-minoan-hieroglyphics-found-in-western-crete/> [Go there for pix]

"LOST" FORTRESSES OF SAHARA REVEALED BY SATELLITES WELL- PRESERVED SETTLEMENTS OF MYSTERIOUS CIVILIZATION DISCOVERED IN LIBYA, JAMES OWEN FOR NATIONAL GEOGRAPHIC NEWS

Real-life "castles in the sand" made by an ancient culture have been revealed in the Sahara, archaeologists say.

New satellite photographs show more than a hundred fortress settlements from a "lost" civilization in southwestern Libya.

The communities, which date to between about A.D. 1 and 500, belonged to an advanced but mysterious people called the Garamantes, who ruled from roughly the second century B.C. to the seventh century A.D.

Researchers uncovered the Garamantes' walled towns, villages, and farms after poring over modern satellite images—including high-resolution pictures used by the oil industry—as well as aerial photos taken during the 1950s and 1960s. (See pictures of Libya's remote Sahara.)

Located about 620 miles (1,000 kilometers) south of Tripoli, the fortresses were confirmed based on Garamantes pottery samples collected during an early-2011 expedition. That field trip was cut short by the civil war that would end the 42-year regime of Libyan leader Moammar Gadhafi.

"We were astonished to see the level of preservation" of the ancient mud-brick compounds, said project leader David Mattingly, of the U.K.'s University of Leicester.

"Although the walls of these sites have slumped a little bit, mainly due to wind erosion, they are still standing 3 to 4 meters [10 to 13 feet] high in places," he said.

(Read "Unseen Sahara" in National Geographic magazine.)

"Extraordinary" Construction

Archaeologists could have easily mistaken the well-planned, straight-line construction for Roman frontier forts of similar design, Mattingly observed.

"But, actually, this is beyond the frontiers of the Roman Empire—these sites are markers of a powerful native African kingdom," he said.

What's more, the scientists were surprised that the sites—which include cemeteries and agricultural fields—are so tightly clustered.

(See "Ancient Cemetery Found; Brings 'Green Sahara' to Life.")

For instance, an area of 1.5 square miles (4 square kilometers) contained at least ten village-size settlements—"that's an extraordinary density," Mattingly said.

Previous knowledge of the Garamantes is based mainly on excavations at their capital, Jarma, some 125 miles (200 kilometers) to the northwest, as well as on ancient Roman and Greek texts.

"We've built up a picture of them as being a very sophisticated, high-level civilization," Mattingly said. (Read about the "lost lords of the Sahara" in National Geographic magazine.)

"They've got metallurgy, very high-quality textiles, a writing system ... those sorts of markers that would say this is an organized, state-level society," he said.

Cash-strapped heritage authorities in Libya have been unable to conduct field research, leaving a gap in knowledge of the ancient civilization, according to University of Oxford archaeologist Philip Kenrick, who was not involved in the new research.

That's why Mattingly and his team—aided by a \$3.4-million grant from the E.U.'s European Research Council—have "been breaking new ground on an unprecedented scale," Kenrick said.

Ancient Culture Created Green Sahara

The newfound remains are also a testament to the Garamantes' advanced irrigation technology, which enabled them to create green oases in the desert. (See "High-Tech Energy 'Oasis' to Bloom in the Desert?")

"It's a deep Saharan, hyper-arid environment, and it's only people's ability to exploit groundwater that can change that," project leader Mattingly said.

The Garamantes mined reservoirs of prehistoric water using underground canals to cultivate Mediterranean crops—such as wheat, barley, figs, and grapes—and sub-Saharan African sorghum, pearl millet, and cotton.

Mattingly and colleagues have calculated that 77,000 man-years of labor went into constructing the underground water channels—a figure that doesn't include digging the wells or maintenance. A man-year is a unit of the work done by a person in a year.

Ancient Africans Ran Out of Water?

What happened to the Garamantes remains a riddle, but Mattingly's team suspects that the desert communities declined once groundwater supplies diminished.

Paul Bennett, head of mission of the U.K.-based Society of Libyan Studies, agreed that's a likely scenario.

"Groundwater is a nonrenewable source—as soon as you've tapped the reservoir and emptied it, it's not going to fill again," said Bennett, who was not involved in the new research.

The collapse of the Roman Empire, and increasing conflict in the Mediterranean region, would've also seriously affected the trans-Saharan trade upon which the desert civilization depended, added Oxford's Kenrick.

Please visit the site: <http://news.nationalgeographic.com/news/2011/11/111111-sahara-libya-lost-civilization-science-satellites/> [Go there for pix]

EGYPTIAN ‘ICE AGE’ ART CONFIRMED

Antiquity, Volume 85 No. 330 December 2011 (embargoed until 21 November 2011)

An interdisciplinary team of Belgian scientists cooperating with Yale University (New Haven, USA) has discovered the oldest petroglyphs in Egypt and for that matter the earliest rock art known so far in the whole of North Africa. By dating the wind-blown sediment that covers the rock art using optically stimulated luminescence (OSL), the team has been able to demonstrate that the petroglyphs are at least 15 000 years old. The dating results will be published in the December issue of Antiquity (Vol 85 Issue 330, pp. 1184–1193).

The rock art sites are situated near the modern village of Qurta, on the east bank of the Nile, about 40km south of the Upper-Egyptian town of Edfu. First seen by Canadian archaeologists in the early 1960s, they were subsequently completely forgotten and relocated by the Belgian mission in 2005. The rediscovery was announced in the Project Gallery of Antiquity in 2007:

(see: <http://www.antiquity.ac.uk/projgall/huyge313/>).

The rock art at Qurta is essentially characterised by hammered and incised naturalistic-style images of aurochs and other wild animals.

On the basis of their intrinsic characteristics (subject matter, technique and style), their patination and degree of weathering, as well as the archaeological and geomorphological context, these petroglyphs have been attributed to the Late Pleistocene, specifically to the Late Palaeolithic Period (roughly 23 000 to 11 000 years ago).

This interpretation has met with little criticism from the archaeological community, but proof in the form of indirect or direct science-based dating evidence has hitherto been lacking.

In 2008, an interdisciplinary team of scientists, directed by Dr Dirk Huyge of the Royal Museums of Art and History in Brussels (Belgium), discovered partly buried rock art panels at one of the Qurta sites.

The deposits covering the rock art, in part composed of wind-blown sediments, were dated at the Laboratory of Mineralogy and Petrology (Luminescence Research Group) of Ghent University (Belgium) using a method called optically stimulated luminescence (OSL) dating. OSL dating can determine the time that has elapsed since the buried sediment grains were last exposed to sunlight. Using the constituent mineral grains of the sediment itself, it offers a direct means for establishing the time of sediment deposition and accumulation. This resulted in a minimum age of about 15 000 calendar years, providing the first solid evidence for the Pleistocene age of the rock art at Qurta and making it the oldest graphic activity ever recorded in Egypt and the whole of North Africa. The Qurta rock art is therefore more or less contemporaneous with European art from the last Ice Age, as known from such world-famous sites as the Lascaux and Altamira caves.

The discovery of sophisticated ‘Ice Age’ rock art in North Africa is certainly new, but not entirely unexpected as, elsewhere on the African landmass, finds of even older art have been known for some time. Already in 1969, stone plaquettes with painted animal

motifs, dated to about 26 000 years ago, were uncovered in a cave in Namibia. More recently, in 1999 and 2000, complex geometric engravings on ochre pieces were brought to light in a South-African coastal site that date back to no less than 75 000 to 100 000 years. But how can it be explained that the rock art of Qurta, executed in Egypt over about 15 000 years ago, is stylistically so similar to what we discern in Ice Age Europe at about the same time? Can one speak of direct influence or cultural exchange over such a long distance? It is not as improbable as it seems. Finds of Pleistocene rock art in southern Italy and Sicily bear analogies to the Egyptian rock art. In northern Libya, near the coast, a cave site is known with similar naturalistic images of aurochs. Considering the fact that the level of the Mediterranean Sea at the time of the last Ice Age was at least 100m lower than it is today, it cannot be excluded that Palaeolithic people established an intercontinental exchange of iconographic and symbolic concepts. These are new challenges to archaeological thought.

Funding for this research was provided by the William K. and Marilyn M. Simpson Endowment for Egyptology of the Department of Near Eastern Languages and Civilizations, Yale University, USA (fieldwork) and the Fund for Scientific Research – Flanders (laboratory analyses). In addition, the Netherlands-Flemish Institute in Cairo (NVIC) and Vodafone Egypt offered administrative and logistical support.

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To receive an advance copy of the article, please contact Jo Tozer either by calling +44 (0)1904 323994 or emailing assistant@antiquity.ac.uk. Additional images are also available.

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A full list of all articles published in this issue, including those published in the open access Project Gallery, will be available online at <http://antiquity.ac.uk/journal.html> from 21 November 2011.

Notes for editors

Antiquity is a quarterly journal of world archaeology, edited by Professor Martin Carver. The journal was founded by O.G.S. Crawford in 1927. Antiquity is currently edited in the Department of Archaeology at the University of York (head: Professor Julian D. Richards).

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ROMAN BATH REVEALED IN İZMİR

İzmir's ancient city of Metropolis has reentered the archaeological spotlight with the discovery of a Roman bath, which is covered with mosaics and is rectangular and sculptures of Zeus and Thyke.

Archeologists also find gladiator figures at Metropolis Ancient City, which is located between the villages of Yeniköy and Özbek in İzmir.

A still-undeciphered seal written in hieroglyphics similar to those of the Hittites has also been found at Metropolis' acropolis.

Recent archaeological excavations in İzmir's ancient city of Metropolis have led to the discovery of a Roman bath featuring a sculpture of the goddess of luck Thyke and a sculpture of Zeus. The excavations also revealed gladiator figures.

Metropolis, which is located between the villages of Yeniköy and Özbek, is the site of many excavations because of its ancient ruins.

Excavation work has been continuing for 20 years with the support of the Culture and Tourism Ministry, the Sabancı Foundation, the Metropolis Foundation and Torbalı Municipality, Serdar Aybek, a scholar at Trakya University's Archaeology Department and the Metropolis excavation president, told Anatolia news agency.

Aybek said there were many cultural aspects in Metropolis that belong to the Geometric period and Hellenistic times. Metropolis was a city of art, according to Aybek.

“Metropolis has a 5,000-year-old history, and it was situated during the early Bronze Age,” Aybek said, and excavations have revealed some ceramic pieces from the early Bronze Age and middle Bronze Age.

During the excavations, archaeologists also found accessories from the Hittite era. Metropolis was situated near the ancient city of Ephesus and all the buildings and sculptures in the city were made with perfection, Aybek said. “Metropolis is a Hellenistic ancient city.”

Ancient Greeks believed Artemis protected the city, he said. “This is something that we have never seen in the Anatolian ancient cities and this makes the Metropolis ancient city even more mysterious,” Aybek said.

During four months of excavations archaeologists unearthed a Roman bath in Metropolis.

“This year we have discovered new buildings in Metropolis,” said Aybek, adding that one of these structures was a 100-square-meter Roman bath.

The bath is covered with mosaics and is rectangular, Aybek said, adding that it included a sports area.

“The new Roman bath unearthed this year is smaller than the other baths in Metropolis,” Aybek said. “Next year, we will focus on these areas.”

The sculptures of Zeus and Thyke were discovered in the bath, which is thought to have been built in the second century B.C. by the Emperor Antininus Pius, Aybek said.

The ancient city of Metropolis was first investigated through archaeological field work in 1972 by Professor Recep Meriç from the Dokuz Eylül University, Izmir. Excavations on the site, which feature Classical, Hellenistic, Roman, Byzantine and Ottoman traces, began in 1989. The earliest known settlement at the site is from the Neolithic Age, showing evidence of contact and influence with the Troy I littoral culture.

A still-undeciphered seal written in hieroglyphics similar to those of the Hittites has also been found Metropolis’ acropolis. The Hittite kingdom of Arzawa had its capital Apasas (later Ephesus) roughly 30 kilometers to the southwest.

Metropolis was a part of the Hellenistic kingdom of Pergamum, and during this period the city reached a zenith of cultural and economic life. A temple dedicated to the war god Ares, one of only two known such temples, was also located here.

Please visit the site: <http://www.hurriyetdailynews.com/n.php?n=roman-bath-revealed-in-izmir-2011-11-16>

DRINK LIKE AN EGYPTIAN

Experimental archaeology recreates ancient brews after analyzing pottery shards and bronze vessels by Jessica Allen on Thursday, November 3, 2011 1:50pm - 0 Comments

When it comes to food these days, everything old is new again, which isn't that surprising after years of genuflecting in the church of molecular gastronomy. The only altar left for foodies to worship at is an old one. Jars of preserved goods, just like grandma used to make, line the kitchen shelves of countless restaurants. Noma, voted the best restaurant in the world last year, fashions most of its dishes from ingredients foraged from the Danish woods. Menus, including the one at Chicago's Next, are built around a particular time and place, like Paris circa 1906. Chefs, including Charleston, S.C.-based Sean Brock, hunt down long-forgotten varieties of grains, vegetables and fruit, and Toronto's own Jamie Kennedy prefers the rare Canadian heritage breed of wheat called red fife.

And then there's Patrick McGovern, an archaeologist at the University of Pennsylvania who, after analyzing the residue that lingers in the nooks and crannies of millennia-old potted vessels, is bringing ancient elixirs back to life. It's gastronomical nostalgia on steroids.

McGovern, a pioneer in the field of biomolecular archaeology who did undergraduate work in chemistry and has a Ph.D. in Near Eastern archaeology, has collaborated on five beverages with Sam Calagione, the award-winning founder and president of Dogfish Head brewery in Delaware: Midas Touch, an Iron Age beer based on samples found in the king's supposed tomb; Chateau Jiahu, a Chinese blend of grapes, rice and honey based on the oldest sample of booze ever discovered; Theobrama, a 3,200 year-old Honduran chocolate drink; Chicha, a corn beer with Peruvian lineage; and Ta Henket, an Egyptian ale being released in December with 18,000-year-old components.

Cracking the chemical codes of these long-forgotten cocktails, however, is a bit complicated. "It's not like you just put the sample into a black box and push a button and have the answers come out," explains McGovern with a hearty laugh. "You have to think of the compounds you're looking for." Those are the chemical fingerprints of organic ingredients that survive thousands of years, unlike alcohol, which evaporates in a few months. Through mass and infrared spectrometry, and gas and liquid chromatography, McGovern and his team discovered organic compounds that indicate the presence of fermented beverages.

Please visit the site: <http://www2.macleans.ca/2011/11/03/drink-like-an-egyptian/>

UA SCIENTISTS FIND EVIDENCE OF ROMAN PERIOD MEGADROUGHT

A new study at the University of Arizona's Laboratory of Tree-Ring Research has revealed a previously unknown multi-decade drought period in the second century A.D.

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Almost nine hundred years ago, in the mid-12th century, the southwestern U.S. was in the middle of a multi-decade megadrought. It was the most recent extended period of severe drought known for this region. But it was not the first.

The second century A.D. saw an extended dry period of more than 100 years characterized by a multi-decade drought lasting nearly 50 years, says a new study from scientists at the University of Arizona.

UA geoscientists Cody Routson, Connie Woodhouse and Jonathan Overpeck conducted a study of the southern San Juan Mountains in south-central Colorado. The region serves as a primary drainage site for the Rio Grande and San Juan rivers.

"These mountains are very important for both the San Juan River and the Rio Grande River," said Routson, a doctoral candidate in the environmental studies laboratory of the UA's department of geosciences and the primary author of the study, which is upcoming in *Geophysical Research Letters*.

The San Juan River is a tributary for the Colorado River, meaning any climate changes that affect the San Juan drainage also likely would affect the Colorado River and its watershed. Said Routson: "We wanted to develop as long a record as possible for that region."

Dendrochronology is a precise science of using annual growth rings of trees to understand climate in the past. Because trees add a normally clearly defined growth ring around their trunk each year, counting the rings backwards from a tree's bark allows scientists to determine not only the age of the tree, but which years were good for growth and which years were more difficult.

"If it's a wet year, they grow a wide ring, and if it's a dry year, they grow a narrow ring," said Routson. "If you average that pattern across trees in a region you can develop a chronology that shows what years were drier or wetter for that particular region."

Darker wood, referred to as latewood because it develops in the latter part of the year at the end of the growing season, forms a usually distinct boundary between one ring and the next. The latewood is darker because growth at the end of the growing season has slowed and the cells are more compact.

To develop their chronology, the researchers looked for indications of climate in the past in the growth rings of the oldest trees in the southern San Juan region. "We drove around and looked for old trees," said Routson.

Literally nothing is older than a bristlecone pine tree: The oldest and longest-living species on the planet, these pine trees normally are found clinging to bare rocky landscapes of alpine or near-alpine mountain slopes. The trees, the oldest of which are more than 4,000 years old, are capable of withstanding extreme drought conditions.

"We did a lot of hiking and found a couple of sites of bristlecone pines, and one in particular that we honed in on," said Routson.

To sample the trees without damaging them, the dendrochronologists used a tool like a metal screw that bores a tiny hole in the trunk of the tree and allows them to extract a sample, called a core. "We take a piece of wood about the size and shape of a pencil from the tree," explained Routson.

"We also sampled dead wood that was lying about the land. We took our samples back to the lab where we used a visual, graphic technique to match where the annual growth patterns of the living trees overlap with the patterns in the dead wood. Once we have the pattern matched we measure the rings and average these values to generate a site chronology."

"In our chronology for the south San Juan mountains we created a record that extends back 2,200 years," said Routson. "It was pretty profound that we were able to get back that far."

The chronology extends many years earlier than the medieval period, during which two major drought events in that region already were known from previous chronologies.

"The medieval period extends roughly from 800 to 1300 A.D.," said Routson. "During that period there was a lot of evidence from previous studies for increased aridity, in particular two major droughts: one in the middle of the 12th century, and one at the end of the 13th century."

"Very few records are long enough to assess the global conditions associated with these two periods of Southwestern aridity," said Routson. "And the available records have uncertainties."

But the chronology from the San Juan bristlecone pines showed something completely new:

"There was another period of increased aridity even earlier," said Routson. "This new record shows that in addition to known droughts from the medieval period, there is also evidence for an earlier megadrought during the second century A.D."

"What we can see from our record is that it was a period of basically 50 consecutive years of below-average growth," said Routson. "And that's within a much broader period that extends from around 124 A.D. to 210 A.D. – about a 100-year-long period of dry conditions."

"We're showing that there are multiple extreme drought events that happened during our past in this region," said Routson. "These megadroughts lasted for decades, which is much longer than our current drought. And the climatic events behind these previous dry periods are really similar to what we're experiencing today."

The prolonged drought in the 12th century and the newly discovered event in the second century A.D. may both have been influenced by warmer-than-average Northern Hemisphere temperatures, Routson said: "The limited records indicate there may have been similar La Nina-like background conditions in the tropical Pacific Ocean, which are known to influence modern drought, during the two periods."

Although natural climate variation has led to extended dry periods in the southwestern U.S. in the past, there is reason to believe that human-driven climate change will increase the frequency of extreme droughts in the future, said Routson. In other words, we should expect similar multi-decade droughts in a future predicted to be even warmer than the past.

Routson's research is funded by fellowships from the National Science Foundation and the Science Foundation Arizona. His advisors, Woodhouse of the School of Geography and Development and Overpeck of the department of geosciences and co-director of the UA's Institute of the Environment, are co-authors of the study.

Please visit the site: http://www.eurekalert.org/pub_releases/2011-11/uoa-usf110411.php

A ROMAN LEAD CURSE TABLET, BY ELISABETH SCHWINGE

The Johns Hopkins Archaeological Museum contains fragments related to five lead curse tablets from ancient Rome. One of these tablets (JHUAM 2011.01) was recently conserved and placed on view, along with the original iron nail (JHUAM 2011.06) associated with it. Objects such as this one are evidence of a common practice in Greek and Roman antiquity to scratch curses onto tablets which were then deposited in wells or graves. While the earliest tablets only contained the name of the person to be cursed, later examples grew more elaborate, such as this example. Curses could be inscribed on basically anything, ranging from pottery sherds to gemstones, though lead is the most common material used for this purpose.

The original nail used to "pin down" the five tablets in ancient times. At the top of the nail, lead fragments from the tablets are still attached in place.

This particular tablet (JHUAM 2011.01) from the Johns Hopkins collection was found rolled together with four others and pierced through by an iron nail (JHUAM 2011.06). The Latin name for a curse is *defixio* which means 'to pin down.' While the individual tablets are stand-ins for the cursed persons, the nail symbolizes their pinning-down.

All five tablets now in the Hopkins collection were written in Latin by the same hand, but contain curses against different people. In order for curses to be most efficacious, the individuals to be cursed were precisely named. This tablet contains a curse directed against a Plotius, identified as the slave of a woman named Avonia. Unlike the cursed person, the one uttering the curse was generally not mentioned by name; as a measure to prevent counter-curses.

Dating to the mid-first century BCE (roughly the time of Julius Caesar), this tablet represents typical features of curse tablets from this period, and likely came from Rome. It begins by invoking Proserpina [Greek Persephone] and her husband Pluto [Greek Hades], the god of the Underworld, as well as the three-headed dog Cerberus who guards the entrance to the realm of the dead. Curse tablets were frequently addressed to the gods of the Underworld and those associated with it, such as Mercury [Greek Hermes] who guided the souls on their way to Hades. The curse then names its recipient, Plotius, followed by the ailment wished upon him. Plotius is to be consumed by fevers which are likened to him wrestling with another man. This very vivid metaphor describes the fever struggles of malaria which most likely is the disease wished upon Plotius here. After the ailment is mentioned, the person requesting the curse promises offerings to both Proserpina and Cerberus as a payment for their services. Cerberus is to receive dates, figs, and a black pig—one sacrifice for each of his heads. Proserpina is promised the body of Plotius himself as an offering, and the remainder of the text describes in detail every piece of his body and what exactly was to happen to it. Furthermore, the tablet specifies that these things are to be completed by the end of February, so that Plotius may not see another month.

The five tablets were acquired by the Department of Classical Archaeology of the Johns Hopkins University in 1908, and published in a dissertation by the then Hopkins graduate

student William Sherwood Fox in 1911. Little is known about their exact provenance. It is also very likely that the tablets were deposited in a grave since curse tablets were often placed in tombs after the original burial. The idea was that the soul buried there would carry the curse to the gods of the Underworld. Tombs of those who had died young or by violent means were preferred because it was believed that their souls lingered restlessly near their burial site.

References

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Please visit the site: <http://archaeologicalmuseum.jhu.edu/the-collection/object-stories/a-roman-lead-curse-tablet/> [Go there for pix and linx]
