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- Ιούνιος 2010 -

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ΠΙΝΑΚΑΣ ΠΕΡΙΕΧΟΜΕΝΩΝ – TABLE OF CONTENTS

ΣΥΝΕΔΡΙΑ – CONFERENCES/WORKSHOPS

- CONFERENCE MINOAN ARCHAEOLOGY. CHALLENGES AND PERSPECTIVES FOR THE 21st CENTURY, 23-27 March 2011, Institute of Classical Archaeology, University of Heidelberg **page 5**
- 4th Conference on Late Roman Coarse Wares, Cooking Wares and Amphorae 2011 in Thessaloniki **page 8**
- The NASA Space Archaeology Program - Introduction to Satellite and Aerial Remote Sensing for Archaeologists, 29 June -1 July 2010. University of California, Berkeley, Geospatial Innovation Facility (GIF) **page 11**
- “Spot Tests for Material Characterization” workshop, 5-8 July 2010, conservation laboratory at Kaman-Kalehöyük excavation, Turkey **page 14**
- 21st Radiocarbon Conference, Paris, France, during Easter or early July 2012 .. **page 16**
- International Archaeological Symposium, Nicosia, 6th – 7th November 2010, ON COOKING POTS, DRINKING CUPS, LOOM WEIGHTS AND ETHNICITY IN BRONZE AGE CYPRUS AND NEIGHBOURING REGIONS, FOUNDATION ANASTASIOS G. LEVENTIS, UNIVERSITY OF CYPRUS – DEPARTMENT OF HISTORY AND ARCHAEOLOGY **page 17**
- 2nd Symposium, Archaeological Research and New Technologies, Department of History, Archaeology and Cultural Resources Management, University of Peloponnese, KALAMATA (Greece), October 21-23, 2010 **page 18**

ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ – JOB VACANCIES/FELLOWSHIPS

- Postdoctoral position at IRSN, Cadarache, South of France, Modeling and validating carbon-14 and tritium transfers in terrestrial environments in response to accidental releases of these radionuclides **page 20**
- THE MEDITERRANEAN ARCHAEOLOGICAL TRUST, GRANTS TO ASSIST PUBLICATION **page 22**
- Short term post-doctoral position at the University of Oxford START of message: Part-time Postdoctoral Research Assistant **page 23**

INTERNET SITES

- 2,000-Year-Old Shipwreck Creates Deep Sea Mystery, By Rossella Lorenzi **page 24**
- Dating: The Radiocarbon Way **page 25**

ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

- Theory and History of the Technology of Civilization Barry B. Powell **page 26**

Geoarchaeology	page 30
Greek Painting Techniques and Materials from the Fourth to the First Century BC, Ioanna Kakoulli	page 33
Current Anthropology, Volume 51, Number 3, (June 2010)	page 37
Antiquity, volume: 84 number: 324 page: 374–385	page 40
Giulio Magli. 2010. Archaeoastronomy and Archaeo-Topography as Tools in the Search for a Missing Egyptian Pyramid – PalArch’s Journal of Archaeology of Egypt/Egyptology, 7(5) (2010)	page 41
<u>ΕΙΔΗΣΕΙΣ - NEWS RELEASE</u>	
Advanced geographical models bring new perspective to study of archaeology .	page 42
Only 3,000 of Syria's estimated 10,000 archaeological sites have been uncovered, though UNESCO fears for those that have, By Sarah Birke	page 45
The Inauguration of the International Conservation Center "Città di Roma" (Akko)	page 48
Archeologists May Be Closing in on Cleopatra's Tomb, by Elizabeth Arrot	page 50
Underwater 'safe' protects £5m shipwreck treasures	page 52
Airport screening technology could unlock mummy secrets, By Naomi Seck ...	page 53
Crete fortifications debunk myth of peaceful Minoan society	page 55
Egyptian blue found in Romanesque altarpiece	page 57
UK scientists stymied in effort to read ancient scrolls - Education	page 59
Athens' Parthenon scaffold-free for first time in years, by Jon Hemming	page 61
Ancient mayor's 'lost tomb' found south of Cairo	page 63
Rome tourists to get new lowdown on Colosseum	page 64
3,300-year-old tomb of Ancient Egyptian official Ptah Mes discovered at Saqqara General view of the tomb of Ptah Meh discovered at Saqqara, with in the background the ancient Step Pyramid	page 65
Intact burials discovered in Fayoum	page 67
Archaeologists: 1200 Flint Stones Dating Back to 250, 000 Years Discovered in Syria By Manal Ismael al-Ibrahim	page 68
Sahara cave may hold clues to dawn of Egypt, By Patrick Werr	page 69

The tomb the raiders missed **page 71**

King Tut's Leftover Bandages Yield New Clues The scraps of ancient bandages
-- some with dirty fingerprints of Tut's embalmers -- had been contained in long
forgotten jars at a New York museum, By Rossella Lorenzi **page 74**



ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS

CONFERENCE MINOAN ARCHAEOLOGY. CHALLENGES AND PERSPECTIVES FOR THE 21ST CENTURY, 23-27 MARCH 2011, INSTITUTE OF CLASSICAL ARCHAEOLOGY, UNIVERSITY OF HEIDELBERG

SCOPE OF CONFERENCE

The archaeology of Minoan Crete can now look back on more than 100 years of intensive research in which this field of scientific enquiry has experienced many changes and developments in quite different academic traditions. The turn of the new century which coincided with the completion of 100 years of archaeological research on the island has triggered several retrospective and prospective looks at the objectives, methods, deficits and potentials of our discipline. We would like to take the occasion of the 625th anniversary of the University of Heidelberg as an opportunity for organising an international conference for early career researchers which shall provide an innovative platform for discussing the past, the present and above all the future of Minoan Archaeology.

The main objective of this meeting will be to provide a common basis for future discussion by consenting to the precise meaning of some important theoretical terms and by identifying collective concerns in an attempt to approach new agendas for future research. Young researchers which will represent the main body of the conference participants shall be given the opportunity to present papers and engage themselves in an intellectual dialogue with some of the most distinguished senior colleagues of our discipline who will be invited to attend the conference as keynote speakers. Approaches focusing on comprehensive objectives, grounded on innovative and promising theoretical and methodological concepts shall be presented with the aim to reflect on the scopes of current research and set forth the trajectories for future Minoan Archaeology.

SUGGESTED THEMES

The topics of the conference focus on theoretical and methodological approaches. The design of the sessions is deliberately not based on material categories. Instead, the focus is on questions/issues pertaining to recent concerns of social and cultural studies. Thus, a de-contextualised approach to the different object groups shall be avoided and a re-integration of the respective objects into their original context is prompted. The key issues include but are not limited to materiality, practices, and discourses and shall be explored within the following fields:

Social Interaction/Communication: pictorial media, written media, administration, rituals, feasts, spaces/places of communal practice, self-representation, ideology, religion Social

Structures: gender, social boundaries, political institutions, households, social stratification Cultural Processes: diachronic development of palatial society, emergence of palatial Institutions, influence of foreign cultures Foreign Contacts: cultural interaction, emulation, trade, travel, diplomatic relationships, economic expansion Environment/Living space: architecture, settlements, landscapes, seascapes, natural resources, geomorphology, climate, natural disasters Economic Strategies: modes of production, modes of exchange, subsistence, storage Technologies: lithic industries, metallurgy, ceramic production, processing of raw materials, mining, tools Legacy of Minoan Culture: antiquity, modern times

CONFERENCE FORMAT

The conference addresses young researchers (Post-Docs and PhD candidates at an advanced stage of their dissertation) who will have the opportunity to present and discuss perspectives and methodical approaches applied in their own work in an international setting. Each paper will be allotted a 30 minute time slot: 20 minutes for reading the paper and 10 minutes dedicated to discussion. For the last day a final discussion in the form of a round table will be organised.

Conference language is English.

It is intended to make the conference also accessible as a live-stream on the web. More information on this will follow soon on:

<http://www.propylaeum.de/klassische-archaeologie/fachservice/MinArch2011.html>

KEYNOTE SPEAKERS

The conference will invite keynote speakers to give an introductory lecture to each session and chair the Round Table discussion.

Information about invited speakers will be available soon.

CONFERENCE PROCEEDINGS

We are intending to prepare an edited volume of conference papers for publication, within one year after the conference. Thus, participants are strongly encouraged to submit their publication-ready version of their paper already during the conference (March 2011). The ultimate deadline is 31 May 2011. Guidelines for publication will be made available soon on our conference website:

<http://www.propylaeum.de/klassische-archaeologie/fachservice/MinArch2011.html>

ABSTRACT SUBMISSION

Please submit the application form and paper proposal of 300 words to MinArch@zaw.uni-heidelberg.de until 15 July 2010. If you do not plan to give a paper, but would like to register your interest, please get in touch! For further questions or comments regarding the conference, please contact us at the same address.

FEEES AND FINANCIAL ASSISTANCE

Participation in the conference is free. Accommodation expenses will be covered. Travel expenses cannot be covered.

ORGANISERS

Prof. Dr. Diamantis Panagiotopoulos, Sarah Cappel, Ute Günkel-Maschek, Torben Keßler, Yasemin Leylek, Noach Vander Beken, Eva Wacha

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4TH CONFERENCE ON LATE ROMAN COARSE WARES, COOKING WARES AND AMPHORAE 2011 IN THESSALONIKI

The *Fourth International Conference on Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry (LRCW4)* will be held in Spring 2011 at the [Aristotle University of Thessaloniki](#).

History of the conference

Some years ago it became obvious that there was need for a new forum for the exchange and discussion of ideas and the presentation of new research results of ceramic studies in the Mediterranean region. This discussion was focussed both on archaeological and archaeometric research. In 2002, on initiative of Prof. Josep Maria Gurt i Esparraguera, Dr. J. Buxeda i Garrigós and Dr. Miguel Angel Cau i Ontiveros, the *First International Conference on Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry (LRCW1)* was organized at the University of Barcelona in March 14-16. At the same time Prof. Gurt came to the conclusion that it would be reasonable to invite distinguished experts working in the field and particularly on Late Roman ceramics in the Mediterranean region. These researchers founded the first LRCW International Standing Committee as an institution for organizing future conferences. The first decisions taken by the standing committee were:

1. The symposium will be organized as a triennial event.
2. Apart from archaeological research same emphasis will be given to archaeometric studies, in terms of petrography and chemical analysis.
3. The focus will be on amphorae, cooking wares and coarse wares.
4. The organizers of the symposium will be institutions in countries in the Mediterranean region.

Finally, at the LRCW 1 it was decided for Aix-en-Provence (France) to be the location of the second symposium in 2005.

The *2nd International Conference on Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry (LRCW 2)* was organized by the Centre Camille Jullian and the Laboratoire d'Archeologie of the Universite de Provence-CNRS. In eight invited talks particular subjects were emphasized. The further presentations comprised 35 talks and 45 posters. Finally, Prof. J.M. Gurt i Esparraguera gave a closing speech at the last day of the symposium.

During the conference the LRCW standing committee chaired by Prof. Gurt agreed to the suggestion of Prof. Sara Santoro from the University of Parma and Prof. Simonetta Menchelli from the University of Pisa, that the coming 3rd conference to be organized in Italy in March 2008.

The 3rd *International Conference on Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry (LRCW3)* was organized by the University of Parma and the University of Pisa from 26 to 30 March 2008. Ten invited talks were given at the conference. Furthermore, the conference comprised 38 oral presentations and 101 posters. The closing remarks were given by Dr. Michel Bonifay.

In a special session at the University of Parma (27 March) the LRCW International Standing Committee accepted the suggestion of Prof. Natalia Poulou-Papadimitriou from the University of Thessaloniki that the 4th *International Conference on Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry (LRCW4)* will be organized in 2011 in Thessaloniki by the Department of Archaeology of the Aristotle University of Thessaloniki.

The relevance of ceramic research

It is well-known that ceramics, which as material remains are scarcely subject to alterations over time, constitute an excellent tool for the study of ancient societies and economies. The trade of ceramics, and particularly of transport containers such as amphorae, reflects to a high degree the productivity and trade relations for agricultural commodities, the most important commercial sector in antiquity. The study of the whole assemblage of ceramic finds at a certain archaeological site is important for the localization of production centres. Furthermore, these studies are crucial for the understanding of economic and commercial mechanisms and trade relations between production and consumption centres in an ancient society, as for example the Early Byzantine Empire. Due to the rare written sources concerning mechanisms of the agricultural production, however, detailed and systematic study of ceramics is the only way to determine the particular products which were traded. Moreover ceramic research provides information for the map of ancient trading routes, which were for obvious reasons marine routes and crossed the Mediterranean.

Concerning countries in the Western Mediterranean region, such as Spain, France and Italy, the research on Late Roman ceramics (Early Byzantine Period) has already a long tradition resulting in numerous interesting publications. These ceramic studies are not limited only to typological examination and chronology but they use more often the options provided by analytical techniques, such as petrography and chemical analysis. At the same time important studies, but in a smaller number, have been published in the Eastern Mediterranean - Egypt, Palestine, Cyprus and South Turkey – but also North Africa – Libya and Tunisia.

In the last 15 years in Greece a systematic approach towards the subject has started focussing on the study of ceramics of this period. Evidence of the emphasis given by Greek scholars on the global approach to the subject was for example the conference on ceramics from the Late Antiquity (3rd – 7th century AD). In November 2006 the conference was organized by the Department of Archaeology of the Aristotle University of Thessaloniki and the Archaeological Institute of Macedonia and Thrace at the Aristotle University of Thessaloniki.

Organization of the LRCW4

Following the suggestion by the Department of Archaeology in June 2008 the organizing committee will be chaired by Prof. A. Mentzos and Prof. N. Poulou-Papadimitriou. From the National Centre of Scientific Research "Demokritos" Dr. V. Kilikoglou will join the organizing committee. The conference will be held in April 7-10 at the Aristotle University of Thessaloniki.

Please visit the site: <http://rcw4.web.auth.gr/index.php?lang=en>

THE NASA SPACE ARCHAEOLOGY PROGRAM - INTRODUCTION TO SATELLITE AND AERIAL REMOTE SENSING FOR ARCHAEOLOGISTS, 29 JUNE -1 JULY 2010. UNIVERSITY OF CALIFORNIA, BERKELEY, GEOSPATIAL INNOVATION FACILITY (GIF)

Application Form at:

[http://www.culturalsite.com/articles/NASA Aerial and Satellite Remote Sensing for Archaeologists Course Application.pdf](http://www.culturalsite.com/articles/NASA_Aerial_and_Satellite_Remote_Sensing_for_Archaeologists_Course_Application.pdf)

email dcomer@culturalsite.com when application is sent or for inquiries

Course Prerequisites

1. At least one year of experience with a GIS and image enhancement software. By experience, we mean that you have opened images with these types of software and have repeatedly attempted to utilize some of the standard functionalities that they provide over a one or more year period. Common types of GIS software include ESRI, Manifold, and Idrisi; frequently used image enhancement software includes ERDAS IMAGINE, ENVI, GRASS, and Adobe Photoshop.
2. Currently using, or attempting to use, aerial or satellite remote sensing imagery in archaeological research or archaeological resource protection.
3. Membership in the Register of Professional Archaeologists (RPA), Expert Membership in the ICOMOS Scientific Committee for Archaeological Heritage Management (ICAHM), or at least three years experience as a Principal Investigator or Field Director on projects conducted in a way that would comply with the Archaeological Resources Protection Act (ARPA) as documented by submission of a Curriculum Vita. .

Course Objectives

- 1 To introduce you to those elements in the remote sensing process that are of the greatest relevance to archaeological research and resource management
- 1 To familiarize you with the most widely available and reasonably priced image types of use to archaeologists, from multispectral to synthetic aperture radar (SAR)
- 1 To make you aware of image enhancement and analysis techniques that have been of greatest use to archaeological research and resource management. As well as those showing promise
- 1 To tell you how to decide what images to use and how to obtain them
- 1 To introduce you to the tools that you will need to work with them

1 To develop a mutual support group of archaeologists working with this technology

Tuition and Registration:

Tuition is \$300 for the three day course. Tuition covers the cost of conducting the course, which will utilize the facilities of the University of California, Berkeley, Geospatial Innovation Facility (GIF) at the College of Natural Resources, 137 Mulford Hall. The course will be held from June 29, 2010 through July 1, 2010. Computers and all software required will be provided for the duration of the course. Electronic copies of key sections of the course will be given to participants. Lodging and meals will not be provided, although information regarding nearby places of lodging and restaurants will be distributed along with notification of enrollment in the course.

June 29, 2010:

8:00 a.m. to noon

Course Introduction

Introduction of instructors and participants

Dr. Ronald G. Blom, JPL/NASA

Radar Rivers and the Lost City of Ubar: Lessons From a Brief History of NASA Space Archaeology Discussion of participant projects in which remote sensing is being used

What is an image and why this is important to archaeological research and management

Pixels and Images

What is a pixel made of?

How is a pixel made?

What sorts of data are being sensed?

What influences the quality of data?

Types of resolution

Bands

What do different bands tell us?

Putting it all together to make an image

Exercises:

·Metadata: What you should look for, how, and why (e.g., file size, image resolution, spectral resolution, seasonality, time of acquisition, accuracy and precision of data, quality of data in your general and your purposes, attribution).

·Header files: What you should look for, how, and why (this might be the only metadata you have).

·Where to get images (e.g., LANDSAT, ASTER, Hyperion, AirSAR)

Noon to 4:00 p.m.

Dr. Thomas L. Sever, NASA Marshall Space Flight Center

Finding Archaeological Sites: Approaches that Have Worked

Basic Image Enhancement

Presentations and Hands-on Exercises:

Scaling

Georeferencing and orthorectification

Image enhancement software options

Project Examples provided by Tom Sever

June 30, 2010:

8:00 a.m. to noon

Basic Image Analysis

Presentations and Hands-on Exercises:

The art of non-automated site and feature detection

Unsupervised classification

Supervised classification

Automated site and feature detection

Noon to 4:00 p.m.

Using Remote Sensing Images in GIS

Presentations and Hands-on Exercises:

Assembling pertinent GIS layers

 How to find appropriate images and data

 Putting images and data together

Images analysis done inside GIS

Image interpretation aided by GIS

July 1, 2010:

8:00 a.m. to noon

Synthetic Aperture Radar (SAR) Basics

What is radar and what is SAR?

Radar bands and what they detect

How data are collected: platforms and flight plans

Foreshortening, shadowing and layover

Combining data from overlapping flight lines

Orthorectification of SAR images

What do we see in an image?: The phenomenology of SAR bands and polarizations in relation to materials of archaeological interest

Analyses of SAR images

Use of PolSAR software

Use of ENVI radar functionalities

Noon to 4:00 p.m.

Dr. Bruce Chapman, JPL/NASA and Dr. Douglas C. Comer, CSRM

Examining and Interpreting Archaeological Landscapes Using Synthetic Aperture Radar

Examples and hands-on Demonstrations Using SAR Imagery

“SPOT TESTS FOR MATERIAL CHARACTERIZATION” WORKSHOP, 5-8 JULY 2010, CONSERVATION LABORATORY AT KAMAN- KALEHÖYÜK EXCAVATION, TURKEY

To be held in the new conservation laboratory at Kaman-Kalehöyük excavation, Turkey, by Nancy Odegaard and Scott Carrlee (formerly Scott Carroll) from July 5 to July 8, 2010 (4 days). Kaman-Kalehöyük is located approximately 3 hours by automobile southeast from Ankara. The workshop will be hosted by the Japanese Institute of Anatolian Archaeology, sponsored by the Middle Eastern Culture Center in Japan (MECCJ), (Tokyo). A maximum of 12 participants can be accepted.

This four day course provides conservators and other professionals with a "tool kit" of practical tests for materials characterization, useful for research and examination of artifacts. The instructors use their text *Material Characterization Tests for Objects of Art and Archaeology* (2005). The course takes a hands-on approach and most of the course time will be spent by the participants preparing and executing characterization tests in a lab setting. Curriculum will include:

- micro-sampling techniques such as electrolysis of minute amounts of artifact material onto filter paper
- testing organic artifact materials such as proteins, cellulose, and plastics
- testing inorganic artifact materials such as metals and minerals
- testing of contextual materials such as surface deposits, stains, and soils
- background in the chemical processes and reaction stages used in each test
- interpretation of test results

The workshop will be held in the English language and therefore fluency in English is required of the participants. We anticipate that this workshop will be of particular interest to conservators and archaeologists working in Turkey although people who are working in other countries may also attend.

Tuition is 820\$, room and board is included in this cost. Payment in advance will be required in order to hold your place in the workshop that will be carried out by bank draft (wired) to Tokyo. Tourist visas are required of non-Turkish citizens to attend the course. Participants will be required to bring a few supplies, including the publication *Material Characterization Tests for Objects of Art and Archaeology*, by Nancy Odegaard, Scott Carroll, and Werner Zimmt, Archetype Publications, 2nd ed., 2005.

Application deadline July 1, 2010. Please contact Alice Boccia Paterakis for further information. To register for the course please send your c.v. and a letter of interest to the email address below as soon as possible. Your place in the workshop will be secured once payment has been received in Tokyo. Further details regarding payment procedure will be provided upon request.

Alice Boccia Paterakis
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Kaman-Kalehöyük Excavation
Japanese Institute of Anatolian Archaeology
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21ST RADIOCARBON CONFERENCE, **PARIS, FRANCE, DURING EASTER OR** **EARLY JULY 2012**

Dear all,

The 21st Radiocarbon Conference will be held in Paris, France, during Easter or early July 2012.

We would like to take this opportunity to open the session choices to any 14C actor. Besides the classical topics (calibration, archaeology, oceanography, paleoclimatology), we would like to create new thematic sessions.

Feel free to outline your wish. Please send an email to radiocarbon2012_orga@cnrs-gif.fr with a title, a 10-15 lines paragraph the theme of the session, 2-3 key-words and potential convenors. We will receive your proposal until the end of June 2010. The Radiocarbon 2012 committee will organise the scientific program this summer, based on your contributions.

all the very best,

The Radiocarbon 2012 committee,



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**INTERNATIONAL ARCHAEOLOGICAL
SYMPOSIUM, NICOSIA, 6TH – 7TH
NOVEMBER 2010, ON COOKING POTS,
DRINKING CUPS, LOOM WEIGHTS AND
ETHNICITY IN BRONZE AGE CYPRUS
AND NEIGHBOURING REGIONS,
FOUNDATION ANASTASIOS G.
LEVENTIS, UNIVERSITY OF CYPRUS –
DEPARTMENT OF HISTORY AND
ARCHAEOLOGY**

<http://www.ucy.ac.cy/goto/archreun/el-GR/synedria.aspx>

[http://www.leventisfoundation.org/index.php?option=com_content&view=article&id=47
&Itemid=29&lang=en](http://www.leventisfoundation.org/index.php?option=com_content&view=article&id=47&Itemid=29&lang=en)

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**2ND SYMPOSIUM, ARCHAEOLOGICAL
RESEARCH AND NEW TECHNOLOGIES,
DEPARTMENT OF HISTORY,
ARCHAEOLOGY AND CULTURAL
RESOURCES MANAGEMENT, UNIVERSITY
OF PELOPONNESE, KALAMATA (GREECE),
OCTOBER 21-23, 2010**

The Symposium focuses on the use of *New Technologies* (*Archaeometry, Computing Technology, Conservation and Restoration*) in the *Archaeological Research*, notably with the presentation of interdisciplinary approaches, special case studies and research of archaeological materials and assemblages.

Your participation and contribution are most welcome!

Organizing Committee

Chair: N. Zacharias (Univ. of Peloponnese),

Univ. of Peloponnese: E. Banou, E. Yiannouli, M. Xanthopoulou, E. Zimi

Nat. Committee: L. Karali (N.K.U.A.), I. Liritzis (Aegean Univ.), I. Tzachili (Crete Univ.)

Scientific Committee

Ministry of Education: Y. Bassiakos (N.C.S.R. Demokritos), N. Efstratiou (A.U.TH.),

E. Ioakimoglou (T.E.I.-Athens) K. Kotsakis (A.U.TH.),

A. Mazarakis-Ainian (Thessaly Univ.), A. Moropoulou (N.T.U.A.),

A. Moundrea-Agrafioti (Thessaly Univ.), M. Photiades (Ioannina Univ.),

N. Poulou (A.U.TH.), A. Sarris (FO.R.T.H./I.M.S.),

P. Themelis (S.M.A.S.), G. Tsokas (A.U.TH.)

Hellenic Ministry of Tourism and Culture: X. Arapogianni, Z. Aslamantzidou,

D. Athanasoulis, A. Banaka, E. Chalkia, G. Chatzi, A. Darlas, J. Davis,

K. Kissas, N. Kyparissi, A. Panagiotopoulou, M. Petropoulos, A. Vasilogamvrou

Management

M. Kaparou, M. Kylafi, A. Oikonomou, M. Papageorgiou, N. Soumas

Preliminary Program

Thursday, 21st October

14:00 - 16:00 Registration

16:00 – 18:00 Opening Ceremony, Session I

18:00 - 20:00 Welcome Reception

Friday, 22nd October

9:00 – 11:00 Session II

11:00 – 11:30 coffee

11:30 – 13:30 Session III

13:30 – 14:30 lunch

14:30 – 15:30 Poster Session

15:30 – 16:50 Session IV

16:50 – 17:20 coffee

17:20 – 18:20 Session V

18:20 – 19:00 Closing

20:00 Symposium Dinner

Saturday, 23rd October

9:00 – 10:00 Kalamata Arch. Museum Guided Tour

11:00 – 13:00 Ancient Messene Guided Tour

Registration cost (indicative): 150 euros. Includes accommodation (two nights) with breakfast, participant bag, coffee and lunch breaks, guided tours and proceedings publication. For further information please visit the [Registration Form](#).

Information: Abstracts must be submitted electronically by **August 31st**, using the template given on the web page <http://kalamata.uop.gr/~Archaeolab> - All submissions will be reviewed by the members of the Organizing and the Scientific Committee. Presentations will be given either as oral communications or posters depending on the reviewers' decision based on quality and originality criteria. All presentations will be eligible for publication in the Symposium's proceedings (**University of Peloponnese Press**) after having been peer-reviewed.

ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ –
JOB VACANCIES/FELLOWSHIPS

POSTDOCTORAL POSITION AT IRSN,
CADARACHE, SOUTH OF FRANCE,
MODELING AND VALIDATING
CARBON-14 AND TRITIUM TRANSFERS
IN TERRESTRIAL ENVIRONMENTS IN
REPOSE TO ACCIDENTAL RELEASES
OF THESE RADIONUCLIDES

Host institute/laboratory : National Institute for Radioprotection and Nuclear Safety (IRSN)/Laboratory of Environmental Modeling
Location of doctorant : Cadarache (Bouches-du-Rhône, France)

Profile and experience required : Ph.D. thesis, modeling experiments recommended, autonomy, ability to work in teams
Specialities : Environmental Science and Engineering
Start date : ASAP

Description:

The TOCATA model, which has been developed at the Environmental Modeling Laboratory since 2003, aims at estimating carbon-14 and tritium transfers in terrestrial ecosystems, in response to gaseous or liquid releases, under a chronic or accidental mode. The first interpretations of model comparisons with measures for carbon-14 showed the need to take into account the physiological processes related to carbon cycling in the ecosystem (photosynthesis, respiration, growth, etc.). In this context, the french National Institute for Agronomic Research (INRA) has been developing the PASIM model that simulates hourly carbon (and water) fluxes within prairial ecosystems at the plot scale.

The proposed work consists more precisely on :

1. A follow-up collaboration between IRSN and INRA including integration of 14C by INRA within the model PASIM;
2. The model validation using IRSN measurements ;
3. A simplification of the model through a parametric study ;
4. The involvement with the Laboratory of Radioecology of Cherbourg-Octeville (Nord-Cotentin) to achieve a specific campaign ;
5. A first interpretation of the model comparisons with measures for tritium.

Contact person :

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<http://dynamos.lsce.ipsl.fr/>



THE MEDITERRANEAN **ARCHAEOLOGICAL TRUST, GRANTS** **TO ASSIST PUBLICATION**

The Mediterranean Archaeological Trust, set up in 1959 for the promotion of the study of archaeology, invites applications for grants, made on a competitive basis, for expenses in 2011-12, in the preparation for publication of material from archaeological fieldwork in the Mediterranean world, excluding subventions to publishers and publication of material not from a specific excavation. Within the terms of the Trust, priority may be given to publication of Bronze Age sites. Grants for any amount, however small, will be considered, provided they expedite publication. The grants do not normally exceed £ 2000.

Applications comprising a 2000-word (maximum) description of the proposed work and an outline budget, together with two referees' names, and an indication of means of payment, if successful, should be sent no later than 15 January 2011, to:

Professor Sir John Boardman
(Mediterranean Archaeological Trust)
Classics Centre
66 St. Giles
Oxford OX1 3LU
G.B.

[or also by fax to 01865 610237; NOT by email]

The references (which are essential) should be sent directly by the referees and must meet the deadline of 15 January, or accompany the application in a sealed envelope. Successful applicants will be informed in April 2011.

SHORT TERM POST-DOCTORAL POSITION AT THE UNIVERSITY OF OXFORD START OF MESSAGE: PART- TIME POSTDOCTORAL RESEARCH ASSISTANT

BOARDS OF THE FACULTIES OF CLASSICS AND ORIENTAL STUDIES

Grade 7: Salary: £28,983.00 - £35,646.00 p.a. (pro rata)

The Reflectance Transformation Imaging Systems for Ancient Documentary Artefacts (RTISAD) project is seeking to appoint a Postdoctoral Research Assistant for a three-quarter-time, nine-month fixed-term post from 1 June 2010 or as soon as possible thereafter. The project is funded by an Arts and Humanities Research Council Grant under the Digital Equipment and Database Enhancement for Impact scheme. The person appointed will be responsible for organising a trial programme of photographing ancient documentary material using the Reflectance Transformation Imaging systems built by the project. Applicants should have a completed D.Phil, Ph.D or equivalent, together with a competence in cuneiform studies, and/or Greek and Latin papyrology and epigraphy, or another related discipline and have proven IT skills.

Applications consisting of a curriculum vitae, a covering letter and a personal details form, including the names and addresses of two referees, should be sent to Recruitment, Faculty of Classics, Ioannou Centre for Classical and Byzantine Studies, 66 St Giles', Oxford OX1 3LU (email: recruitment@classics.ox.ac.uk). Please arrange for your referees to send their references to the above address by the closing date. The personal details form and the further particulars are available for download from the Classics Faculty website (<<http://www.classics.ox.ac.uk/faculty/jobs/index.asp>>). Please quote reference BE10005 on the personal details form.

The deadline for applications is 12 noon on Wednesday 19 May 2010. No applications will be accepted after this date. It is expected that interviews of short-listed applicants will be held within three weeks of the closing date.

From Jacob Dahl jacob.dahl@orinst.ox.ac.uk

INTERNET SITES

2,000-YEAR-OLD SHIPWRECK CREATES DEEP SEA MYSTERY, BY ROSSELLA LORENZI

Although the 2,000-year-old shipwreck under the Gran Sasso mountain in central Italy may be a godsend for nuclear physicists, the “Ship of the Thousand Ingots” has been one big mystery for archaeologists.

Was the ship, which carried the largest lead shipment ever found, deliberately sunk on the orders of the captain? Was the vessel knocked over by a wave?

In this audio slide show, Donatella Salvi, director of the National Archaeological Museum in Cagliari, tells Discovery News what her team found when they recovered the ship's cargo.

Please visit the site: <http://news.discovery.com/archaeology/the-2000-year-old-shipwreck-creates-deep-sea-mystery.html> Go there for link to Video

DATING: THE RADIOCARBON WAY

Friends and colleagues: The concept of radiocarbon dating is fairly simple, but the process that a radiocarbon laboratory goes through is quite detailed, careful and complex. You can follow a submitted sample through the laboratory process (in this case using accelerator mass spectrometry, or AMS) in *Dating: The Radiocarbon Way*, the latest video feature on our nonprofit streaming-media Web site, *The Archaeology Channel* (<http://www.archaeologychannel.org>).

What is carbon 14? What is a radiocarbon date? Is it the same as a calendar date? What does radiocarbon dating measure and why does it take a long time? How does an accelerator mass spectrometer measure carbon isotopes? What can you date with radiocarbon? This film features Dr. Christine Prior of GNS Science's Rafter Radiocarbon Laboratory in Lower Hutt, New Zealand, explaining how AMS radiocarbon dating is done at their lab. Dr. Prior explains the principles of radiometric dating and presents an example from a real client.

This and other programs are available on TAC for your use and enjoyment. We urge you to support this public service by participating in our Membership (<http://www.archaeologychannel.org/member.html>) and Underwriting (<http://www.archaeologychannel.org/sponsor.shtml>) programs. Only with your help can we continue and enhance our nonprofit public-education and visitor-supported programming. We also welcome new content partners as we reach out to the world community.

Please forward this message to others who may be interested.

Richard M. Pettigrew, Ph.D., RPA
President and Executive Director
Archaeological Legacy Institute
<http://www.archaeologychannel.org>

ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

THEORY AND HISTORY OF THE TECHNOLOGY OF CIVILIZATION

BARRY B. POWELL

Scholia Reviews ns 19 (2010) 11.

Chichester: Wiley- Blackwell, 2009. Pp. xx + 276, incl.

115 illustrations and 8 maps. ISBN 978-1-4051- 6256-2. UK£50.00.

Further Details.

María Fernanda De Girolami,

Olga Cossettini Institute, Rosario, Argentina.

Romina Magallanes,

National University of Rosario, Argentina.

Powell's aim is to carry out a detailed investigation into the structural principles that govern writing through the study of historical examples. He focuses on what he calls 'lexigraphic writing', which is attested since 3400 BC. Also, he highlights the fundamental necessity of defining and understanding writing from a careful organization of categories, since professional jargons, when used without precision, sometimes generate confusion. An example is the ambiguous use of the following categories: 'language', 'writing', 'lexigraphic writing', 'speech', 'pictogram', 'ideogram', and 'alphabet', among others. The book begins with a diagram of the categories of writing with which he will develop his argument. It is followed by three indexes: of contents (pp. vii-viii), of illustrations (pp. ix- xiii) and of maps (p. xiv); then come a preface (pp. xv-xvi), a chronology (pp. xvii-xx) from 9000 BC to AD 1900, an introduction (pp. 1-10) followed by eighteen chapters (pp. 11-254), a glossary (pp. 255- 62), bibliographical references divided on thematic sections (pp. 263-68), a general bibliography (pp. 268f.) and, lastly, an index (pp. 270-76).

The first four chapters, 'What is Writing?' (pp. 11-18), 'Writing with Signs' (pp. 19- 37), 'Categories and Features of Writing' (pp. 38-50) and 'Some General Issues in the Study of Writing' (pp. 51-59), are devoted to theory. In the first, after expounding various definitions of writing made by different scholars, Powell offers his own definition: writing is 'a technology of explosive force, a cultural artifact based not in nature (whose rules we did not create) but sprung from the human mind' (p. 11). It is 'a system of markings with a conventional reference that communicates information' (p. 18). In these definitions there is no reference to speech, language, or the spoken word. Writing is a technology with a material basis different from that of speech, which is not a technology and it is not material, but an essential human aptitude, whereas 'a language is any system of symbols that serves this innate faculty to communicate through symbols: speech is one such system of symbols, writing is another' (p. 18). Because it is made up of marks, writing is material (not spiritual, emotional, or mental); because of its conventional references it is cultural, and human (neither natural nor divine), and its aim is that of communication with a reader. In the second chapter, Powell indicates that the scholars'

definitions of writing previously quoted are not satisfactory as they disregard the scripts that do not make reference to human speech and that belong to the lexigraphic writing, for example road signs, primitive art, descriptive-representational devices, and identifying-mnemonic devices. Powell proposes to call these forms of writing semasiography (p. 32). They are non-phonetic signs that can be abstract and whose marks on material basis always 'communicate information without the necessary intercession of forms of speech' (p. 32). Other types of semasiography are musical notations, mathematical notations, and computer icons. In the third chapter, the author seeks to organize the categories of writing by means of a chart of structural relations, explained at the beginning of the book, starting with the distinction between semasiography and lexigraphy. From that point on, he focuses on different types of lexigraphy, logography and phonography, and the two categories the last one is divided into, namely syllabography and alphabetic writing. First of all, the author explains that the shift from semasiography to lexigraphy took place through what is called a rebus, 'a graphic mark can encode a sound recognizable in speech by diverting the graphic mark of its "meaning", leaving only the sound' (p. 38). This shift is also called phoneticization. He then focuses on the difference between logography and lexigraphy; in logographic writing (logograms = word- signs), the logograms 'do not have phonetic value, but they do refer to significant segments of speech'. While in phonographic writing (sound-writings) 'the signs do have phonetic value, and they may or may not refer to significant segments of speech' (p. 40). The relationship between logograms and words and the additional signs associated with logograms is investigated, as well as the two categories of phonography: syllabography and alphabetic writing (p. 44). A section about spelling rules and orthography follows. Chapter Four offers a summary of the writing categories and of the historical changes considered as the most important. After that, the strategies in the formation of lexigraphic writing systems and the relationship between writing and thought and between writing and art are analyzed, indicating their different origins and purposes (p. 54).

Chapters 5 and 6: 'Protocuneiform and Counting Tokens' (pp. 60-69) and 'The Origin of Lexigraphic Writing in Mesopotamia' (pp. 70-84) are devoted to the emergence of lexigraphic writing. In Chapter 5 the tablets called 'Protocuneiform' are researched, which constitute for the author the accounting system from which lexigraphic writing emerges (p. 60). The protocuneiform tablets of Uruk III and IV, the context for protocuneiform writing and, finally, the relation between tokens and writing, in comparison with the theory of Denise Schmandt-Besserat (p. 69), are analyzed. In Chapter 6, after describing the discovery of the phonetic principle, the discovery and decipherment of cuneiform, logosyllabic cuneiform writing and the changes in writing across time and place, and presenting once again the pictographic theory of the origin of writing, Powell concludes that 'lexigraphic writing, an arbitrary and conventional system of signs, came into being when, first, sematograms standing for things, persons, or places became logograms, standing for words, which through the rebus came to stand for sounds. Such a shift in function required arbitrary decisions about how the system is going to work, and only individuals can make such decisions' (p. 83).

Chapters 7, 8, 9 and 10 are devoted to Egyptian writing. In Chapter 7, 'Plato's Ideas and Champollion's Decipherment of the Egyptian Hieroglyphs' (pp. 85-99), the different interpretations of hieroglyphics from the descriptions of Diodorus c. 80–20 BC) to Horapollon, Athanasius Kircher (1602- 80), Thomas Young (1773-1829), and Jean Francois Champollion (1790-1832 [p. 96]) are studied. Chapter 8, 'Egyptian Writing and

Egyptian Speech' (pp. 100-107), focuses on the sections 'The Phases of Egyptian Language / Speech': Old Egyptian, Middle Egyptian, Late Egyptian, Demotic and Coptic; and 'The Forms of Egyptian Writing': hieroglyphic proper, hieratic and demotic. Chapter 9, 'The Origin and Nature of Egyptian Writing' (pp. 108-19) sets out the relationship between Mesopotamian logography and Egyptian writing. Powell points out that there is archeological evidence of commerce between Mesopotamia and Egypt in the second half of the fourth millennium BC, therefore he thinks that someone understood the principles of the Mesopotamian invention and re-invented writing according to the Egyptian conditions (p. 109). He also researches the earliest Egyptian writings and their different types of signs: phonograms, logograms, semantic complements or determinatives. Chapter 10, "'The House of Life": Scribes and Writing in Ancient Egypt' (pp. 120-27) studies writing instruments, mainly the Egyptian invention of the papyrus, the way the scribes used those instruments, some examples of writing and the role of the scribes in the Egyptian culture.

Chapter 11, 'Syllabic Scripts of the Aegean' (pp. 128-47), begins with the study of Cretan writing and notes how different it is to the Mesopotamian and Egyptian traditions (p. 129). Then, it focuses on examining the two writing systems that appeared on Crete between c. 2100-1750 BC: Cretan hieroglyphs (p. 130) and Linear A (p. 133). It continues with the study of Linear B, indicating not only the plausible relationship between the Greek occupation of Cnossus in c. 1450 and the invention of that script by the invaders (p. 135), but also how it differs from the Mesopotamian and Linear A scripts. The author goes through the different attempts of decoding and ends up with the syllabic writing on Cyprus, indicating its relationship to Linear A, in which it was based.

Chapters 12, 13 and 14 are devoted to West Semitic Writing. The first of these, 'The West Semitic Revolution' (pp. 148-62) studies some of the scripts that appeared in the cuneiform writing tradition: the Iluvian hieroglyphs, the Hurrian language, Elamite cuneiform. The Ugaritic cuneiform alphabet and the phoenician syllabary c.1000 BC are then analyzed. In Chapter 13, 'What Kind of Writing Was West Semitic?' (pp. 163-74), the author discusses the notion of 'alphabet' and tries to precise its meaning as well as the one for 'phoneme', and indicates the impossibility of the West Semitic signs to encode phonemes since its recognition depends on the structure of the Greek alphabet. In the Chapter 14, 'The origins of West Semitic Writing' (pp. 175-86), different perspectives about these origins are examined: the hieroglyphic inscriptions found in the desert west of Egyptian Thebes and datable to the late Middle Kingdom, c. 1850-1750 BC (p. 177); and also the proto-Sinaitic inscriptions. Here Powell rejects 'The acrophonic principle in the history of writing' and suggests that the West Semitic writing was an invention (p. 185). Lastly there is a section devoted to Other Levantine Epigraphic Finds from the Bronze Age.

In Chapter 15, 'Chinese logography' (pp. 187- 205) the complexity of the Chinese scripts, such as the neolithic markings, dated to c. 6500 BC, and the Oracle Bones, inscriptions attested from the late Shang Dynasty around 1200 BC., are explored. The problem of the origins of the Chinese writing (p. 193) is analysed -- how Chinese writing works, the attempts to reform the Chinese script, the relationships between Chinese writing and speech, and Chinese writing and poetic expression.

Chapter 16, 'Lexigraphic Writing in Mesoamerica' is devoted to the study of Mayan writing, its origins, its nature, and its possible purposes. Powell describes the Mesoamerican writing system as logosyllabary (p. 226).

Chapter 17, 'The Greek Alphabet: A Writing That Changed the World' (pp. 228-44) begins by introducing the 'Background to the Invention of the Greek Alphabet' (p. 228) where the way of transmission of writing from Phoenicia to Greece is described, as well as the changes introduced to the Phoenician symbols by the Greek alphabet, where one of the theses of the book is highlighted: 'The Greek alphabet was a single invention that took place at a single time. All writing systems, as far as we know, were invented by single men, never by groups or committees' (p. 231). The date of the alphabet's invention is examined, as well as its role as an aid to poetic inspiration (p. 242) and the origins of the Greek alphabetic writing, which are depicted as 'fortuitous and improbable in the utmost' (p. 242).

The work ends with Chapter 18, 'Summary and Conclusions' (pp. 245-54) where the author goes over the origins, purposes, types, relationships and consequences of the different studied scripts, as well as some theses stated throughout the book -- mainly the practical aspect of the various writing systems. The scholars' interpretation of the different scripts are also re-stated: alphabetic writing, which in some cases has been naturalized and projected without any criticism of the objects analyzed, resulting in some wrong conclusions, according to the author (p. 249). However, Powell attributes to the alphabet cultural qualities that are morally superior to other forms of writing when he polemically asserts that: 'the alphabet promoted the growth of science and democracy while the non-alphabetic cultures wallowed in ghost-fear, violence, and religious extremism (never found in the West!)', and also: 'one can think of the alphabet as a superior system, because it is transcendent and because in its attachment to human speech it is a force for unifying the world' (ibidem).

We think that the book makes a complete and precise study of its subject and that the stated theses about writing are important contributions to research on this topic, not only from the perspective of the social sciences but also from that of the humanities.

From <http://www.classics.ukzn.ac.za/reviews/10-11pow.htm>

GEOARCHAEOLOGY

25 Papers from 25 Years: A Special Virtual Issue of *Geoarchaeology*, April 2010
Edited by Jamie Woodward, Gary Huckleberry, Paul Goldberg and Rolfe Mandel

This collection has been compiled to mark the publication of the 25th volume of *Geoarchaeology*. It was launched in St Louis on April 15th 2010 at the 75th Annual Meeting of the Society for American Archaeology. The broad aim was to produce a Virtual Special Issue of 25 papers to showcase some of the most important and influential papers that have been published in the journal over the last 25 years. At the same time, a key objective was to ensure that, as far as possible, the collection covered all areas of geoarchaeology and was broadly representative of the journal's history. We have combined qualitative and quantitative data to assemble this Virtual Issue by canvassing all of the journal's Associate Editors (inviting them to identify the most influential papers in their respective fields), and by using citation data (as one measure of impact in the wider academy) to fine tune the list. The selected papers are listed in chronological order and present a diversity of theories, models, approaches, and empirical datasets derived from research across six continents. We anticipate that this Virtual Issue will be of use to both students and researchers, and we hope it will generate debate. It is a fitting way to celebrate the 25th anniversary of *Geoarchaeology: An International Journal*.

Late Quaternary environmental history of the southern Levant
Paul Goldberg

Rates of fluvial sedimentation: Implications for archaeological variability
C. Reid Ferring

Paleorivers and geoarchaeology in the southern Egyptian Sahara
William P. McHugh, John F. McCauley, C. Vance Haynes, Carol S. Breed, Gerald G. Schaber

A "marginality" model to explain major spatial and temporal gaps in the old and new world Pleistocene settlement records
Karl W. Butzer

Impact of hydro-isostatic Holocene sea-level change on the geologic context of Island archaeological sites, Northern Ha'apai group, Kingdom of Tonga
William R. Dickinson, David V. Burley, Richard Shutler Jr.

Geochronology of paleoenvironmental change, clovis type site, Blackwater Draw, New Mexico
C. Vance Haynes Jr.

Short-term, post-burial change in a humic rendzina soil, Overton Down Experimental Earthwork, Wiltshire, England
J. Crowther, R. I. Macphail, G. M. Cruise

Solving archaeological problems using techniques of soil magnetism

Rinita A. Dalan, Subir K. Banerjee

Evaluating artifact burial by Eolian versus Bioturbation processes, South Carolina sandhills, USA

David S. Leigh

Soil constraints on Northwest Yucatán, Mexico: Pedoarchaeology and Maya Subsistence at Chunchucmil

Timothy Beach

The Loess/Paleosol record and the nature of the Younger Dryas climate in central China

David B. Madsen, Li Jingzen, Robert G. Elston, Xu Cheng, Robert L. Bettinger, Geng Kan, P. Jeff Brantingham, Zhong Kan

A reinterpretation of the Great Pit at Hofstaour, Iceland using sediment thin section micromorphology

Ian A. Simpson, Karen B. Milek, Garðar Guðmundsson

The evolution of Paleoindian geochronology and typology on the Great Plains

Vance T. Holliday

Prehistoric shepherds and caves in the Trieste Karst (Northeastern Italy)

Giovanni Boschian, Emanuela Montagnari-Kokelj

Geochronology and climate change of the Pleistocene-Holocene transition in the Darb el Arba'in Desert, Eastern Sahara

C. Vance Haynes Jr.

The sedimentary records in Mediterranean rockshelters and caves: Archives of environmental change

Jamie C. Woodward, Paul Goldberg

The microstratigraphic record of abrupt climate changes in cave sediments of the Western Mediterranean

Marie-Agnès Courty, Josep Vallverdú

Darwin would be proud: Bioturbation, dynamic denudation, and the power of theory in science

D. L. Johnson

The effects of temporal and spatial patterns of Holocene erosion and alluviation on the archaeological record of the Central and Eastern Great Plains, U.S.A.

E. Arthur Bettis III, Rolfe D. Mandel

Dynamic landscapes, artifact taphonomy, and landuse modeling in the western Mediterranean

C. Michael Barton, Joan Bernabeu, J. Emili Aura, Oreto Garcia, Neus La Roca

Geoarchaeology of the Kostenki-Borshchevo sites, Don River Valley, Russia

Vance T. Holliday, John F. Hoffecker, Paul Goldberg, Richard I. Macphail, Steven L. Forman, Mikhail Anikovich, Andrei Sinitsyn

Biogeochemical studies of a Native American runoff agroecosystem

Jonathan A. Sandor, Jay B. Norton, Jeffrey A. Homburg, Deborah A. Muenchrath, Carleton S. White, Stephen E. Williams, Celeste I. Havener, Peter D. Stahl

Identification of lime plaster in prehistory using petrographic methods: A review and reconsideration of the data on the basis of experimental and case studies

Panagiotis Karkanas

The surface archaeological record in arid Australia: Geomorphic controls on preservation, exposure, and visibility

Patricia C. Fanning, Simon J. Holdaway, Ed J. Rhodes, Tessa G. Bryant

Mid-Pleistocene pozzolanic volcanic ash in ancient Roman concretes

Marie Jackson, Daniel Deocampo, Fabrizio Marra, Barry Scheetz

GREEK PAINTING TECHNIQUES AND MATERIALS FROM THE FOURTH TO THE FIRST CENTURY BC, IOANNA KAKOULLI

Bryn Mawr Classical Review 2010.05.27

London: Archetype Publications, 2009. Pp. x, 157. ISBN 9781904982425. £35/\$70.00.

Reviewed by Christina A. Salowey, Hollins University (csalowey@hollins.edu)

[Table of contents is listed at the end of the review.]

Ioanna Kakoulli's book, *Greek Painting Techniques and Materials from the Fourth to the First Century BC*, makes accessible a long line of technical studies on ancient painting and contributes a new investigation of eleven paintings, some previously studied, from eight different Mediterranean sites, plus pigment pellets from Delos. The core of the book derives from the author's D.Phil. research at the University of Oxford (p. ix), which clearly shows in the useful synopses of previous technical studies. But the true value of Kakoulli's work lies in her explanation of the scientific methods used to identify pigments and the techniques used to apply them. The numerous figures (144) and the accompanying captions are particularly worthwhile, clarifying the points made in the text about the results of different analyses. Given the proliferation of scholarly interest in paint and color in ancient art, both visible and not, this book provides a readable introduction to the analytical techniques used to study pigments.¹ New advances in non-destructive methods of analysis coupled with microscopic and spectroscopic analytical tools requiring miniscule amounts of material have created possibilities for examining painted objects in order to clarify the chemical composition of pigments, binders, and substrates. Many studies have been completed but have been buried in the pages of journals that classicists and ancient art historians rarely browse (e.g. *X-ray Spectrometry*, *Chemie für Labor und Betrieb*, *Analytic Chemistry*) or the proceedings of international symposia that many libraries do not carry. Even if one should come across these technical studies, the specialized jargon and required scientific documentation and notation could be forbidding to a non-specialist. Kakoulli's book digests much of this previous material and offers a new study into a select group of painted artifacts.

Not so strong are the author's brief historical introductions, overviews of iconography, and outline of ancient painting techniques. In fact the opening chapters somewhat confuse the reader about the topic of the book. Chapter 1, "Introduction", states "this book aims to provide an overview of the materials and techniques of paintings reflecting the Hellenistic culture," (p. 1), and provides the chronological (fourth to the first century BC) and geographical (Balkans to the Levant and "as far afield as India," (p. 1)) limits. The chapter then goes on to give a brief historical and art historical overview only of Macedonia. Chapter 2, "Ancient Painting Techniques", defines fresco and secco painting techniques then summarizes what is known about wall preparation and pigments in Egypt, the Bronze Age Aegean, the Etruscan necropoleis, Rome, Pompeii, other Campanian cities, and Roman Cyprus, with a brief section about painted Classical

marbles. It is not until page 21 of Chapter 3, "Scientific Methodology for the Study of Painting Techniques and Materials" that the reader learns that the materials and explanations in the book draw on research done on 110 samples from monumental paintings at the sites of Vergina and Delos in Greece, Nea Paphos on Cyprus, Marissa, Jericho, and Acre in Israel, and the Gabbari necropolis and the ex-English Consulate area in Alexandria, Egypt. The specific contexts for the paintings from these sites, i.e. location, size, time period, history, archaeological investigations, are confined to Appendix 1, "Technical Studies of Late Classical And Hellenistic Paintings", along with the experimental procedures and list of samples undertaken in each place. A more detailed list of samples is presented in Appendix 2. A reorganization of some of this material into the first two chapters would have served as a better introduction to the book and its topics, but this failing does not detract from the utility and clarity of the scientific material in the chapters that follow.

Chapter 3, "Scientific Methodology for the Study of Painting Techniques and Materials", presents and explains the results obtained from non-invasive and invasive analytical techniques. Non-invasive techniques such as diffuse, raking, and ultraviolet light are clearly defined, and excellent figures show exactly what these methods can reveal. Infrared and ultraviolet photography are also discussed and illustrated. A clear philosophy for the sampling of pigments and/or substrates of ancient paintings precedes a discussion of the preparation of samples for optical, chemical or instrumental methods of analysis. Each analytical method used and its abbreviation, e.g. PLM, FTIR, XRF, are listed but extensive definitions are not given, most likely as being beyond the scope of the book. Appendix 3 does provide some definitions of terms used in the discussion of the optical properties of crystals found in ancient pigments and is worth reading before tackling Chapter 3. The information yielded from these analyses with, again, excellent illustrative figures, provides a good introduction to Chapters 4, "Late Classical and Hellenistic painting techniques and materials", and 5, "Pigments and Colorants", in which the interpretation of the data is presented. These two chapters collect and present the evidence for Hellenistic painting comprehensively and will serve as an easily consulted compilation of pigments, their characteristics, and analysis.

In Chapter 4, Kakoulli gathers evidence from ancient authors and the technical studies completed by her and others to present a full discussion of what is known about the supports and substrates for secco and fresco painting, organic binding media, and preparatory drawings. Chapter 5 presents the methods of identification and occurrence of 29 pigments found in the paint fragments and pigment pellets and powders of Kakoulli's study. The author found and studied pigments both in a pure form and in admixtures. Again the well-chosen, annotated figures strengthen the points made in the text and demonstrate the utility of these micro-analytical techniques. Some of the points the figures illustrate are the different microstructures of dark and light Egyptian blue (Figs. 5.3-5.6), the admixture of Egyptian blue and a red organic lake colorant to create a purple color (Figs. 5.20-5.21), and the conclusion that two red pigments, haematite and jarosite, were used in a brown paint layer (Figs. 5.31-5.32). In her discussions of pigments, Kakoulli includes ancient testimonia (primarily from Theophrastus' *De Lapidibus*, Vitruvius' *De architectura*, Pliny's *Naturalis Historia*, and Dioscorides' *De Materia Medica*) on the colorants, their place of origin, or synthesis. The chapter also includes a table (pp. 58-60) of paintings studied by her and others, grouped by country of origin, with the pigments found, binder medium, and analytical methods used for the identification.

Chapter 6, "Production of Egyptian blue", provides the ancient evidence for the manufacture of the synthetic pigment Egyptian blue and a synopsis of the conclusions of modern studies on the pigment.

Kakoulli conducted several laboratory trials attempting to reproduce Egyptian blue with the same color and microstructure of ancient pigment samples. Different mixtures of starting materials and firing conditions that varied in heat, duration, and oxidation condition, were tested in an attempt to reproduce an Egyptian blue containing leaded glass. Appendix 5 provides the details of each laboratory trial. These experiments illuminated the conditions that significantly altered the quality of the pigment produced but also raised new questions about the provenance of raw materials used. The scanning electron microscope-wavelength dispersive spectroscopy (SEM-WDS) results on Egyptian blue are presented in Appendix 4.

Chapter 7, "Pigment alteration and colour changes in Hellenistic paintings" outlines the climatic conditions at archaeological sites that are most likely to damage ancient paintings and examines the chemical changes that occur when those paintings are exposed to moisture, heat, and microorganisms. Previous studies on the chemical processes behind the alteration of copper-based pigments, lead-based pigments, and cinnabar are presented. Kakoulli's research has made new contributions to the understanding of the dissolution of the glass phase of Egyptian blue, the discoloration of green earth into limonite producing a color change from green to yellow, and the darkening of gum arabic in certain microbiological conditions. The understanding of these chemical and biological processes can aid in the interpretation of damaged paintings and perhaps help create methods to halt or reverse decomposition.

Chapter 8, "Discussion", explores four topics to which Kakoulli's study contributes new information. In her discussion of intercultural links and artistic transmissions, Kakoulli makes her most interesting point about the use of glaucophane for a blue pigment in Aegean paintings before "circa 1500 BC," (p. 76) and Egyptian blue afterwards, proposing that the volcanic eruption on Thera might have cut off the supply of glaucophane. On the styles of Hellenistic paintings, she highlights techniques that seem new to the period, such as polishing the plaster surface before application of pigments in secco, the use of organic lakes to create transparency, and the premixing of pigments for ready use. She stresses that choice of inorganic pigments seems to have been dependent primarily on local availability and that more valuable pigments were imported, occurring only rarely. Her fourth topic, the conservation implications of her study, summarizes her findings from Chapter 7. Some of the material in this chapter is redundant but does bring together disparate findings from her study under the four headings. Chapter 9, "Conclusion", does not go any further with the material Kakoulli has already presented but just outlines in brief the result obtained from her analyses of "numerous paintings from Late Classical and Hellenistic houses and tombs in Greece, Cyprus, Israel, and Egypt," (p. 83). This chapter might have better served as an introductory overview to the book as a whole.

Kakoulli's book brings together art historical examination and technical analyses to further our understanding of the materials and techniques used in Hellenistic painting. The real accomplishment in this study is the straightforward presentation of complex scientific procedures to the non-specialist with careful definitions and explanatory illustrations. This book is essential for anyone wishing to have a grasp on the new micro-

methodologies being used to analyze the material composition of painted works of ancient art. Parts of the book, especially chapters 3-5, could be used to supplement discussions on color and ancient painting in an upper level art history or classics courses. While some of the broader conclusions about cultural interactions and the interchange of artistic methodologies must be considered speculative because of the small corpus of objects studied, the book convinces that sophisticated scientific analysis has some fascinating and important information to offer ancient historians and art historians.

Table of Contents

Chapter 1 Introduction

Chapter 2 Ancient Painting Techniques

Chapter 3 Scientific Methodology for the Study of Painting Techniques and Materials

Chapter 4 Late Classical and Hellenistic Painting Techniques and Materials Chapter 5

Pigments and Colorants Chapter 6 Production of Egyptian Blue Chapter 7 Pigment

Alteration and Colour Changes in Hellenistic Painting Chapter 8 Discussion Chapter 9

Conclusion

Appendix 1 Technical Studies of Late Classical and Hellenistic Paintings Appendix 2

List of Samples Appendix 3 Optical Properties of Crystals Considered for the

Identification of Pigments Appendix 4 Egyptian Blue: SEM-WDS Results Appendix 5

Experimental Trials for the Production of Egyptian Blue

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Articles

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João Biehl and Peter Locke

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“Enclosed” or Enclosing Nomadism?

Abbas Alizadeh

Current Anthropology June 2010, Vol. 51, No. 3: 353-383.

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Tania Murray Li

Current Anthropology June 2010, Vol. 51, No. 3: 385-414.

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Discussions

Human Occupation during the Mid-Holocene in Western Argentina: A Comment on
Neme and Gil

Alejandro García

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What Happened during the Mid-Holocene in Arid Western Argentina? A Reply to
García

Gustavo Neme and Adolfo Gil

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Carol Popp Weingarten and James S. Chisholm

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Reports

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Alice V. M. Samson and Bridget M. Waller

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Niche Construction through Cooperation: A Nonlinear Dynamics Contribution to Modeling Facets of the Evolutionary History in the Genus Homo

Agustín Fuentes, Matthew A. Wyczalkowski, and Katherine C. MacKinnon

Current Anthropology June 2010, Vol. 51, No. 3: 435-444.

[Abstract](#) | [Full Text with Enhancements](#) | [PDF Version \(295 KB\)](#)

Books

Fascination and Terror (Logan and Reeves's Places of Pain and Shame:

Dealing with “Difficult Heritage,” Macdonald's Difficult Heritage:

Negotiating the Nazi Past in Nuremberg and Beyond)

Chip Colwell-Chanthaphonh

Current Anthropology June 2010, Vol. 51, No. 3: 445-446.

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Jill E. Korbin

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Donald Pollock

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Ethnogenesis at El Presidio (Voss's The Archaeology of Ethnogenesis: Race and Sexuality in Colonial San Francisco)

Teresa S. Moyer

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Exploring Race through Debate (Malik's Strange Fruit: Why Both Sides Are Wrong in the Race Debate)

Mary Margaret Overbey

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Books Received

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ANTIQUITY, VOLUME: 84 NUMBER: 324
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Radiocarbon dating the Iron Age in the Levant: a Bayesian model for six ceramic phases and six transitions Israel Finkelstein¹ and Eli Piasezky²

¹The Jacob M. Alkow Department of Archaeology and Ancient Near Eastern Civilizations, Tel Aviv University, Tel Aviv 69978, Israel (Email: fink2@post.tau.ac.il) ²The Sackler School of Physics and Astronomy, Tel Aviv University, Tel Aviv 69978, Israel (Email: eip@tauphy.tau.ac.il)

The Bayesian model presented in this article is the first attempt to produce a chronological framework for the Iron Age in the Levant, using radiocarbon dating alone. The model derives from 339 determinations on 142 samples taken from 38 strata at 18 sites. The framework proposes six ceramic phases and six transitions which cover c. 400 years, between the late twelfth and mid eighth centuries BC. It furnishes us with a new scientific backbone for the history of Iron Age Levant.

The article is supported by an online supplement which can be found in at <http://antiquity.ac.uk/ProjGal/finkelstein324>

GIULIO MAGLI. 2010.
ARCHAEOASTRONOMY AND
ARCHAEO-TOPOGRAPHY AS TOOLS IN
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Giulio Magli. 2010. Archaeoastronomy and Archaeo-Topography as Tools in the Search for a Missing Egyptian Pyramid – PalArch’s Journal of Archaeology of Egypt/Egyptology, 7(5) (2010)

Posted by PalArch Editor (AV) in PalArch's Journal of Archaeology of Egypt / Egyptology on May 27th, 2010

Abstract

Among the royal pyramids of the 6th Egyptian Dynasty, that of the second king, Userkare, is missing. This Pharaoh, however, ruled long enough – two to four years – to plan his pyramid on the ground and have the workers excavate the substructure. Userkare’s unfinished tomb might therefore be buried in the sands of the Memphite necropolis, possibly with a copy of the Pyramid Texts carved on its walls. In the present paper, methods based on archaeo-topography and archaeoastronomy have been applied with the aim of finding the possible location of the building site of this monument.

EΙΔΗΣΕΙΣ - NEWS RELEASE

ADVANCED GEOGRAPHICAL MODELS BRING NEW PERSPECTIVE TO STUDY OF ARCHAEOLOGY

Computational modeling techniques provide new and vast opportunities to the field of archaeology. By using these techniques, archeologists can develop alternative computerized scenarios that can be compared with traditional archaeological records, possibly enhancing previous findings of how humans and the environment interact.

An article published in the April 2010 issue of the journal *American Antiquity* by researchers at Arizona State University and North Carolina State University describes the use of computational modeling to study the long-term effects of varying land use practices by farmers and herders on landscapes. It compares the results with the Levantine Neolithic archaeological record, which preserves a record of the long-term socioecology of subsistence farming.

"Using computational modeling is a new approach in the field of archaeology. Archaeology is known for learning about the past, but these methods can help us predict the future," said Michael Barton, co-author and co-director of ASU's Center for Social Dynamics and Complexity.

"Computational Modeling and Neolithic Socioecological Dynamics: A Case Study from Southwest Asia" demonstrates how new modeling techniques are used to simulate different land use practices such as intensive farming, shifting cultivation (also called swidden or slash-and-burn) and grazing to determine long-term effects on landscapes. The research models land use in the Wadi Ziqlab drainage of northern Jordan, an area where ancient Neolithic inhabitants cultivated cereals (wheat and barley), pulses (lentils and chickpeas), herded sheep and goats and raised domestic pigs 8,000 years ago.

Intensive farming is where a plot of land is cleared of shrubs and trees and used year after year. Shifting cultivation is where new land is cleared every few years, but only farmed for a few years before it is abandoned. Abandoned, or fallowed, land regains its fertility as the natural vegetation regrows so that it can be farmed again in the future.

"One of the more interesting findings from our study was that a combination of shifting cultivation and grazing results in more erosion run off, but that run off actually makes the farmland around tiny hamlets more fertile," said Barton, who is also a professor in ASU's School of Human Evolution and Social Change in the College of Liberal Arts and Sciences. However, Barton notes that the same kinds of land use will cause increasing degradation and loss of productive farmland around larger villages.

Numerous simulation experiments were conducted to identify long-term landscape and land use dynamics. Researchers used the Geographic Resource Analysis and Support System, an open-source, general purpose geographic information system to combine

detailed maps of topography, soils, vegetation and regional climate to model the consequences of different forms of land use.

Most experiments spanned land usage over a 40-year period and a few extended over a 200-year period. Experiments were also conducted where there were no inhabitants to separate landscape changes over time due to natural influences from the effects of human activities.

"We're filling in the gaps in the archaeological record," said Isaac Ullah, co-author and ASU research assistant. "We are finding ways to make archaeology applicable to what we are doing today and possibly impact future policy decisions."

Ullah added that by creating these models and combining them with archaeological data we are also learning about the origins of the vegetation typical of the Mediterranean today. This allows us to achieve a series of vegetation profiles that provide a model of long-term landscape dynamics that cannot be seen using traditional archaeological techniques.

The experiments for this study go one step further than other geographic information system modeling projects by exploring human decision-making.

Helena Mitasova, co-author and an associate professor in the Department of Marine, Earth and Atmospheric Sciences at North Carolina State University assisted with the development of the soil erosion model that was used to determine how ancient societies land use practices impacted the landscape evolution.

She said that geospatial simulations allow them to better understand the relationship between the development of prehistoric settlements and landscape evolution, especially the consequences of agricultural practices that could degrade land well beyond the settlements and have broad long-term effects on entire landscapes.

"We can explore various hypotheses on how the communities interacted with their land and how they managed it," said Mitasova. "Although soil erosion is a natural process, through the models we are able to investigate the contribution of different agricultural practices used by prehistoric societies to land degradation and how it influenced the evolution of these communities."

"The research shows the importance of threshold effects when people alter landscapes for agriculture. Land use practices that are beneficial in one context can be very harmful in a different context," said Barton.

Barton added as communities grew, they passed a threshold where farming practices that once increased yields began to cause soil loss. Faced with declining productivity, farmers were forced to make decisions, either to return to the small hamlets, choose herding over farming, or invest more labor in their fields in the form of terraces, diversion dams or new forms of cropping. All of these solutions can be found in the archaeological record of the ancient Near East.

The study was the first of several funded by the National Science Foundation's Biocomplexity in the Environment Program. Similar experiments spanning different time periods and different locations are also planned.

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Please visit the site: http://www.eurekalert.org/pub_releases/2010-05/asu-agm051310.php



ONLY 3,000 OF SYRIA'S ESTIMATED 10,000 ARCHAEOLOGICAL SITES HAVE BEEN UNCOVERED, THOUGH UNESCO FEARS FOR THOSE THAT HAVE, BY SARAH BIRKE

Barely a week goes by in Syria without a new archaeological find. Witness the recent uncovering of Tel Zeidan, an Ubaid settlement dating from 6,000 to 4,000 B.C. which will give clues as to life in early Mesopotamia, and Hellenistic coins uncovered in a site near Aleppo.

But archaeologists are warning that Syria's cultural heritage is in danger. Last year UNESCO, the U.N.'s scientific and cultural body, threatened to take away the Old City of Damascus' cultural heritage status because of a lack of protection accorded the city.

Plans last year to bulldoze several areas of historical importance, in one instance part of the neighborhood of Al-Amara — or Old Damascus — to make way for road widening outside the city, were criticized by locals and international agencies alike. Protests led to a backtracking and an increased dialogue with UNESCO.

The capital's treasures are the more visible face of the problem. Remote ruins such as Zalabiyya, part of a fortress founded by Queen Zenobia and later reinforced as an outpost of the Byzantine Empire, are rarely visited and remain unmonitored. One archaeologist said he'd heard that the walls had been used to provide ballast for the railway to Deir Ez-Zor.

“We are very weak at preserving our heritage,” said one Syrian working in the area who asked to remain anonymous. “There is a lack of expertise and understanding and, until recently, a lack of interest which has put us behind other countries in the region, such as Egypt and Jordan.”

While some sites suffer from a lack of visitors and corresponding attention, others suffer from the opposite. Palmyra, a Roman city and the best-known of Syria's sites, is entirely open, and visitors are allowed to clamber all over the ruins. At Apamea, another Roman site with a lengthy colonnaded street, local touts offer to sell pieces of the ruins.

“This is a problem: there are no custodians or curators at these places; just a man in a hut to collect the small entrance fee,” said Greg Fisher, assistant professor of Greek and Roman Studies at Ottawa University in Canada who has conducted extensive field research in Syria. This allows for the mistreatment and theft of any artifacts left lying on the site, he added.

Neglect aside, the lack of know-how and modern excavation techniques means much of the work relies on collaborations between Syrian and foreign archaeologists.

“Local conservation efforts are hampered by the level of technology,” said Fisher.

But, said Ali Esmail, CEO of Aga Khan Cultural Services in Syria, an organization which has renovated three sites in collaboration with the Ministry of Culture, “The transfer of knowledge is essential for Syria.”

He added: “There is also a need to follow-up — to make sure sites are discovered; when discovered that they are excavated; and when excavated, that they are preserved.”

A lack of capacity for excavation is another frequent grumble. But in this, the country is not solely to blame. Part of the difficulty for Syria stems from the sheer number of sites in the country. The Directorate of Antiquities — a section of the Ministry of Culture — estimates there are over 10,000, of which only 3,000 have been discovered.

For a country with pressing issues from geopolitics to a rising population, archaeological work is not a high priority.

“Nothing in my experience comes close to what Syria offers: Bronze Age, Hellenistic, Roman, Islamic and everything in between,” said Fisher. “But many sites are remote, poorly understood and unexcavated.”

Archaeologists have completed significant work at Dura Europos and Rasafa, two major remote sites, but both still offer huge potential for further investigation and interpretation.

This requires funding, and archeology around the world — let alone the developed world — suffers from the a lack of resources. However, in Syria entrance fees are set very low or are non-existent — 10 Syrian pounds for locals and students and 75 to 150 pounds for foreigners — a measly sum compared to the entrance fee for Petra in Jordan.

The artifacts excavated suffer, too, from the limitations of the country's museum facilities.

“The National Museum in Damascus is a great example of the problem,” said Fisher. “The frescoes from Dura Europos in the museum are amazing — beyond amazing — but they need proper humidity and temperature control. The whole museum needs re-cataloguing; many artifacts lack labels and are disorganized.”

And excavation and preservation techniques can damage valuable items.

“I heard of a terrible practice which was to drill holes in the mosaics, insert rebar or other metal supports, and then hang them on walls in museums. When it rains or the rebar rusts, the mosaics are discolored. I saw this for myself in Damascus in 2007,” he said.

A catalyst for change may now have arrived, however, ironically in the form of tourism. In 2009 the number of visitors to Syrian archaeological sites and museums reached almost 2.5 million people, according to Bassam Jamous, the director of the Directorate General for Antiquities and Museums. This brings with it interest and revenue.

“The attitude has definitely changed,” said the Syrian who asked to remain anonymous. “Ten years ago artifacts were seen only as potential items to trade but this is now

changing — people are more likely to take finds to museums and to take an interest in their heritage.”

Esmail says his organization has noticed a rising number of Syrians, not just foreign tourists, visiting ruins in the country.

Likewise, capacity is building with increased interest. Originally Damascus University was the only place offering studies in archeology. There are now universities in Aleppo and Idlib offering the same.

The danger of working in Iran, Afghanistan or Iraq is attracting more and more foreign teams to Syria. France and Germany collaborate on a permanent basis with Syria and maintain a presence in Damascus.

Organizations such as Aga Khan are transferring knowledge and using cultural heritage to develop areas of the country. In Aleppo, the organization worked on the citadel. As well as training local architects, they also developed a nearby area of the town and created a public park — giving a positive image of the country’s cultural heritage to the locals.

“Tourism and increased interest are building local interest,” said Esmail. “We also want to show how cultural assets can aid development. And to make them valued in and of themselves.”

Please visit the site: <http://www.globalpost.com/print/5543866>>

THE INAUGURATION OF THE INTERNATIONAL CONSERVATION CENTER "CITTÀ DI ROMA" (AKKO)

The largest conservation laboratory in the Country and the first center for training in the conservation field in Israel, will be run by the Israel Antiquities Authority, in collaboration with the Old Acre Development Company and the Acre Municipality, with the cooperation and the support of the Italian Institutions

Preserving built heritage, which has raised much interest in the country in recent years, and has even received a boost in the form of a Government program to rehabilitate heritage sites, is currently gaining even more momentum with the International Conservation Center Città di Roma that will be run in cooperation with Italy.

On 2009 the Mayor of Rome, Mr. Giovanni Alemanno, has decided to devolve the generous Dan David Prize won by the City of Rome to the establishment of a Conservation Center in Acre. Additional support, in terms of consultancy and professional training, is provided by the Embassy of Italy in Israel and the Italian Ministry of Culture, which is assisting the Israel Antiquities Authority with a Memorandum of Understanding since August 2005.

On Thursday, May 13, the "International Conservation Center "Città di Roma" will be inaugurated. The Center Città di Roma will be managed by the Israel Antiquities Authority, in partnership with the Old Acre Development Company and Acre Municipality, with the support of the Italian Government and its Institutions. The activities provided by the Center will be directed to a broad range of participants - to the public in general and students in particular - and will include professional academic courses and projects of international cooperation. The inauguration ceremony, beginning at 18:00 o'clock, will be attended by the Italian ambassador to Israel, His Excellency Luigi Mattiolo, the Superintendent of Monuments and Cultural Properties of the City of Rome Professor Umberto Broccoli, the director-general of the Israel Antiquities Authority Mr. Shuka Dorfman, the Director-General of the Old Acre Development Company Mr. Dudu Harari, the deputy director of the Economic Company in the Acre municipality, Mr. Ben Mayost, the Custos of the Holy Land Fr. Pierbattista Pizzaballa, Senior Representatives of the City of Rome, scholars and experts from Universities and Museums and others.

Acre was declared a World Heritage site by UNESCO and for the past twenty years has served as an "open school" in the field of conservation.

In order to halt the trend of deterioration and destruction of Israel's heritage assets and preserve them for future generations, the Israel Antiquities Authority recognized the need to establish a Center that will provide an appropriate response for conservation in Israel by training future conservators and setting up conservation laboratories.

An impressive and unique building dating to the Ottoman period (which was constructed on ancient foundations) was allocated for use by the International Conservation Center

Città di Roma; the building has undergone conservation in the past and further such measures will be implemented by the center's professional conservators and students.

The Center will enjoy the cooperation of different Israeli Universities which teach conservation and of Universities in Italy and abroad which are particularly experienced in this field. In addition, the founders of the International Conservation Center Città di Roma have set a goal to train residents of Acre as professional conservators. Residents of the city are also able to participate in all of the international courses through a system of special grants from various sources.

The future plans include: construction of a professional laboratory in the International Conservation Center Città di Roma where conservation materials can be studied, through the support and use of Italian knowledge and expertise.

Click here to download high resolution pictures:

1. Students working within the framework of the international conservation program run by the International Conservation Center Città di Roma .
2. Picture of the conservation center Città di Roma's ancient building.

For further information, kindly contact; Yoli Shwartz, Israel Antiquities Authority Spokesperson, 972-52-5991888, dovrut@israntique.org.il Sharon Dahan, Acre Municipality Spokesman, 972-52-6189850, dover@akko.muni.il Website, texts and photos © Israel Antiquities Authority .

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

ARCHEOLOGISTS MAY BE CLOSING IN **ON CLEOPATRA'S TOMB, BY** **ELIZABETH ARROT**

They are among history's most famous lovers - Antony and Cleopatra, the Roman warrior and the Egyptian queen. From Shakespeare to Hollywood, their story has been told many times. Now, Egypt's top archeologist, with his own touch of Hollywood style, says he may be closing in on Cleopatra's tomb.

On a recent sunny day west of Alexandria, Zahi Hawass strides across the rock and rubble of Taposiris Magna, a Ptolemaic temple overlooking the shores of the Mediterranean. Wearing his trademark Indiana Jones hat, he explains that although others have scoured the temple before, this current dig, begun in 2005, has turned up countless new treasures.

He says the team has located the original main entrance and uncovered a series of pharaonic-style entrance blocks. There is also a statue, which Hawass, giving the headless torso a playful pat, says is likely that of Ptolemy IV, one of Cleopatra's ancestors. "That is really important discoveries " he says, "in the search for the beautiful, magical queen - Queen Cleopatra."

The idea of Taposiris as the burial place of Cleopatra and Mark Antony, who killed themselves rather than submit to Antony's rival Octavian, was proposed by a young Dominican archeologist, Kathleen Martinez. She tries to evoke the couple's last days, the end of Egypt as an empire. "She has to choose a place that she must be safe after life," she says, because "the Romans hated her so much, they will search for her body and they will destroy it."

Martinez notes that, significantly, the temple is dedicated to Isis and Osiris, ancient gods to whom the couple often compared themselves. But she says she is most excited about discovering a tunnel that bores straight down into bedrock. The team has devised a special winch that has already gone down 35 meters. She says

I ask if she will show us down the tunnel. She consults with Hawass, who decides to go himself. The improvised winch lowers the archeologist into the narrow, dark shaft.

And then it stops. The cables are twisted and Hawass is stranded 10-meters underground.

Workers, who only rigged the contraption a week before, struggle for a long 15 minutes to straighten the wires. One man grabs a rope as back-up. Onlookers resort to awkward banter, fixing blame for my suggestion. Then Hawass starts to spin himself around in the cramped space, untangling the cables.

The winch re-engages and the archeologist rises to the surface. In mock anger, he takes a menacing step toward me and pretends to land a punch.

The moment is vintage Hawass. It probably should have belonged to Martinez, but Hawass takes the spotlight. He fills the scene with genuine drama, makes his usually nervous employees only more so, and ends up providing the entertainment.

At 62, the Secretary General of Egypt's Supreme Council of Antiquities is going through his own Golden Age. Hawass is the top archeologist in arguably the world's richest archeological land, explorer-in-residence at the National Geographic Society, star of countless television programs, a prolific columnist and man-about-town.

Most recently, he has championed the return of ancient artifacts to their homelands, becoming a hero to others who have seen their heritage plundered. He can be shameless in his quest to get things back. He tells a story about a woman from Canada, who insisted on being repaid the 10,000 pounds sterling she spent on it. "I wrote her a letter to say that if she will keep this statue, the curse of the Pharaohs will rest on her," he says, adding that the next day, she handed the piece over.

He also takes pride in emphasizing the Egyptian, a parallel to Cleopatra - a Ptolemaic leader of Egyptian heritage who was the first to bother learning the local language. The archeologist is the first of his countrymen to be the international face of Egyptology, a field long dominated by Western Europeans. It is an image he feels important to project both abroad and at home.

He describes children coming up to him on the streets of Cairo, asking "'When are you sending the robot inside the pyramid?' And you have to know," he says, "there is a revival now among Egyptians loving their antiquities."

Not that mummies and pyramids are a hard sell. But his excitement and verve are catching and, on occasion, one suspects, overwhelming. I ask if his seemingly outsize persona ever poses a problem. "God gave me this talent," he says. "I will not tell him no."

It is a belief in self that lessens any surprise that his latest discoveries have an international tie-in. Next month, a major museum exhibit called Cleopatra: The Search for the Last Queen of Egypt, will open in the United States. And Hawass, with his enthusiasm, will be on hand.

Please visit the site: <http://www1.voanews.com/english/news/middle-east/Archeologists-May-Be-Closing-in-on-Cleopatras-Tomb-93416909.html> [Go there for Jean André Rixens' "The Death of Cleopatra" (1874)]

UNDERWATER 'SAFE' PROTECTS £5M SHIPWRECK TREASURES

Croatian authorities are so concerned about looters plundering the valuable artefacts they have now protected the site with a metal cage

The second century Greek trading vessel lies on the sea bed off the coast of Cavtat.

Little remains of the wooden ship but its cargo of earthenware amphora - ceramic vases - still remain stacked row upon row.

The vases, which originally contained olive oil and wine, are still tightly packed into the cargo hold as they were centuries ago.

Its cargo - one of the best preserved from an ancient wreck - has great historical significance and has an estimated value of £5m on the black market.

Croatian authorities are so concerned about looters plundering the valuable artefacts they have now protected the site - with a metal cage.

The heavy-duty cage features a large hinged door, which is kept locked with occasional access granted for divers under strict supervision.

Underwater photographer Neil Hope, of Torpoint in Cornwall, was among those given permission to dive the wreck.

He said: "I'm an experienced diver and I've dived wrecks all over the world, but this was the most unique experience.

"I was taken down there by the man who discovered it. As soon as we were finished they closed the door and locked it up again.

"Obviously when you are inside you can't touch any of the cargo as it is very valuable, so they don't just let anyone inside the cage.

"You need excellent buoyancy skills so you're not damaging these valuable things."

He was working on an assignment for the British Sub-Aqua Club's (BS-AC) DIVE magazine.

Please visit the site:

<http://www.telegraph.co.uk/news/worldnews/europe/croatia/7638071/Underwater-safe-protects-5m-shipwreck-treasures.html>

AIRPORT SCREENING TECHNOLOGY COULD UNLOCK MUMMY SECRETS, BY NAOMI SECK

Preserved bodies help doctors understand diseases that have plagued humans for thousands of years

Back in 2005, when Frank Ruhli was trying to figure out how ancient Egypt's famous boy pharaoh, King Tut, died, he used CT scans of Tut's mummified remains. Now, says the renowned mummy expert, the new technology to screen some airline passengers for explosives can provide even more information.

"By applying this technology on top of another technology, it may help you to look differently at the specimen," he explains, adding that the Terahertz imaging - also known as "full body scan" technology - does not use any sort of radiation, which could destroy DNA remnants of the mummies.

"And finally, by using this Terahertz imaging, you eventually may be able to look at the substances within the mummy, for example, the embalming liquid used in the Egyptian way of embalming. There you can actually do sort of substance analysis which you can't really do by conventional x-ray."

Ruhli and his team of researchers at the Swiss Mummy Institute have just completed the first feasibility study of how they could use the technology to reveal a mummy's secrets, without damaging the mummy. He says the images they have gathered with the terahertz scans are very promising.

And he says the results are not just interesting for historians. "More and more, there are actually people aware of the fact if we want to know more about medicine or actually how to treat patients with all these health care issues, we have to look to the past as well."

Many mummies, from many times and places

The most famous mummies are the Egyptian ones, which were carefully dried out with salts, treated with oils and resins and wrapped in linen before being placed in a coffin.

But there are mummies from every historical era, from everywhere in the world. Ruhli explains that these so-called natural mummies were preserved accidentally. "There are different conditions which actually can lead to natural mummification. It's usually a combination of temperature, even air flow. Even in modern times, you can find people in apartments laying there for ten years after death and been mummified because of a specific airflow and temperature which supported the mummification procedure."

However it happens, the mummification process preserves the body's soft tissue long after it would normally have decomposed ... and with it, the virus or bacteria that may have caused the person to die.

Ruhli, who is a medical doctor as well as a paleo-pathologist, says looking back can help scientists look forward, by revealing how the disease evolved over time.

New technology spotlights direction of disease

They can even map a pathogen's genetic code, which changes from generation to generation.

Ruhli notes researchers used that technique to study the evolution of the tuberculosis bacteria from 2,000-year-old mummified tissue to modern-day strains. And scientists have done similar research on the 1918 Spanish flu epidemic.

"The fact that tissue was preserved for more than a few decades helps us to learn more about past disease and actually eventually help to avoid these kinds of diseases in the future," he says, noting that as doctors grapple with the H1N1 flu pandemic, studies like these could prove very useful.

Ruhli says such research could never replace modern clinical studies. But he says taking the long view can help provide insights scientists might miss in a snapshot from a single moment in time.

Ruhli presented his case for the value of mummies for modern medical research to scientists and doctors at the annual meeting of the American Association of Anatomists.

Please visit the site: <http://it.moldova.org/news/airport-screening-technology-could-unlock-mummy-secrets-208739-eng.html>

CRETE FORTIFICATIONS DEBUNK **MYTH OF PEACEFUL MINOAN** **SOCIETY**

A team of archaeologists have discovered a fortification system at the Minoan town of Gournia, a discovery which rebukes the popular myth that the Minoans were a peaceful society with no need for defensive structures.

The team's efforts were led by Professor Vance Watrous and Matt Buell of the University at Buffalo. Located on the north coast, Gournia was in use during the neo-palatial period (ca. 1700-1450 BC), when Minoan civilization was at its height. The town sits atop a low ridge with four promontories on its coastline. Two of these promontories end in high vertical cliffs that give the town a defensive advantage, and it is here that the fortification system was discovered.

The team weren't able to excavate the area, and so relied on photography, drawing and surveying to identify the fortifications. The eastern-most promontory had a heavy wall that was about 27 meters long. Beside it the team found a semi-circular platform of stone, almost nine meters in diameter, which they believe is the remains of a tower or bastion. The other fortified promontory had a two meter thick wall, running east-west, "as if to close off access from the sea," said Buell.

The other two promontories slope gently down to the shore, and would have provided easy access to the town. "It was on these two promontories", said Professor Watrous, "that the Minoans built structures."

The town consists of around 60 tightly-packed houses, a ship shed, and a small palace in the centre, and archaeologists have discovered evidence of wine making, bronze-working and stone-working at the site. "Gournia gives you, the visitor, a real feeling of what an Aegean town was actually like. Walking up the streets, past the houses, you feel like you've been transported into the past," said Buell.

In addition to the beach fortifications, it also appears that the Minoans built a second line of defence further inland. Heading back from the beach, there were two walls, together running about 180 meters east to west. Backed by a tower, or bastion, the walls would have posed a formidable challenge to any invader trying to march into the town.

Defenders manning this system of fortification would have rained projectiles down on attackers, by using bows and slings. The walls had stone foundations and were made of mud brick, making them sturdy enough to stand on.

It's an open question as to whether the people guarding the fortifications were part of a militia or something more organized. There was "definitely a body of men who would have had that duty but we don't know exactly what they were like," said Professor Watrous.

Tombs uncovered by Hawes and other excavators have shown people buried with swords. Watrous said that there was one particular tomb that produced an entire collection of daggers, swords and other items.

However, Gournia's fortifications did not prevent the town's demise. The town fell around 1450 BC, along with other Minoan settlements. A new group called the Mycenaean appeared on Crete at this time, taking over the island.

Watrous said that Mycenaeans probably avoided attacking the town by sea. "Many other settlements were destroyed at the same time. My guess is that they just came along the land; they didn't have to come up from the sea".

He cannot say for sure if the town defences were ever actually put to their intended use. Any evidence of a battle near these fortifications, such as weapons or bodies, would be underground, and excavation would have to be carried out to see if they exist.

One thing that excavators can say is that the people of Gournia had something worth fighting for. Many of the goods they made – such as the wine and the bronze implements - were for export, suggesting that the people had some level of wealth.

Please visit the site:

<http://www.independent.co.uk/news/science/archaeology/news/crete-fortifications-debunk-myth-of-peaceful-minoan-society-1964033.html>

EGYPTIAN BLUE FOUND IN ROMANESQUE ALTARPIECE

A team of researchers from the University of Barcelona (UB) has discovered remains of Egyptian blue in a Romanesque altarpiece in the church of Sant Pere de Terrassa (Barcelona). This blue pigment was used from the days of ancient Egypt until the end of the Roman Empire, but was not made after this time. So how could it turn up in a 12th Century church?

Egyptian blue or Pompeian blue was a pigment frequently used by the ancient Egyptians and Romans to decorate objects and murals. Following the fall of the Western Roman Empire (476 AD), this pigment fell out of use and was no longer made. But a team of Catalan scientists has now found it in the altarpiece of the 12th Century Romanesque church of Sant Pere de Terrassa (Barcelona). The results of this research have just been published in the journal *Archaeometry*.

"We carried out a systematic study of the pigments used in the altarpiece during restoration work on the church, and we could show that most of them were fairly local and 'poor' - earth, whites from lime, blacks from smoke - and we were completely unprepared for Egyptian blue to turn up", Mario Vendrell, co-author of the study and a geologist from the UB's Grup Patrimoni research group, told SINC.

The researcher says the preliminary chemical and microscopic study made them suspect that the samples taken were of Egyptian blue. To confirm their suspicions, they analysed them at the Daresbury SRS Laboratory in the United Kingdom, where they used X-ray diffraction techniques with synchrotron radiation. It will be possible to carry out these tests in Spain once the ALBA Synchrotron Light Facility at Cerdanyola del Vallés (Barcelona) comes into operation.

"The results show without any shadow of a doubt that the pigment is Egyptian blue", says Vendrell, who says it could not be any other kind of blue pigment used in Romanesque murals, such as azurite, lapis lazuli or aerinite, "which in any case came from far-off lands and were difficult to get hold of for a frontier economy, as the Kingdom Aragon was between the 11th and 15th Centuries".

A possible solution to the mystery

The geologist also says there is no evidence that people in Medieval times had knowledge of how to manufacture this pigment, which is made of copper silicate and calcium: "In fact it has never been found in any mural from the era".

"The most likely hypothesis is that the builders of the church happened upon a 'ball' of Egyptian blue from the Roman period and decided to use it in the paintings on the stone altarpiece", Vendrell explains.

The set of monuments made up by the churches of Sant Pere, Sant Miquel and Santa Maria de Terrassa are built upon ancient Iberian and Roman settlements, and the much-prized blue pigment could have remained hidden underground for many centuries. "But

only a little of it, because this substance couldn't be replaced - once the ball was all used up the blue was gone", concludes Vendrell.

Please visit the site:

<http://www.alphagalileo.org/ViewItem.aspx?ItemId=75182&CultureCode=en>

UK SCIENTISTS STYMIED IN EFFORT TO READ ANCIENT SCROLLS - EDUCATION

Some 2,000-year-old Roman scrolls are stubbornly hanging onto their ancient secrets, defying the best efforts of computer scientists at the University of Kentucky to unlock them.

The researchers have learned much about the scrolls, which were reduced to lumps of carbon in the heat of an eruption by Italy's Mount Vesuvius in 79 A.D. But they can't read what's written on them.

"What we've found is that the problem is even more challenging than we thought going in," said Brent Seales, Gill professor of engineering in UK's computer science department and leader of the team working on the scrolls.

The UK team spent a month last summer making numerous X-ray scans of two of the scrolls that are stored at the French National Academy in Paris. They hoped that computer processing would convert the scans into digital images showing the interiors of the scrolls and revealing the ancient writing. The main fear, however, was that the Roman writers might have used carbon-based inks, which would be essentially invisible to the scans.

That fear has turned out to be fact.

"We hoped that we could look for calcium or other trace compounds in the ink that might help us tease out the writing," Seales said. "But that hasn't worked."

Seales says he now hopes that re-scanning the scrolls with more powerful X-ray equipment will reveal the text, which scholars are anxious to read.

The effort is part of UK's EDUCE project — Enhanced Digital Unwrapping for Conservation and Exploration — which has drawn international attention for using computer technology to peek inside fragile and faded books and manuscripts from antiquity, and produce exact digital copies for study. EDUCE, which Seales launched several years ago, is best known for producing stunning digital images of the oldest known copy of Homer's Iliad, which is stored in Venice.

The Roman scrolls, however, have been a harder nut to crack.

Hundreds of the scrolls were stored in a Roman villa that was buried under tons of hot ash when Mount Vesuvius destroyed the Roman towns of Pompeii and Herculaneum in one of history's most famous volcanic eruptions. The scrolls lay hidden for 1,600 years, until excavators stumbled upon them at Herculaneum in 1709.

What they found was a mystery. Volcanic heat had carbonized the scrolls — they resemble lumps of charcoal ready for a barbecue grill — which crumbled when anyone

tried to unroll them. Scholars think the scrolls contain writings in Latin by the Roman philosopher Philodemus. But that's only a guess until someone figures out how to read the scrolls without destroying them.

The UK team hoped to do that with computer magic last year.

Seales says that, in addition to the carbon-ink problem, the sheer volume of computer data produced from the X-ray scans overwhelmed UK's interactive software. That slowed the system to the point that technicians were typing in commands and waiting half an hour or more for a response, he said.

"We're not ready to say yet that we're definitely not going to see the ink," Seales said. "But we haven't found a way yet to get at what we want."

According to Seales, UK is looking at possibly rescanning the scrolls, in partnership with a group in Belgium that built the X-ray scanner used last year. A meeting with the group had to be canceled in April when the eruption of a volcano in Iceland interrupted flights to Europe.

"We've been talking with the engineers over there on how we could go back and scan the scrolls again, knowing what we know now, and do a better job of capturing the data we need," Seales said. He has said that it ultimately might take the creation of new computer technology to unlock the scrolls.

"Of course, we want to be the ones to do that," he said. "We've solved every other part of the problem. This is the missing link."

UK's computer imaging has confirmed that the rolled up papyrus scrolls are 30 to 40 feet long, which seems to suggest writing must be present. Why store a 40-foot scroll with no writing on it?

"The scholars are really excited by that," Seales said. "If the scrolls are that large, think how much text there could be."

Read more: <http://www.kentucky.com/2010/05/24/1277387/uk-scientists-stymied-in-effort.html#ixzz0pQhbtP7U>

Please visit the site:

<http://www.kentucky.com/2010/05/24/1277387/uk-scientists-stymied-in-effort.html>

ATHENS' PARTHENON SCAFFOLD-FREE FOR FIRST TIME IN YEARS, BY **JON HEMMING**

Visitors to Athens have a rare window of opportunity to see the showpiece Parthenon temple on the ancient Acropolis without scaffolding for the first time in nearly 30 years as a major restoration work nears completion.

The Greek government launched a project to restore the Parthenon and other buildings on the world heritage site in 1975, but it was not until 1983 that work started.

Scaffolding has been up somewhere around the ancient temple ever since. But from now until September, the exterior of the Parthenon will be scaffold-free.

Building the Parthenon took nine years from 447 BC and the sculptural decorations took another 10 years to complete. Restoration has already taken longer than it took to build.

"We treat every piece of marble like a piece of art so we have to respect it," Mary Ioannidou, the head of restoration told Reuters during a tour of the temple.

"The ancient Greeks had the possibility that if a block failed, to leave it and take another one, but we can't do it so we have to treat it with great respect."

Over the years, the Parthenon has suffered from fire, war, revolution, looting, misguided restoration and pollution.

It became a church for nearly 1,000 years and served as a mosque under the Ottomans for nearly 400 years after that.

The greatest blow to the structure though came in 1687 when a Venetian mortar ignited the Ottoman Turkish gunpowder store inside and widespread looting followed. British Ambassador Lord Elgin then removed large chunks of the sculptures from 1801.

Between 1898 and 1938, restoration workers rebuilt large parts of the building and concreted in parts of the columns and blocks that were missing. But they used iron ties to hold the blocks together and replaced many in the wrong place.

The iron ties have since rusted and as they did so expanded causing cracks to appear. The ancients also used iron ties, but coated them in lead to prevent rust. They have lasted well.

The team of archaeologists, marble cutters, architects, and civil and chemical engineers, dismantled 1,852 metric tons of marble and began the painstaking task of attempting to put it back again in the right place, adding other fragments they found.

"It's like a huge puzzle," said Ioannidou with a wry smile.

Titanium is now used to tie the blocks and columns together which is highly resistant to corrosion.

New marble has been crafted to fill in some of the gaps left by the concrete and allow blocks of the original marble to be returned to their place on the Parthenon's stonework.

The original quarry for the marble on Mount Penteli is now itself a protected historical site, but marble has been cut from the other side of the same mountain.

"It's almost the same but not exactly the same," said Ioannidou. The new marble stands out in a much lighter color than the original.

"One of the principles of our restoration is not to cheat the visitor. Everyone can understand the parts that are ancient and those that are original," said Ioannidou.

As for the color, that will fade. "If you come here in 10 years the color will be almost the same," she said.

In September though, the scaffolding will be up again on the western facade and that project will last at least another three years. Efforts to piece together the walls of the inner chamber of the temple are already underway.

For some, restoring the Parthenon is their life's work. Marble-cutter Ignatius Hiou has worked there for 18 years.

"If I could do this until the day I die, I will be happy," he said.

(Additional reporting by Deborah Kyvrikosaios; Editing by Paul Casciato)

Please visit the site: <http://www.reuters.com/article/idUSTRE64Q4I220100527>

[The original Parthenon, as is well known, is in Nashville, TN; in mint condition, too see <http://www.nashville.gov/parthenon/>

ANCIENT MAYOR'S 'LOST TOMB' **FOUND SOUTH OF CAIRO**

Archaeologists have discovered the 3,300-year-old tomb of the ancient Egyptian capital's mayor, whose resting place had been lost under the desert sand since 19th century treasure hunters first carted off some of its decorative wall panels, officials announced Sunday.

Ptahmes, the mayor of Memphis, also served as army chief, overseer of the treasury and royal scribe under Seti I and his son and successor, Ramses II, in the 13th century B.C.

The discovery of his tomb earlier this year in a New Kingdom necropolis at Saqqara, south of Cairo, solves a riddle dating back to 1885, when foreign expeditions made off with pieces of the tomb, whose location was soon after forgotten.

"Since then it was covered by sand and no one knew about it," said Ola el-Aguizy, the Cairo University archaeology professor who led the excavation. "It is important because this tomb was the lost tomb."

Some of the artifacts ended up in museums in the Netherlands, the United States and Italy as well as the Egyptian Museum in Cairo, providing the only clues about the missing tomb.

A team from Cairo University's archaeology department found the tomb during new excavations of the area that started in 2005, el-Aguizy said.

The inner chambers of the large, temple-style tomb and Ptahmes' mummy remain undiscovered.

In the side sanctuaries and other chambers they uncovered, archaeologists found a vivid wall engraving of people fishing from boats made of bundles of papyrus reeds. There were also amulets and fragments of statues.

Please visit the site:

http://www.seattlepi.com/national/1107ap_ml_egypt_lost_tomb.html

ROME TOURISTS TO GET NEW LOWDOWN ON COLOSSEUM

Tourists in Rome will soon be able to visit the underground of the Colosseum, where gladiators once prepared for fights and lions and tigers were caged before entertaining a bloodthirsty public.

The city's culture officials said today that, after several months of work to make the area safe for visits, the public will be allowed to add the underground section to tours of the arena starting in late summer. No exact date has been set.

Architect Barbara Nazzaro said tourists will be able to see the spaces where lions, tigers and bulls were kept in cages before they were hoisted on elevators to ground level for entertainment in the ancient arena.

Elephants were too heavy for the rope-hoisted elevators. They made their grand entrance into the Colosseum through main gates.

The ingenious system of lifts allowing the animals to suddenly pop up at ground level would have made for an awesome sight, she said.

The animal show was just one part of a day's entertainment at the arena. First the audience watched a hunting spectacle, then came executions, and finally the gladiators squared off, said Nazzaro, who worked on the project to open the space to the public.

A piece of mortar recently broke off from a part of the Colosseum during closing hours, but caused no injuries. Officials say the monument is in need of constant monitoring and maintenance, but its overall stability is not at risk.

Please visit the site:

<http://www.guardian.co.uk/world/2010/may/26/rome-colosseum-underground-backstage-reopens>

3,300-YEAR-OLD TOMB OF ANCIENT EGYPTIAN OFFICIAL PTAH MES DISCOVERED AT SAQQARA GENERAL VIEW OF THE TOMB OF PTAH MEH DISCOVERED AT SAQQARA, WITH IN THE BACKGROUND THE ANCIENT STEP PYRAMID

The tomb of Ptah Mes discovered at Saqqara. In the back, the step pyramid is visible. - Image courtesy the Supreme Council of Antiquities

Archaeologists have discovered the 3,300 year-old tomb of Ptahmes, 19th Dynasty army leader and royal scribe, at Saqqara. The discovery of the tomb – dated to the second half of the 19th Dynasty (1203-1186BC) - by the Archaeological Faculty of the Cairo University was announced today, putting an end to a 300-year-old archaeological riddle.

Ptahmes' tomb is 70 metres long and contains numerous chapels. Dr Zahi Hawass commented its design is similar to that of the tomb of Ptah Im Wiya, a royal scribe who lived during the reign of Pharaoh Akhenaten, discovered in 2007 by Dutch archaeologists.

As Ptahmes was appointed to several official posts – including mayor of Memphis, royal scribe and supervisor of the Ptah temple – Dr Ola El-Egezi, who led the excavations, concluded he must have been a prominent figure. The 19th Dynasty cemetery, located on the south side of the ramp of the Pyramid of King Unas, was reserved for the burial of ancient Egypt's top government officials.

The excavation revealed several stelae, amongst which an unfinished depiction of the deceased. It shows Ptahmes and his family before the Theban triad: Amun, Mut and Khonsu. Such a stela, El-Egezi said, reveals that during the second half of the 19th dynasty, the cult of Amun was revived.

The sand revealed several fragments of the statue of Ptahmes and his wife. A painted head depicting a female – most probably the mayor's wife or one of his daughters – was unearthed, along with a limestone statue that belongs to the deceased. The archaeologists also unearthed clay vessels, shabti figurines and amulets.

According to archaeologist Dr Heba Mustafa, part of the excavation team, the pillars of the tomb were reused for the construction of chapels during the Christian era. Part of its walls are severely deteriorated. Several pieces of the wall were found in the debris inside the tomb. These pieces were collected in order to be registered and restored. It is thought most of the damage to the walls was sustained when the tomb was first opened in the 19th century.

The location of the tomb of Ptahmes was last recorded in 1885 and artifacts from the burial site were taken to museums in the Netherlands, the United States, Italy and the Egyptian Museum in Cairo. Its location was soon forgotten, and Egypt's desert sands covered up the tomb again.

Ptahmes' sarcophagus is not yet located. Excavations to find the main shaft of the tomb – leading to the burial chamber with the coffin and funerary equipment – continue.

Saqqara, located 40 kilometres south of Cairo is one of Egypt's oldest burial sites, also known as the 'City of the Dead'. It is a 6 kilometres long necropolis and home to a great number of mastabas, rock-cut tombs and pyramids, amongst which the famous Step Pyramid of Djoser.

Please visit the site:

<http://heritage-key.com/blogs/ann/3300-year-old-tomb-ancient-egyptian-official-ptah-mes-discovered-saqqara>

INTACT BURIALS DISCOVERED IN FAYOUM

Archaeologists excavating in Fayoum have discovered 45 intact ancient Egyptian tombs complete with painted sarcophagi Nevine El-Aref reports.

Archaeologists carrying out routine excavations at Lahoun in Fayoum last week chanced upon what is believed to be an ancient Egyptian cemetery. The Egyptian team from the Supreme Council of Antiquities (SCA) found 45 tombs from different times in the Pharaonic era, each tomb containing a painted wooden sarcophagus with the mummy of the deceased still inside it.

SCA Secretary-General Zahi Hawass said that during the course of the excavation work the mission unearthed a tomb dating from the 18th-Dynasty (1550-1295 BC) containing 12 wooden sarcophagi stacked on top of one another. Each sarcophagus contained a well-preserved mummy. The mummies were covered in cartonnage decorated with religious texts from the Book of the Dead and scenes featuring various ancient Egyptian deities.

The mission also discovered four other cemeteries; the first dating from the First and Second dynasties (ca. 2750-2649 BC), the second from the Middle Kingdom (2030-1660 BC) and the third and fourth from the New Kingdom (1550-1070 BC) and The Late Period (724-343 BC). Abdel-Rahman El-Aydi, head of the archaeological mission, pointed out that the First and Second-Dynasty cemeteries contained 14 tombs, one of which was almost completely intact and included all its funerary equipment together with a wooden sarcophagus containing a mummy wrapped in linen.

The Middle and New Kingdom cemeteries contain 31 tombs, most of which date from the 11th and 12th dynasties (2030-1840 BC). Each tomb contains a painted wooden sarcophagus bearing a mummy covered with cartonnage decorated with religious texts that help the deceased to cross through to the other world, as well as scenes of various deities such as Horus, Hathor, Khnum and Amun.

Another find came at each of the four corners of the temple built by King Senusert II of the Middle Kingdom, where the mission located four shafts filled with a large number of clay vessels.

Last year the same mission found 53 stone tombs dating from the Middle and New Kingdoms as well as from the Late Period and the Roman era.

Please visit the site: <http://weekly.ahram.org.eg/2010/1000/eg10.htm>

ARCHAEOLOGISTS: 1200 FLINT STONES **DATING BACK TO 250, 000 YEARS** **DISCOVERED IN SYRIA BY MANAL** **ISMAEL AL-IBRAHIM**

Archaeological discoveries -1200 pieces of flint stones dating back to 250, 000 years ago were unearthed at al-Sharar Valley near Daraa, Southern Syria.

The pieces were discovered by the expedition of Damascus University in cooperation with the Directorate of Antiquities and Museums in the governorate. Head of the expedition Prof. Ahmad Diab said the findings prove that the Acholic and Mousteric civilizations existed in Horan, proved to be in light of the findings one of the most important and old-inhabited places in Syria.

He indicated that the area where the study was done enjoys lime characteristics and rain-fed agriculture, especially olives, in addition to its proximity to al-Zaidi Valley, one of the most important places of residence for the ancient men where dozens of caves and grottos are found.

He stressed the importance of cooperation between these missions and the Antiquities Directorates in the governorates to discover more on the history of the Syria, and thus exploring the civilizations prevalent thousand of years ago.

For his part, archeological researcher Yaser Abu Nokta said the Directorate works since 1999 to explore all the ancient places of residence in Horan area.

The expedition discovered a set of stone tools belonging to many pre-historic phases, especially the Paleolithic age, in addition to a number of pieces dating back to the Neolithic age, indicating that there is scarcity in the findings which date back to the Paleolithic era.

"Hence the importance of these missions in pursuing the discoveries of the directorate seven years ago at al-Maisari site, 4 km southeast of Daraa, one of the most important sites dating back to the Paleolithic age (8000 B.C.) and Neolithic age (500 B.C.)," Abu Nokta added. (SNAA).

Please visit the site:

<http://www.english.globalarabnetwork.com/201005266021/Travel/archaeologists-1200-flint-stones-dating-back-to-250-000-years-discovered-in-syria.html> [Go there for image]

SAHARA CAVE MAY HOLD CLUES TO DAWN OF EGYPT, BY PATRICK WERR

Archaeologists are studying prehistoric rock drawings discovered in a remote cave in 2002, including dancing figures and strange headless beasts, as they seek new clues about the rise of Egyptian civilisation.

Amateur explorers stumbled across the cave, which includes 5,000 images painted or engraved into stone, in the vast, empty desert near Egypt's southwest border with Libya and Sudan.

Rudolph Kuper, a German archaeologist, said the detail depicted in the "Cave of the Beasts" indicate the site is at least 8,000 years old, likely the work of hunter-gatherers whose descendants may have been among the early settlers of the then-swampy and inhospitable Nile Valley.

The cave is 10 km (6 miles) from the "Cave of the Swimmers" romanticised in the film the "English Patient", but with far more, and better preserved, images.

By studying the sandstone cave and other nearby sites, the archaeologists are trying to build a timeline to compare the culture and technologies of the peoples who inhabited the area.

"It is the most amazing cave ... in North Africa and Egypt," said Karin Kindermann, member of a German-led team that recently made a trip to the site 900 km (560 miles) southwest of Cairo.

"You take a piece of the puzzle and see where it could fit. This is an important piece," she said.

The Eastern Sahara, a region the size of Western Europe that extends from Egypt into Libya, Sudan and Chad, is the world's largest warm, dry desert. Rainfall in the desert's centre averages less than 2 millimetres a year.

The region was once much less arid.

About 8500 BC, seasonal rainfall appeared in the region, creating a savanna and attracting hunter-gatherers. By 5300 BC, the rains had stopped and human settlements receded to highland areas. By 3500 BC, the settlements disappeared entirely.

MOVING TOWARDS THE NILE VALLEY

"After 3-4,000 years of savanna life environment in the Sahara, the desert returned and people were forced to move eastwards to the Nile Valley, contributing to the foundation of Egyptian civilisation, and southwards to the African continent," said Kuper, an expert at Germany's Heinrich Barth Institute.

The mass exodus corresponds with the rise of sedentary life along the Nile that later blossomed into pharaonic civilisation that dominated the region for thousands of years and whose art, architecture and government helped shape Western culture.

"It was a movement, I think, step-by-step, because the desert didn't rush in. The rains would withdraw, then return, and so on. But step by step it became more dry, and people moved toward the Nile Valley or toward the south," Kuper said.

Kuper and his team are recording the geological, botanic and archaeological evidence around the cave, including stone tools and pottery, and will compare it to other sites in the Eastern Sahara region, adding new pieces to a prehistoric puzzle.

"It seems that the paintings of the Cave of the Beasts pre-date the introduction of domesticated animals. That means they predate 6000 BC," said Kuper, who led his first field trip to the cave in April 2009. "That is what we dare to say."

The visible art work covers a surface 18 metres wide and 6 metres high. In October, Kuper's team scanned the cave by laser to capture high-definition, three-dimensional images.

A test dig a few weeks ago during the team's third expedition to the sandstone cave uncovered yet more drawings that extend down 80 cms below the sand, Kindermann said.

"Now we have increasing evidence how rich the prehistoric culture in the Eastern Sahara was," Kuper said.

Please visit the site:

<http://af.reuters.com/article/topNews/idAFJJOE64N09L20100524>

THE TOMB THE RAIDERS MISSED

For some families tomb raiding became a business, earning the equivalent of a year's salary for one night's digging.

An ancient tomb discovered last week in Protaras has led archaeologists to believe that the site may be part of an ancient cemetery.

The 2,400-year-old tomb was discovered after workers digging a new coastal path uncovered the find only a few feet below the surface and decided to call in state archaeologists.

The Antiquities Department believe the tomb, which lies directly under the surface of the path, dates to either the Roman or Hellenistic period.

“This is a valuable find; the importance is primarily that it is un-looted, unlike most tombs in the area,” Antiquities Department director Maria Hadjicosti told the Sunday Mail.

“We think this is part of a larger cemetery or burial ground. This is a new area of discovery for us.”

The site, which has been sealed off, is just a stone's throw from the sea and several large hotels and round-the-clock security is now in place.

Early indications suggest that the find dates to around 300 BC, when the whole of Cyprus came under the control of the Ptolemies, who introduced the political and cultural institutions of the Hellenistic world to the island.

Even two thousand years after the tomb was sealed, it is clear that a great amount of time and energy was invested in the preparation, arrangement and sealing of the graves.

The find has excited archaeological officer George Georgiou who believes that it could be one of many burial grounds scattered around the south coast, which has remained free from the hands of tomb raiders.

“It is a rich tomb. In roughly the same area where there are burial chambers from the same period, they were open and looted. This one is intact, which increases its archaeological value,” he said.

The painted caskets are in such good condition possibly because the combination of the coffin and chamber prevented ground water seeping through.

The chamber, which was publicly revealed last week, contains four sarcophagi, human bones, glass and a few items of pottery.

The lids of the coffins are adorned with colourful painted floral patterns, which have not been exposed to light since they were sealed, 300 years before the birth of Christ.

Discoveries over the last 20 years have shown the area is littered with ancient tombs, with the vast majority of them being found empty, plundered by gangs of tomb raiders.

TOMB ROBBING

LAST week's find is especially important after a frenzy of tomb robbing in the last two centuries destroyed thousands of burial sites all over the island leaving them stripped of their treasures.

In the north, many were left devastated in the feverish hunt for antiquities.

For some families tomb raiding became a business, earning the equivalent of a year's salary for one night's digging.

Such dreams of riches provided a powerful lure for many, which is why archaeologists say the Protaras find is so unique.

In the last century villagers evolved subterfuges to disguise their illegal activities and even when an area was being watched for tomb robbing the villagers could usually outwit the authorities.

Organised outfits even had their own working regulations, which included tossing a pebble in first (as sometimes large snakes had made their home there), digging in winter as the roofs were less likely to collapse and never entering until after 15 minutes of opening the tomb, as the putrefied air could be toxic.

Legends abound about the great treasures found on the island, though there is no way of verifying these.

One hotel there is said to have been built from the proceeds of a gold hoard found in a tomb, including a funeral mask wrapped around a baby's skull.

Hajicosti brushed off suggestions that so-called 'nighthawkers' are still taking to the fields under cover of darkness in the hope of finding buried treasure from the past.

“Tomb raiding happens in most countries of the world. Here it was prevalent in the 1800s and last century, but not now. Obviously I cannot speak for what happens in the north,” she said.

As recently as 1990 archaeologists completed the excavation of an area in Ayia Napa, which had been subjected to illegal digging since 1872.

The work led to the discovery of nineteen tombs and a small sanctuary just off the popular Macronissos beach. Like the new Protaras find, the tombs were used during the Hellenistic and Roman period – but sadly everything in them had been stolen.

Paralimni Mayor Andreas Evangelou has demanded that an archaeological museum must be constructed in the area, but with large scale development covering much of the land and only a handful few discoveries being made the idea may be a long time coming.

RECENT FINDS

2008: Building workers in Larnaca uncovered three sarcophagi, two of which were important finds dating from 500BC.

2003: An ancient tomb was found afternoon on Meleandros Street in Ayia Phyla in Limassol by men working for CyTA while digging a ditch. The tomb dated from the Cyprus-Archaic era.

2002: An ancient tomb was found during work on a sewage system in the centre of Paphos. The tomb dates back to the late Classical Hellenistic period (336-30 BC).

Human skeletons were found along with a large number of clay vessels.

Please visit the site: <http://www.cyprus-mail.com/features/tomb-raiders-missed/20100523>

KING TUT'S LEFTOVER BANDAGES YIELD NEW CLUES THE SCRAPS OF ANCIENT BANDAGES -- SOME WITH DIRTY FINGERPRINTS OF TUT'S EMBALMERS -- HAD BEEN CONTAINED IN LONG FORGOTTEN JARS AT A NEW YORK MUSEUM, BY ROSSELLA LORENZI

King Tutankhamun's mummy was wrapped in custom-made bandages similar to modern first aid gauzes, an exhibit at New York's Metropolitan Museum of Art reveals.

Running in length from 4.70 meters to 39 cm (15.4 feet to 15.3 inches), the narrow bandages consist of 50 linen pieces especially woven for the boy king.

For a century, the narrow linen bandages were contained in a rather overlooked cache of large ceramic jars at the museum's Department of Egyptian Art. The collection was recovered from the Valley of the Kings between 1907-08, more than a decade before Howard Carter discovered King Tut's treasure-packed tomb.

Now on permanent display in the museum's Egyptian galleries and highlighted in the exhibit "Tutankhamun's Funeral," the objects provide important insights into King Tut's mummification.

"The linens on the actual mummy were so much decayed by excessive use of resins that the bandages on display at the museum are actually the best-preserved lot of Tutankhamun wrappings," Dorothea Arnold, curator of Egyptian art at the Metropolitan museum, told Discovery News.

"When the floor was swept after wrapping the body of a king, naturally, there were quantities of pieces of linen, some of them bandages and some wider bits, gathered up," wrote Herbert E. Winlock (1884-1950), the Metropolitan's curator, in a 1941 account of the embalming material.

Bearing inscriptions with dates -- the Egyptians used to write the date the linen was woven so that they knew how old it was -- the sheets provided Winlock with precise evidence for dating the cache's material.

One linen featured an inscription with "Year 8 of the Lord of Two Lands, Nebkheperure [Tutankhamun's throne name.]" Indeed, "Year 8" was the final year of Tutankhamun's life (1341 B.C. - 1323 B.C.).

"Usually bandages to be wound on a body were rolled up to make the wrapping easier," Winlock said. He identified the ends of some six bandages, still tightly rolled.

But the most "curious things among the bandages" were 50 pieces of modern-looking gauze -- narrow linen tape with finished edges on each side.

"I do not recall ever having seen any ready-made, 18th-Dynasty bandages like them before," Winlock said. "According to known later custom, they were used to fix the larger sheets around the body," Arnold said.

Especially woven for King Tut, some of these expensive linens still evoke the presence of the embalmers, as they show fingerprints indicating that someone had wiped his hands on them.

The large jars containing the linens were first discovered buried in a pit (subsequently called KV 54) just 110 meters (360.8 feet) away from the tomb of King Tut, which had yet to be discovered.

The jars also held what appeared to be an unexciting array of broken pieces of pottery, animal remains, collars of dried flowers, kerchiefs and embalming material.

Rather disappointed, its discoverer, the New York lawyer Theodore M. Davis, donated the materials to the Metropolitan museum.

"Mr. Davis seems to have felt that he had discovered a poor man's tomb," wrote Herbert E. Winlock (1884-1950), the Metropolitan's curator.

Indeed, Davis was used to much more impressive findings.

His archaeological team, which included well known Egyptologists such as Howard Carter, photographer Harry Burton and archaeologist Edward R. Ayrton, had uncovered about 30 tombs in the valley during excavations between 1902 and 1914.

Among Davis' most important findings are KV46, the tomb of Yuya and Tuya, King Tut's great-grandparents, and KV55, the burial equipment of the Amarna royal family, such as that of Queen Tiye. Tiye was probably Tutankhamun's grandmother.

The unassuming cache entered the Metropolitan museum as a mystery. Only several years later, after further studies and analysis, did Winlock identify the items as remains from King Tut's funeral.

"It was a perfectly undisturbed cache which Mr. Davis found ... a cache of materials which, according to Egyptian beliefs, were too impure to be buried in the tomb with the dead man, but which had to be safely put not far away from his body," Winlock wrote in a 1941 detailed account of the material found in the pit.

According to Frank Rühli, head of the Swiss Mummy Project at the University of Zurich and a member of the team who carried the CT scan analysis of Tutankhamun in 2005, modern analysis of the Met's embalming material could offer interesting new clues.

"The bandages on display are very important because they provide another insight on Tutankhamun's mummification," Rühli told Discovery News.

Please visit the site: <http://news.discovery.com/archaeology/king-tut-bandages-mummification.htm> [The remains at <http://news.discovery.com/archaeology/king-tut-pharaoh-funeral.html>]

[VIDEO: King Tut's tomb: <http://news.discovery.com/videos/ancient-egypt/>] [Go there for more links]
