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Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

- Σεπτέμβριος 2009 -

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ΠΙΝΑΚΑΣ ΠΕΡΙΕΧΟΜΕΝΩΝ – TABLE OF CONTENTS

ΣΥΝΕΔΡΙΑ – CONFERENCES/WORKSHOPS

The 2009 Symposium of Northeastern Accelerator Personnel Conference,
October 4-9 October 2009, Second Announcement **page 5**

ICONEA 2009 - the International Conference of Near Eastern
Archaeomusicology: Comparative Organo-philology **page 6**

Ars Textrina International Textiles Conference, University of Leeds, UK, 2nd-
3rd September 2009 **page 8**

THIRD INTERNATIONAL CONFERENCE ON THE INCLUSIVE
MUSEUM, Yildiz Technical University, Istanbul, Turkey, 29 June to 2 July
2010 **page 11**

ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ – JOB VACANCIES/FELLOWSHIPS

Jobs at The University of Manchester, Lecturer in Biomedical Egyptology,
Faculty of Life Sciences, KNH Centre for Biomedical Egyptology **page 13**

Memorial University Department (MUN) of Earth Sciences announces a 2-year
MSc and 3-year PhD scholarship supported by NSERC **page 15**

ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS

The CSA Propylaea Project **page 17**

INTERNET SITES

News on the Antikythera Mechanism **page 18**

American Journal of Archaeology Online Reviews (July 2009) **page 19**

ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

The Cave of the Cyclops: Mesolithic and Neolithic Networks in the Northern
Aegean, Greece. Vol. 1, Intra-site Analysis, Local Industries, and Regional
Site Distribution. Prehistory Monographs; 21, Adamantios Sampson **page 21**

Ostéo-archéologie et techniques médico-légales: Tendances et perspectives.
Pour un manuel pratique de paléopathologie humaine, Philippe Charlier **page 28**

The Encyclopedia of Ancient Natural Scientists: The Greek Tradition and Its
Many Heirs, Paul T. Keyser, Georgia L. Irby-Massie **page 33**

International Journal of Nautical Archaeology Volume 38, Issue 2, 2009 **page 38**

Beneath the Pyramids, Andrew Collins **page 42**

Aegean Archaeology, vol. 8 (2005-2006) **page 44**

Dimitrios Grammenos bibliography page 45

ΕΙΔΗΣΕΙΣ - NEWS RELEASE

Artful Science: Peering into Ancient Pigments. An improvement in microscopic dye analysis is allowing scholars to study the origins and histories of ancient, colorful art, By Katherine Harmonpage 56

The ancient Roman city of Altinum rises from Venice Lagoon Using aerial, near-infrared photos taken during a drought, researchers have mapped the city thought to be the ancestor to present-day Venice. It now awaits under modern farmland, By John Johnson Jr. page 58

Digital systems to protect Iranian saltmen page 60

Cave Complex Allegedly Found Under Giza Pyramids Rossella Lorenzi, Discovery News page 61

Ancient Toolmakers Discovered Fire Treatment, By RANDOLPH E. SCHMID page 63

Metro station in Algeria's capital: link to the past By Pierre-Yves Julien page 65

University of Toronto archaeologists find cache of cuneiform tablets in 2,700-year old Turkish temple, May provide insights into Assyrian imperial aspirations, By Sean Bettam page 67

Two thousand year-old remains of Emperor Vespasian's house discovered A team of British and Italian archaeologists have discovered the remains of a lavish villa belonging to the emperor Vespasian, exactly 2,000 years after his birth, By Nick Squires in Rome page 69

Shedding old light on archaeological artefacts, by Jo Marchantpage 71

Mannu-ki-liballi's last plea page 73

Research Undermines Dog Domestication Theory, By NICHOLAS WADE page 75

8,000-year-old human skeleton found in a Turkey tomb page 77

Antikythera clockwork computer may be even older than thought page 78

Mapping Ancient Egyptian Sites With Gps And Imagery page 80

Computers tackle fresco puzzles, Challenging program at Santorini's Akrotiri brings together archaeologists and scientists Comparing fresco fragments on screen. By MARGARITA POURNARA page 84

Italy finds 4,500-year old skeleton of warrior, by Deepa Babington page 86

16,000 year-old mother goddess figurine unearthed page 87

Struggle to save the apple's Asian birthplace	page 88
Was ancient Cypriot cave a prehistoric diner? By Michele Kambas	page 90
Grand Egyptian Museum project moves forward	page 92
Ancient port discovered near shore of Küçükçekmece Lake	page 95
A Sub-Saharan Conundrum, German Archaeologists Labor to Solve Mystery of the Nok, By Matthias Schulz	page 96
Diving into the secrets of Hagia Sophia, By Serhan Yedig	page 101
Bulgaria Recreates Orpheus's Lyre	page 104
Happy clappy day	page 105
Rare ancient jewels found	page 107
Archaeologists uncover large Roman statue of Augustus	page 108
Unprecedented Miniature Carving of Alexander the Great Found by Nissan Ratzlav-Katz	page 109
New York University Digs in Cyprus Show Worship of God Apollo, By Paul Tugwell	page 110

ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS

THE 2009 SYMPOSIUM OF NORTHEASTERN ACCELERATOR PERSONNEL CONFERENCE, OCTOBER 4-9 OCTOBER 2009, SECOND ANNOUNCEMENT

Registration is up and running (www.myevents.biz/SNEAP), airfares are lowered so come to sunny, Tucson Arizona and attend the 2009 SNEAP conference. We are look forward to welcoming you to the Old Pueblo.

The venue for the meeting will be held at the Marriott Tucson University Park hotel. We expect this room block to go quickly so we encourage you to register as soon as possible. For questions regarding registration please email Jena at: jpinson@myevents.biz, and for program questions email 14c09@physics.arizona.edu. We ask that you identify “SNEAP” in the subject line so this conference can be easily identified.

About SNEAP:

SNEAP is a community of personnel involved with electrostatic particle accelerators and their use. Founded in 1968, the organization gathers annually to discuss and exchange information to the benefit of all those who attend. The topics covered include ion sources, electrostatic and rf accelerators, telemetry and control systems, cryogenic systems, safety issues and many other topics relevant to the operation of small to medium sized electrostatic accelerator laboratories. The meeting format includes submitted papers, laboratory reports, contributed papers and open discussions. Space for vendors is made available to permit attendees to speak directly with manufacturers and their representatives and to inspect many new devices and products. Attendees include representatives from Universities, National Laboratories, and Industrial Research Laboratories from the U.S. and many other countries including Argentina, Australia, Canada, China, France, Germany, India, Italy, Japan, The Netherlands, and others. We encourage you to please pass along this announcement to your colleagues.

Thank You,

The SNEAP 2009 conference committee

ICONEA 2009 - THE INTERNATIONAL CONFERENCE OF NEAR EASTERN ARCHAEOLOGY: COMPARATIVE ORGANO-PHILOLOGY

In partnership with the UFR of Music and Musicology of La Sorbonne PARIS IV

Will be held on November 25, 26 and 27 at the Maison de la Recherche, Salle D 035, 28 rue Serpente, Paris 75006.

Academic board for this conference: Frédéric Billiet, Richard Dumbrill, Irving Finkel, Dominique Collon, Siam Bhayro and Myriam Marcetteau.

Papers will be delivered in the morning sessions.

Afternoons will consist in round-table debates on selected topics of comparative Organophilology.

Conference Theme

The only instrument of which we are sure of its name is the famous LILIS = lilissu - the kettle-drum.

There are many words for musical instruments scattered throughout three millennia of cuneiform practice. However, there is much debate on which word defines the bovine lyre, the shoulder harp, rattles, pipes, clappers, etc. The word for bell seems to have vanished altogether, although these idiophones appear on most horse trappings during the first millennium, in Assyria.

We are calling for papers covering all aspects of general comparative organophilology. These will be delivered during the morning sessions.

To submit your abstract, please click on the Registration Form button to the left.

The afternoons will host round-table debates on the following specific themes:

giš ZÀ.MÍ - sammu; BALAG - balaggu; giš GÙ.DÉ - inu; giš BAN - qaštu / tilpnu; ALGAR; GI-GID - embubu / malilu; TIGI - tigu

A set of instruments, with typical features, taken from the iconography, will be offered for debate as to their possible equation to a name that could arise from their special features, for instance could the third millennium harp with a foot equate to the KAB ZÀ.MÍ, etc.

Additional propositions are welcome.

Program Organization

For obvious reasons, contributions may not exceed 20 minutes with 10 minutes for questions. All equipment requirements during presentations can be submitted ahead of time using the online registration form on this website.

Please send abstracts and handouts no later than October 1st, 2009.

Registration and Payments

Registrations should be made online, preferably. Please click on the appropriate bar to the left. Payments can be made either online or on the spot (cash only) at the beginning of the conference. Fees are: 60 euros for speakers, 40 euros for students, and 30 euros for accompanying persons or visitors.

Bank transfers within the Euro zone are now usually tax-free when using an online-banking system.

Conferences and round-table debates

All sessions will take place at the Maison de la Recherche, Salle D 035, 28 rue Serpente, Paris 75006.

Accommodation

We kindly ask you to take care of hotel booking yourselves. There are numerous websites helping you find and book a room.

For instance: <http://www.hotels-paris.fr>

Additional Information

Most useful information will be found on this website.

Academic Board

Frédéric Billiet,

Irving Finkel,

Richard Dumbrill,

Dominique Collon,

Siam Bhayro,

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Please visit the site: www.iconea.org

ARS TEXTRINA INTERNATIONAL **TEXTILES CONFERENCE, UNIVERSITY** **OF LEEDS, UK, 2ND-3RD SEPTEMBER** **2009**

Conference Programme

Pre-conference registration (tick the box, sign your name, pick up final programme, map, abstracts, name badge etc).

Tuesday 1st September, 2009, 6-00pm to 8-00pm

Venue: Room G. 32 b, Clothworkers' Building Central, School of Design, University of Leeds. Number 34 on Campus Map.

Day One: Opening Session

Wednesday, 2nd September, 2009

8-30 – 9-00am: Tea, coffee and late registration.

Venue: Entrance Hall and Yorkshire Bank Lecture Theatre, Leeds University Business School (LUBS). Number 19 on Campus Map.

9-00 – 9-30am

Welcome address: Professor M. A. Hann, President of Ars Textrina and Director of the University of Leeds International Textiles Archive (ULITA) 9-30 – 10-10am Key-note address one: Professor Setsu Pickett

Title: Silk ikat velvet weaving in Uzbekistan 10-10 – 10-50am Key note address two: Rabbi Nahum Ben Yehuda

Title: A fresh look at linen in the Old Testament

Morning coffee/tea: 10-50 – 11-20am, Leeds University Business School Entrance Hall
11-20 – 12 noon

Key note address three: Mr Eugene Nicholson

Title: Simply Red

12 noon – 12-40pm

Key note address four: Professor Patricia Williams

Title: Spaniards, Indians, traders, and ... Muslims? International influence in American Southwest style

Lunch: (own arrangements) 12-40 – 1-30 pm

Day One: Afternoon Sessions (1-30 to 6-10pm) Venue A: Lecture Theatre Two, Clothworkers' Building South, Top floor.

Venue B: Lecture Theatre Three, Clothworkers' Building South, Top floor.

Number 35 on Campus Map.

1-30 – 2-40 pm

Session 2A (Lecture Theatre Two) Chair: Barbara Setsu Pickett Sandra Heffernan, Possum fibre - from invasive pest to luxury product Teena Jennings-Rentenaar, The potential for using indigenous cecropia silk in North America: a natural and sustainable fibre.

Bhargavi Patel, Khadi, Fabric for future consumption Session 2B (Lecture Theatre Three) Chair: Patricia Williams Christine Boydell Horrockses fashions and cotton ready-to-wear 1946-1960 KateWells The Ewart Liddell Archive - Irish heritage Cigdem Cini Senturk The use of cotton in historical Turkish textiles 2-40 -3-50pm

Session 3A (Lecture Theatre Two) Chair: Eugene Nicholson Jacqui Hyman What did the Egyptians ever do for Bolton?

Christina Margariti Natural fibres identified in textiles excavated in Greece by the application of non-destructive instrumental analysis Teena Jennings-Rentenaar The traditional and continued use of wild, naturally dyed silk in Madagascar

Session 3B (Lecture Theatre Three) Chair: Kate Wells Muriel Mendes Natural Fibres - The safe fibre for children's apparel Anna Pains For a "New visual angle"

E. Bosibori Oigo Extent of usage of natural fibre for basketry handicraft products in the Kariakor market of Nairobi, Kenya 3-50 – 5-00pm

Session 4A (Lecture Theatre Two) Chair: Nahum Ben Yehuda Frances Pritchard Old Bleach Linen Company: a case study from a curatorial viewpoint Liza Cleland Fabric, colour, shape: interacting constraints on ancient Greek dress Mayumi Maeda Hemp and linen in Japan, tradition and innovation

Session 4B (Lecture Theatre Three) Chair: Sandra Heffernan Thomas Cassidy Adventures in wool carding Sevim Arslan Transition period from the Traditional Kilims to contemporary textile art in Turkey and a group of artists Linda McIntosh The use of natural fibres in Laos: textiles in the Tilleke & Gibbins Collection 5-00pm – 6-10 pm

Session 5A (Lecture Theatre Two) Chair: Thomas Cassidy Jeong Seon Sang and Myung-Ja Park The female form as inspiration for contemporary woollen knitwear KateWells The symbiotic relationship of natural fibres: innovative methods of designing and producing textiles through the unification of fibres physical properties with process' Soo Yeon Kang and Myung-Ja Park Designing the texture of light - lighting design using textiles

Session 5B (Lecture Theatre Three) Chair: Jacqui Hyman Gabriele Wortmann State of preservation of Keratin material found at different archaeological sites Dr Paul Garside The Effect of historic processing methods on the stability of silk artefacts Naomi Luxford Characterising the Silk Collection at Brodsworth Hall Day One: Evening Reception (6-30 - 8-30pm)

Venue: University of Leeds International Textiles Archive (ULITA). This (former chapel) building is adjacent to Leeds University Business School.

Number 21 on Campus

Map. www.leeds.ac.uk/ulita

The event will include a drinks reception, a short film, a brief presentation relating to a current exhibition and a poster display (produced by participants from Hanyang University, Seoul, Korea).

Day Two: Morning Sessions (9-00am – 12 noon) Thursday, 3rd September, 2009 Venue A: Lecture Theatre Two, Clothworkers' Building South, Top floor.
Venue B: Lecture Theatre Three, Clothworkers' Building South, Top floor.
Number 35 on Campus Map.
9-00 – 10-10am

Session 6A (Lecture Theatre Two) Chair: TBC P K Banerjee Development of geotextiles from jute and coir fibres Florence Feldman-Wood Spinning wheels for natural fibres: Variations on a theme Everlyn K. Nguku Influence of degumming processes on Bombyx Mori raw silk

Session 6B (Lecture Theatre Three) Chair: TBC Patricia Belford Woven concrete Briony Thomas Fibres, Patterns and Polyhedra Emma Isobel Ronald Enduring threads of tradition: the block printed cottons of rural Rajasthan 10-10 – 11-20am

Session 7A (Lecture Theatre Two) Chair: TBC Hemlata Raval Value addition of Khadi spun silk by hand block printing using natural dyes Karen E Griffiths A reappraisal of the socio-cultural significance of North Country rag rugs with particular reference to the use of the colour red Helen Wilson Black iron-tannate dyes Session 7B (Lecture Theatre Three) Chair: TBC Mercy W. Wanduara Utilization of hyacinth fibre for handicraft products in Nairobi, Kenya Penny Godfrey Sustainable living and the craft of homemade rug making in the 21st century Third paper: TBC 11-20 – 12-00 noon Roll-up, announcements, questions, answers and conclusion: Professor M. A. Hann, Lecture Theatre Three
Lunch: 12-00 noon – 1-00pm

Day two: Afternoon Coach Trip (1-00pm – 6-00pm) TBC
1-00pm: Front steps, Parkinson Building, number 60 on Campus Map (coach to Saltaire, David Hockney Gallery, with meal, TBC.
Subsidised fee of £5.00 payable at Registration) Arrival back in Leeds at 6-00pm (TBC)
TBC = To be confirmed

**Please visit the site: http://ulita.leeds.ac.uk/docs/Ars_Textrina/Conference_2009.doc
[Go there for better format].**

THIRD INTERNATIONAL CONFERENCE ON THE INCLUSIVE MUSEUM, YILDIZ TECHNICAL UNIVERSITY, ISTANBUL, TURKEY, 29 JUNE TO 2 JULY 2010

Dear Colleague,

On behalf of the Advisory Board, we would like to inform you of the:

THIRD INTERNATIONAL CONFERENCE ON THE INCLUSIVE MUSEUM Yildiz
Technical University, Istanbul, Turkey
29 June to 2 July 2010
<http://www.Museum-Conference.com>

Istanbul is Turkey's most populous city, and its cultural and financial hub. Located in the center of the Old World, Istanbul is one of the world's great cities famous for its historical monuments and scenic beauties. The only city in the world which spreads over two continents, Istanbul lies at a point where Asia and Europe are separated by the Bosphorus Strait. With its history intertwined into the stories of many empires, Istanbul offers a wealth of historic places, many of which have been added to the UNESCO World Heritage List.

At this time of fundamental social change, what is the role of the museum, both as a creature of that change, and perhaps also as an agent of change? The International Conference on the Inclusive Museum is a place where museum practitioners, researchers, thinkers and teachers can engage in discussion on the historic character and future shape of the museum. The key question of the Conference is 'How can the institution of the museum become more inclusive?'

The Conference includes plenary presentations by accomplished researchers, scholars and practitioners, as well as numerous paper, workshop and colloquium presentations. Presenters may choose to submit written papers for publication in The International Journal of the Inclusive Museum. If you are unable to attend the Conference in person, virtual registrations are also available which allow you to submit a paper for possible publication in this fully refereed academic Journal.

Whether you are a virtual or in-person presenter at this Conference, we also encourage you to present on the Conference YouTube Channel. Please select the Online Sessions link on the conference website for further details.

The deadline for the next round in the call for papers (a title and short abstract) is 10 September 2009. Future deadlines will be announced on the Conference website after this date. Proposals are reviewed within two weeks of submission. Full details of the Conference, including an online proposal submission form, are to be found at the Conference website - <http://www.Museum-Conference.com/>.

We look forward to receiving your proposal and hope you will be able to join us in Istanbul in July 2010.

Yours Sincerely,

Amareswar Galla, PhD
Professor of Museum Studies
School of English, Media Studies and Art History, University of Queensland Brisbane,
Australia For the Advisory Board, International Conference on the Inclusive Museum
and The International Journal of the Inclusive Museum

If you have any inquiries about this conference, please send them by reply to the email amareswar.galla@museum-conference.com. All emails are answered in person by one of our conference administrators within two working days.

ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ –
JOB VACANCIES/FELLOWSHIPS

JOBS AT THE UNIVERSITY OF
MANCHESTER, LECTURER IN
BIOMEDICAL EGYPTOLOGY, FACULTY
OF LIFE SCIENCES, KNH CENTRE FOR
BIOMEDICAL EGYPTOLOGY

Closing date: 28/08/2009

Reference: LS/90961

The KNH Centre's main focus is to develop the application of biomedical and scientific techniques in the field of Egyptology. The Centre offers excellent opportunities for interdisciplinary research collaboration, a unique MSc in Biomedical and Forensic Studies in Egyptology and supports a substantial PhD and postdoctoral programme.

This post provides a rare opportunity to make a contribution to the development of a new, multidisciplinary field of study. A science background to PhD level plus postdoctoral experience, and a proven ability to undertake innovative research that involves the application of scientific techniques and methodology to ancient Egyptian remains, especially in relation to disease processes, is required. You will have an active independent research programme or demonstrate the potential to develop such, and be able to contribute to the Centre's teaching programmes.

The post is tenable for 2 years in the first instance, beginning no later than January 2010.

Salary

£32,458 - £38,758 p.a.

Informal enquiries

Professor Rosalie David

Tel: + 44 (0) 161 275 2647

Email: Rosalie.David@manchester.ac.uk

Please refer to the guidance notes for more information on how to apply for our vacancies:

If you require copies of documentation in alternative formats; large print, Braille etc, please contact Human Resources: hr@manchester.ac.uk

To request a hard copy
The Directorate of Human Resources
Tel: + 44 (0) 161 275 8836
Email: Lifesciences-hr@manchester.ac.uk

Please quote reference
LS/90961

Closing date
28/08/2009

From http://www.jobs.ac.uk/jobs/QW083/Lecturer_in_Biomedical_Egyptology/
<http://www.manchester.ac.uk/aboutus/jobs/academic/vacancy/index.htm?ref=162648>
[Go there for live links]

MEMORIAL UNIVERSITY
DEPARTMENT (MUN) OF EARTH
SCIENCES ANNOUNCES A 2-YEAR MSc
AND 3-YEAR PHD SCHOLARSHIP
SUPPORTED BY NSERC

MSc and PhD Scholarship Opportunities
NSERC Discovery Grant Project
MUN Department Earth Sciences

Candidates will contribute to an International program of sedimentology, palynology and archaeology to understand the records of climate change, sea level and water salinity and their impact on human history in the Black Sea-Mediterranean Corridor. The Black Sea Corridor lies at the crossroads of civilization and cultural exchange between Europe and Asia. Since 2001, the Memorial University scientific team has shown that marine palynology (study of pollen, freshwater and marine plankton spores) is the best tool to study links between climate records, archeology, and marine archives of temperature, salinity and productivity (see <http://paleoforge.com/geoarchaeology.htm>). Our studies are Canada's contribution to a United Nations program analyzing impacts of climate and sea level change on humans, and showing how regional hydrogeology affects global water cycles, salinity and heat transport in the North Atlantic - research that is vital because, on both global and regional scales, changes in the Earth's water cycle are the greatest challenge to society. In addition, deep basins of the Corridor contain organic-rich sapropels, the precursors of gas and petroleum-producing black shales, and they provide us with an unparalleled opportunity to study processes leading to oil/gas formation.

The scholarship offers exciting opportunities for participating in research cruises to gather new sediment and oceanographic samples, to interact with the geophysicists, sedimentologists and geochemists at MUN, and collaborate with an International Science team. Using new methods developed for study of marine palynology, and international databases, the research will provide new insight to decades-old debates about the role of flooding vs. carbon production export in sapropels formation, and to refine climate predictions based on numerical models. The sapropel studies will also benefit Canada's search for new offshore fuel resources, and shed new light on the interaction between plankton production and salinity, and how the history of monsoons and Nile floods has shaped civilization in the Near East.

Applicants should have a degree that would allow them to start palynology studies of existing core material at MUN in January (MSc) or May 2010 (PhD) at the latest. The successful candidate will be employed by the university during the fellowship, and the MSc candidate will have the opportunity to work towards the qualification of PhD. resources.

Application deadline: 31 August, 2009

For more information or to apply, please contact [http:// www.mun.ca/research](http://www.mun.ca/research)
Or contact Dr. Peta Mudie Ph. 1-902-426-8720; email pmudie@nrcan.gc.ca



ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS

THE CSA PROPYLAEA PROJECT

The CSA Propylaea Project, a cooperative project to create a single digital resource of information about the Propylaea, the building at the entrance to the Athenian Acropolis, is drawing to a close, and the materials resulting from the work of the project are now available via the project homepage at <<http://propylaea.org>>. CAD models, survey data, and a variety of other materials are now ready.

In addition, since one aim of the project was to serve as a paradigm for similar attempts to gather and make available digital data about important buildings of the past, information about the processes used in the project, problems encountered, and resulting recommendations has been included in the documentation. In fact, that information about processes, both successful ones and problematic ones, is one of the most important fruits of the project.

Only photographs that have been "up" at the site for some time are now available, but we are continuing to plan for making the others available. We remain eager to hear from people who may have ideas about how best to provide them. Please see <<http://propylaea.org/photothoughts.html>> for more information about that issue.

Nick Eiteljorg
nicke@csanet.org

INTERNET SITES

NEWS ON THE ANTIKYTHERA MECHANISM

From Hewlett Packard: "The Antikythera Mechanism http://en.wikipedia.org/wiki/Antikythera_mechanism is an ancient astronomical computer built by the Greeks around 80 B.C. It was found on a shipwreck by sponge divers in 1900, and its exact function still eludes scholars to this day. In September, 2005, as part of the Antikythera Research Project http://www.antikythera-mechanism.gr/index.php?option=com_content&task=view&id=1&Itemid=16, HP was able to access the device in the National Archaeological Museum in Athens to apply _ reflectance imaging techniques <http://www.hpl.hp.com/research/ptm/ri.html> to the front and rear surfaces of the > 70 fragments that comprise the mechanism."

[I would doubt the word 'computer'; /orrery <http://en.wikipedia.org/wiki/Orrery/> would be better.]

A metre-wide plastic dome, covered with flashbulbs, is used to take photos of an object lit from 50 different directions. The images are fed into a computer and used to make a reconstruction of how the surface of the object reflects light. Once that's done, you can ask the computer to light the object from any angle, even impossible ones like beneath its surface, or you can change how the surface reflects light - such as making the crumbling stone of a cuneiform tablet as shiny as metal. Then it's just a case of playing around to find the effect that makes the lettering as clear as possible.

You can try this for yourself on Hewlett Packard's website <http://www.hpl.hp.com/research/ptm/relightdemo/index.html>. Click on one of the images to download the interactive demo in a new window, then move the mouse around to change the direction of the light. Or right click on the image to bring up a little menu, and under "effects" turn on "specular".

The applications in the field of archaeology are awesome (not a word I often use).

For more on the Antikythera Mechanism, see Jo Marchant's blog, Decoding the Heavens, especially the Stunning Antikythera video:

<http://www.decodingtheheavens.com/blog/post/2009/07/29/Stunning-Antikythera-video.aspx>

AMERICAN JOURNAL OF ARCHAEOLOGY ONLINE REVIEWS (JULY 2009)

The AJA publishes quarterly public-access book and museum reviews:

<http://www.ajaonline.org/index.php?ptype=oreview>. These reviews are listed in the table of contents of the respective printed issue of the Journal and are available for free download on the Journal's Web site.

Below is a list of reviews published in tandem with our printed July 2009 issue (volume 113, number 3). We hope you enjoy.

The Editors

Book Reviews

The Nation and Its Ruins: Antiquity, Archaeology, and National Imagination in Greece
By Yannis Hamilakis Reviewed by Gullög Nordquist
http://www.ajaonline.org/pdfs/book_reviews/113.3/01_Nordquist.pdf

The Oxford Handbook of Engineering and Technology in the Classical World By John
Peter Oleson Reviewed by Robert L. Hohlfelder
http://www.ajaonline.org/pdfs/book_reviews/113.3/02_Hohlfelder.pdf

Cult in Context: Reconsidering Ritual in Archaeology By David A. Barrowclough and
Caroline Malone Reviewed by Emily Miller Bonney
http://www.ajaonline.org/pdfs/book_reviews/113.3/03_Bonney.pdf

The Archaeology of Ritual By Evangelos Kyriakidis Reviewed by Emily Miller Bonney
http://www.ajaonline.org/pdfs/book_reviews/113.3/03_Bonney.pdf

Distorting the Past: Gender and the Division of Labor in the European Upper Paleolithic
By Linda R. Owen Reviewed by Giovanni Boschian
http://www.ajaonline.org/pdfs/book_reviews/113.3/04_Boschian.pdf

Deutschen Ausgrabungen auf der Argissa-Magula in Thessalien. Vol. 2, Die Argissa-
Magula, das frühe und das beginnende mittlere Neolithikum im lichte transägäischer
Beziehungen By Agathe Reingruber Reviewed by Ourania Kouka
http://www.ajaonline.org/pdfs/book_reviews/113.3/05_Kouka.pdf

Egyptian Mummies and Modern Science By Rosalie David Reviewed by Gonzalo M.
Sanchez http://www.ajaonline.org/pdfs/book_reviews/113.3/06_Sanchez.pdf

La Sicilia e l'arcipelago maltese nell'età del Bronzo Medio By Davide Tanasi Reviewed
by Gianmarco Alberti http://www.ajaonline.org/pdfs/book_reviews/113.3/07_Alberti.pdf

Krinoi kai Limenes: Studies in Honor of Joseph and Maria Shaw By Philip Betancourt, Michael C. Nelson, and Hector Williams Reviewed by Ilse Schoep
http://www.ajaonline.org/pdfs/book_reviews/113.3/08_Schoep.pdf

Das Prähistorische Olynth: Ausgrabungen in der Toumba Agios Mamas 1994-1996. Die Spätbronseszeitliche Handgemachte Keramik der Schichten 13 bis 1 By Barbara Horejs Reviewed by Peter Pavúk
http://www.ajaonline.org/pdfs/book_reviews/113.3/09_Pavuk.pdf

Grauballe Man: An Iron Age Bog Body Revisited By Pauline Asingh and Niels Lynnerup Reviewed by Francis Pryor
http://www.ajaonline.org/pdfs/book_reviews/113.3/10_Pryor.pdf

The Maikop Treasure By Aleksandr Mikhailovich Leskov Reviewed by Elena Neva and Aleksandr Naymark
http://www.ajaonline.org/pdfs/book_reviews/113.3/11_Neva.pdf

Corpus des inscriptions grecques d'Illyrie méridionale et d'Épire. Vol. 2, pt. 2, Inscriptions de Bouthrôtos By Pierre Cabanes and Faïk Drini Reviewed by John Ma
http://www.ajaonline.org/pdfs/book_reviews/113.3/12_Ma.pdf

The Army of the Roman Republic: The Second Century BC, Polybius and the Camps at Numantia, Spain By Michael Dobson Reviewed by Andrew Erskine
http://www.ajaonline.org/pdfs/book_reviews/113.3/13_Erskine.pdf

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http://www.ajaonline.org/pdfs/book_reviews/113.3/14_Curtis.pdf

"Interrupting the Pots": The Excavation of Cleatham Anglo-Saxon Cemetery, North Lincolnshire By Kevin Leahy Reviewed by Jeremy Huggett
http://www.ajaonline.org/pdfs/book_reviews/113.3/15_Huggett.pdf

Museum Review

The First Emperor: China's Terracotta Army Reviewed by Zhixin Jason Sun
http://www.ajaonline.org/pdfs/museum_reviews/AJA1133_Sun.pdf

ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

THE CAVE OF THE CYCLOPS: MESOLITHIC AND NEOLITHIC NETWORKS IN THE NORTHERN AEGEAN, GREECE. VOL. 1, INTRA-SITE ANALYSIS, LOCAL INDUSTRIES, AND REGIONAL SITE DISTRIBUTION. PREHISTORY MONOGRAPHS; 21, ADAMANTIOS SAMPSON

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Adamantios Sampson, *The Cave of the Cyclops: Mesolithic and Neolithic Networks in the Northern Aegean, Greece. Vol. 1, Intra-site Analysis, Local Industries, and Regional Site Distribution. Prehistory Monographs; 21.*

Philadelphia: Institute for Aegean Prehistory

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Reviewed by Seth Button, University of Michigan (sbutton@umich.edu)

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Our understanding of Paleolithic, Mesolithic and Neolithic activity in the Aegean has changed with astonishing rapidity over the past two decades. This pace of development has been due in part to energetic synthesis and theory-building, in part to the reams of new data generated by fieldwork. In the latter category, one of the most important developments was the discovery and excavation of the Cave of the Cyclops on Youra in the Northern Sporades, an important site which spans the Mesolithic to Late Neolithic. It was excavated in the early 1990's by Adamantios Sampson and his colleagues, who made many of their findings available in useful and timely preliminary reports.

This most recent publication, part of a commendable effort on the part of the INSTAP Academic Press to bring excavation data to print in a timely manner, represents the first installment of a complete final report on the Cave of the Cyclops; a second volume is forthcoming.

Volume I consists of twelve chapters (full titles and authors' names are listed at the end of the review). Some are more detailed than others; many will be of interest primarily to specialists, while others may find a wider audience, especially among students of island archaeology. While not without problems, these chapters generally present excavation data in an intelligible way, and some of the authors also contribute to ongoing debates over island colonization, neolithization and the nature of post-Pleistocene maritime activity in the Aegean.

Sampson sets the scene in Chapter 1, describing the physical setting of the cave, its stratigraphy, and the excavation of the six trenches, A through F. Briefly, in the

Mesolithic, an area near the entrance of the cave was used or occupied at least seasonally. Both goat and pig are present throughout the Mesolithic levels, but fishing, attested by fish bone and by artifacts interpreted as fishhooks, was economically important, while other animals, from red deer to birds, were also hunted. Early Neolithic activity, perhaps intermittent visitation, was initially restricted to the entrance to the cave, though towards the end of the period it may have intensified, as attested by several hearths near the cave entrance. In the Middle Neolithic, an area deep within the cave, a shallow pool surrounded by stalagmite and stalactite columns, became a focus of activity: it was from this area that most of the remarkable Middle Neolithic painted pottery derives, though material plausibly interpreted as domestic waste is absent from this location, which is therefore suggested to have something to do with symbolic or ritual behavior. There is an apparent hiatus of almost a millennium before the Late Neolithic occupation of the cave, attested by floors, hearths, and storage vessels near the entrance, and by more pottery deposited near the pool.

A selective catalog and typology of some of the Neolithic pottery occupies Chapter 2, by Sampson, while other wares are discussed separately in the following chapters. Most of the Early and Middle Neolithic pottery is strongly local in character, though early painted ware (red on white), transitional Early- to Middle- Neolithic in date, is suggestive of connections with Thessaly. Late Neolithic ceramics, in contrast, find parallels throughout the Aegean and may derive from clay sources in Thessaly, Euboea, and the southern Aegean (the results of petrographic analysis are forthcoming). Later forms include storage jars, which along with the hearths and floors belonging to that phase, suggest a more intensive occupation on Youra. Such occupation may still have been seasonal, as in historical periods, when small groups of herdsman would bring their flocks to the island for several months at a time, a fact which should surely inform our modeling of island utilization and contact in the northern Aegean.

The Middle Neolithic painted wares are treated in detail in Chapter 3, by Stella Katsarou-Tzeveleki. Most (80%) of this material derives from the area adjacent to the pool in the interior of the cave. The decoration of these pots involved the painting of a rectilinear net of fine lines over some part of the vessel, which Katsarou-Tzeveleki calls "canvas." Spaces between intersecting lines were filled or left empty to create complex patterns akin to weaving. These decorative schemes are apparently unique, with little apparent connection to contemporary ceramic traditions in Thessaly, Thrace, or Anatolia.

After cataloging the relevant ceramic material and advancing a typology for decoration, Katsarou-Tzeveleki considers these painted ceramics in no fewer than eleven different capacities: as reflecting membership in cultural group, as economic objects, as products of (so Katsarou-Tzeveleki) specialization, as "a product of know-how," in the context of "practical use," as "a structural construction," as "symbol and message of identity," as "a product of society," "a product of men or women" (she concludes that weaving and pottery were both female crafts), in relation to other symbolic behavior, as "historical objects," and finally, as a "unity."

Katsarou-Tzeveleki emphasizes connections between early Greek Neolithic ceramics and other forms of craft as diverse as basketry, wood carving, or (so Katsarou-Tzeveleki) metalwork (101-102). She apparently believes that weavers worked with wool obtained from woolly sheep, citing Trantalidou's forthcoming chapter on the faunal material, but not Sherratt's seminal paper (Sherratt 1981) or other more recent literature on the

Secondary Products Revolution, an omission which contrasts with her bibliographical grab bag of structuralist theory, semiotics, and psychology. Some of Katsarou-Tzevelaki's arguments are thought-provoking, while other assertions and assumptions -- for example, that "cooking was invented in the Mesolithic"--will elicit skepticism. Arguments about the symbolic function of painted pottery and its relevance to identity formation and articulation could have been made more concise and condensed into fewer sections.

Chapter 4, by Fanis Mavridis, is a more straightforward catalog and discussion of Late Neolithic burnished and painted ceramics from the Cave of the Cyclops. These represent a small fraction of the total ceramic material and come mostly from disturbed contexts. Mavridis argues that this pottery reflects membership in a Late Neolithic Aegean koine, in contrast to other periods in which ceramic style reflects connections with Thessaly (112).

In addition to the Neolithic ceramics, the excavations recovered a few handfuls of Early, Middle, and Late Helladic sherds and four possible Geometric sherds: these are covered by Sampson in Chapter 5. Overall, the cave appears to have been used only sporadically over the millennia represented by these artifacts. Classical and Hellenistic black-glazed material is more abundant and allows the reconstruction of a number of kylikes and kotyles. Most of the Hellenistic material was recovered from a niche inside the interior of the cave. Its presence may suggest some sort of ritual connected with the cave, as at cave sites elsewhere in the Mediterranean, at Nakovana cave in central Dalmatia, for example, and prefigures Roman ritual activity at the Cave of the Cyclops.

Such activity is primarily attested on Youra by an unusual quantity of Roman lamps, addressed by Georgios Koutsouflakis in Chapter 6. Koutsouflakis argues that at this time the Cave of the Cyclops was a cult place, perhaps visited by ships stopping to water at the island. In addition to the lamps, the discovery of a thymaterion, or incense-burner, is consistent with the hypothesis of cult activity. For the most part, the lamps themselves fall into two major categories, the first Attic or Attic-style and the second those deriving from Asia Minor, suggesting something about the position of the Northern Sporades in maritime routes of the 1st through 4th centuries CE.

Other artifact classes--ground stone, other stone objects, and small finds--are collected in Chapter 7, by Sampson and Orphanidis. The ground stone assemblage includes a variety of grinders from both Mesolithic and Neolithic levels, though unlike other Neolithic sites in the Aegean, including cave sites, the Cave of the Cyclops produced few millstones. Among the small finds are a Late Neolithic violin type figurine, spindle whorls, sling bullets or tokens, and a cupreous metal needle which Sampson describes as bronze (it is approximately 75% copper, 1.9% arsenic and .4% tin). The presence in Lower Mesolithic levels of two grooved stones, conventionally described as "shaft straighteners," is noted: this class of artifact is well represented in the Epipaleolithic and early Neolithic of the Upper Euphrates valley and now on Cyprus, at the site of Agia Varvara-Asprokremnos (McCartney et al. 2007). The well-known fishhooks from the Cave of the Cyclops are not discussed here; rather, they are the subject of a forthcoming chapter in the second volume.

The chipped stone assemblage is discussed by Malgorzata Kaczanowska and Janusz Kozlowski in Chapter 8. The Mesolithic assemblage is primarily flake-based, and local

siliceous stone the primary material, with reduction on site. However, this straightforward tradition apparently existed alongside an unprecedented tradition of Mesolithic obsidian microliths, distinctly different from those on mainland Greece. The authors consider the possibility that these artifacts are intrusive, but argue against it. As in many other places, the transition from Mesolithic to Neolithic saw an increase in blade production and change in raw material procurement strategies, with obsidian becoming the material of choice. However, the Neolithic component of the assemblage includes not only standard obsidian blades, but crescents and geometric microliths. The persistence of this microlithic tradition in the Northern Sporades into the Late Neolithic is an unusual feature, to say the least, but research is making clear the extent to which chipped stone industries across the Mediterranean are the product of long-lived traditions and multiple and diverse influences.

In Chapter 9, Sampson reports on survey and limited excavation on other remote islands of the Northern Sporades. The methodology of this survey is nowhere discussed, but it seems to have been simple extensive reconnaissance at the discretion of the investigators. The general picture is of an ephemeral and intermittent human presence on these islands from at least the Late Neolithic, and perhaps earlier; finds from Psathoura and Youra are attributed by Sampson to the Middle Paleolithic (184). Ostensibly Paleolithic material not only in the Sporades but elsewhere in the Aegean has often been treated with skepticism (Cherry 1990) but is becoming increasingly convincing (Broodbank 2006).

In Chapter 10, Sampson continues on from the results of the survey to present data gathered on historical land use and vegetation history and human habitation on Youra but also on other islands of the Northern Sporades, including Pappous, Koumbi, Gramiza, Piperi, Skantzoura, Psathoura, Psathonisi, Kyra-Panagia, and Alonessos. Despite its brevity this is a useful contribution to the literature on traditional agriculture and animal husbandry in the Aegean. The substantial degree of variation in both local microenvironmental conditions and in historical subsistence practice is significant. Historically, stock-keeping has been more important than fishing, with cereal agriculture, olives, nut trees, bee keeping and gardens also helping to support small communities such as the monasteries on Youra and Piperi. Water shortages were a persistent problem on those islands without perennial springs; human and animal populations often depended on water stored in cisterns (and perhaps the pool in the Cave of the Cyclops).

A Mesolithic human cranial fragment recovered in the 1995 excavation season is described by Nickos Poulianos in Chapter 11, which also touches on other human remains recovered. The cranium apparently belongs to a female of mature age, perhaps 65-70, and is slightly deformed by use of a cradle board or swaddling band. Poulianos argues that the skull's measurements suggest membership in a "Mediterranean-Aegean" group, proving "diachronic interaction between European anthropological types, as well as those of other continents" (196-7). The fact that this individual lived to an advanced age is taken as evidence of "high average life expectancy" due to diet, climate, and social conditions (198).

In Chapter 12, Sampson presents his conclusions. He rightly argues that the use and eventual colonization of Aegean islands was not necessarily resource-driven, at least not in a straightforward way. Rather, he highlights the importance of sea level changes at the end of the Pleistocene in altering local microclimates (and therefore the conditions of subsistence practice) and encouraging maritime activity. Consideration of possible

maritime routes in the Mesolithic Aegean leads Sampson to suggest that from at least the Early Neolithic and possibly earlier, long open-water crossings between points not intervisible were commonplace. However, it is hard to escape the conclusion that the case of the Northern Sporades generally supports the use of now familiar spatial models such as target/distance ratios for understanding prehistoric maritime mobility, and also reinforces the importance of seasonal resource availability and "island nurseries" for seafaring. The increasing body of evidence for high maritime mobility in the Mesolithic Aegean fits well with recent work by Broodbank (2006) suggesting a partly maritime dispersal of populations and/or transmission of Neolithic technologies and behaviors from Southwest Asia to the Aegean and Southeast Europe, made possible by a long seafaring tradition. Many readers will wish Sampson had engaged more directly with important literature by e.g. Renfrew, Cherry and Broodbank on island archaeology in the Aegean.

The evidence from the Cave of the Cyclops bears directly on the question of neolithization, on which Sampson inclines towards an indigenist position. The facts that wild wheat (*Triticum monococcum*) grows in Greece, and the possibility that wild ancestors of sheep and goats might at one time have lived there, are argued to support local domestication "without foreign intervention" (226). The presence of morphologically "transitional" domestic animals, likewise cited in support of indigenous neolithization, is difficult to evaluate until Trantalidou's final report on the animal bones is published; however, it is necessarily exceedingly difficult to differentiate such "transitional" forms from feralized domestic caprines or the products of interbreeding between wild and domestic populations (see e.g. Vigne et al. 2003). The apparent absence of Early Neolithic sites in Thrace, noted by Sampson, cannot be taken as strong evidence against demic diffusion, especially if such dispersal was partly maritime in character; Holocene marine transgression is likely to have submerged many coastal sites (and see Ammerman et al. 2008 for Early Neolithic sites in Thrace).

While valuable, this book contains numerous small errors. In Figure 12.11, a map of important Early Holocene sites in the Eastern Mediterranean, the dot representing the site of Cap Andreas-Kastros on the Karpass peninsula of Cyprus is incorrectly labeled as Akrotiri-Aetokremnos, while the dot in the Argolid purporting to represent Franchthi Cave is placed at the head of the Gulf of Argos, not far from the location of Klissoura Cave (the latter two sites are correctly labeled in Figure 12.2 on the facing page). It would have been better to choose a standard English transliteration for site names: the site of Parekklisha-Shillourokambos is variously spelled as "Silourokamos" (in Table 12.1) and Sillourokamos (Fig. 12.11), while Klissoura is also spelled (as on p. 208) as Klisoura.

There seems to be some confusion concerning taxonomy. On pp. 188-189, *Quercus coccifera*, Kermes oak, a common maquis component, is called holly. Holly oak or holm oak is *Q. ilex*, while hollies proper are generally placed in genus *Ilex*. On p. 202, while members of the genus *Patella* are correctly identified as limpets, the *Monodonta* are simply called mollusks, rather than given their common English name, topshells.

A Late Neolithic stone figurine from the site is first mentioned (p. 7) with no reference to the corresponding illustration in Figure 7.5 and Plate 7.1. In these plates, and in Chapter 7, it is given the identifying number S70, but on p. 165 the same artifact is referred to as SF 70.

For thirty years or so, the terms of investigation and debate have been defined by work on island colonization and the applicability of biogeographical models to human movement. A strong focus on colonization has tended to result in the documentation of the earliest recorded presence or apparently permanent presence on islands without requiring that much be said about the nature of that presence. With this publication, Sampson and his colleagues have helped to broaden the discussion in several ways. First is by contributing to the increasing body of evidence for the antiquity of maritime activity in the Aegean, with Paleolithic seafaring looking increasingly likely, however obscure the specifics at this point (cf. Broodbank 2006).

Second, by moving away from the focus on colonization and investigating how the spatial configuration of islands and "seascapes" influence the social dynamics of mobile communities -- including changes driven by global climate change, changes in sea level, and (probably) local environmental changes in both fauna and flora (cf. Simmons 1999, 2004). Finally, the Cave of the Cyclops points to regional diversity in ceramics, subsistence practice, symbolic behavior, resource procurement, and the importance of local factors in producing variability and change in subsistence practice at the Mesolithic-Neolithic transition.

List of Chapters and Contributors:

1. The Cave Setting and Stratigraphy, A. Sampson
2. The Pottery Analysis, A. Sampson
3. The Middle Neolithic Weavers Paint: Red Painted Patterns as Markers of the Local Group's Identity, S. Katsarou-Tzeveleki
4. The Late Neolithic Painted and Burnished Decorated Wares, F. Mavridis
5. The Lamps of the Roman Period, G. B. Koutsouflakis
6. The Ground Stone Utensils and Miscellaneous Finds, A. Sampson and L. Orphanidis
7. The Chipped Stone Artifacts, M. Kaczanowska and J.K. Kozlowski
8. The Survey in the Deserted Islands of the Northern Sporades, A. Sampson
9. The Animal-Husbandry Ethnoarchaeology of Alonnessos and the Deserted Islands in the Northern Sporades, A. Sampson
10. A Mesolithic Cranial Vault and Other Human Remains, N. Poulianos
11. Conclusions, A. Sampson.

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Please visit the site: <http://bmcr.brynmawr.edu/2009/2009-08-21.html>

OSTÉO-ARCHÉOLOGIE ET
TECHNIQUES MÉDICO-LÉGALES:
TENDANCES ET PERSPECTIVES. POUR
UN MANUEL PRATIQUE DE
PALÉOPATHOLOGIE HUMAINE,
PHILIPPE CHARLIER

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Philippe Charlier, Ostéo-archéologie et techniques médico-légales: Tendances et perspectives. Pour un manuel pratique de paléopathologie humaine. Collection Pathographie, 2. Paris: De Boccard, 2008. Pp. 684. ISBN 9782701802374. €80.00 (pb).

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[Authors and titles are listed at the end of the review.]

A l'image de l'archéologie en son temps, l'anthropologie (au sens non anglo-saxon du terme, c'est-à-dire l'étude du facteur humain biologique: os, maladies, transformation des corps) tend peu à peu à s'affranchir, et de passer du statut de science annexe de l'archéologie à une discipline à part entière. Nous en voulons pour preuve le dynamisme de l'anthropologie funéraire et en particulier la création de l'archéothanatologie. L'ouvrage dirigé par Ph. Charlier (également responsable de cette nouvelle collection Pathographie dont le présent volume est le no 2) marque sans doute une étape supplémentaire importante dans cette autonomisation.

Son ambition: offrir un manuel pratique à ceux qui, historiens, archéologues ou anthropologues, étudiants ou professionnel confirmés, seraient amenés à rencontrer des os en contexte, c'est-à-dire pour l'essentiel en archéologie funéraire mais pas seulement. Ce qui distingue ce manuel de paléopathologie par rapport à d'autres ouvrages portant sur des sujets similaires, c'est qu'il est véritablement centré sur l'étude de l'os, l'os humain en l'occurrence. On découvre ainsi la richesse d'information contenue dans ces restes osseux qui ont été bien souvent négligés par les chercheurs en dehors des déterminations des caractères primordiaux de l'âge et du sexe. Il faut également saluer le travail de l'éditeur pour fournir pour la première fois en langue française une telle mise au point sur un sujet habituellement réservé au domaine anglo-saxon.

L'ouvrage est dense et détaillé. Il possède de grandes qualités pratiques. Il s'organise en 42 chapitres, généralement assez courts (entre 5 et 10 pages) traitant chacun de cas pathologiques que les chercheurs peuvent être amenés à rencontrer dans leur pratique quotidienne, allant du rappel des règles de base de la décomposition du cadavre en divers milieux aux méthodes de paléogénétique, de la détermination de l'âge, du sexe ou de

diverses maladies à partir des restes osseux à la paléodémographie. A la fin de chaque chapitre, des 'fiches' font le point sur un cas d'espèce ou procurent des références utiles comme cette liste de collections de comparaison qui devrait permettre à chacun de se procurer les informations essentielles à sa recherche (p.245-47). Mais il faut dire que des exemples précis parsèment tous les chapitres, les rendant ainsi plus concrets aux yeux du lecteur.

A l'usage, cette structure possède de réelles qualités. Elle permet d'accéder rapidement aux informations essentielles sur des sujets précis. D'autant que les éditeurs ont veillé à fournir au lecteur de nombreux dessins et photos permettant une bonne visualisation des cas étudiés. Une bibliographie foisonnante de 90 pages clos ce volume.

Les apports essentiels de ces diverses études sont de deux ordres. D'une part, elles rappellent que l'étude des restes osseux donne un accès direct aux divers modes de vie des Anciens comme la croissance, le régime alimentaire, les conditions de travail ou de mort ou du niveau de connaissance médicale. Ces données sont des compléments important des sources traditionnelles comme les textes ou l'iconographie. On apprend ainsi que par exemple à Argos durant le premier âge du Fer et l'époque archaïque, les conditions de guérisons d'individus ayant subi des traumatismes crâniens parfois graves étaient bien meilleures qu'on ne peut le penser de prime abord. D'autre part, dans le cas de l'archéologie funéraire, ces études sont indispensables pour reconstituer les gestes autour du ou des mort(s) et permettent ainsi une meilleure intelligibilité des pratiques funéraires.

Si la plupart des chapitres et notices sont parfaitement intelligibles pour le profane, il faut avouer que certains sont plus difficiles d'accès pour le lecteur peu familier avec une littérature qui est directement issue des sciences médicales et médico-légal. En effet, on trouve ça et là l'emploi d'un grand nombre de vocabulaire technique, notamment dans les contributions des auteurs de formation médicale.

Charge au lecteur de se mettre à niveau dans ce domaine, ce qui deviendra de toutes manières indispensable si celui-ci compte se spécialiser ou ne serait-ce que lire les publications dans ce champ de recherche. Dans la perspective 'manuel', on aurait pu cependant attendre peut-être quelque aide des auteurs dans certains domaines, notamment la taxinomie des ossements. Nul doute qu'un simple chapitre récapitulatif de cette taxinomie, avec les noms des os et les règles de leur description eut pu palier à cette tendance.

Mais ce n'est là qu'un moindre manque dans un ouvrage bien fait et complet qui deviendra à n'en pas douter un outil de travail indispensable pour les lecteurs de langue française et les autres.

Table of content

Avant-propos, M. Durigon

Préface, P.L. Thillaud

Histoire de la Paléopathologie, P. Charon

Méthodologie du diagnostic rétrospectif, P. Charon

Paléopathologie de terrain, P. Charlier

L'apport de la médecine légale à la paléopathologie, P. Charlier et M. Durigon

Les apports de l'entomologie médico-légale à la paléopathologie et à l'archéologie, P. Charlier et M. Durigon

Les apports de la malacologie à la paléopathologie, L. Karali

Les altérations taphonomiques et les pseudo-pathologies, M. Patou-Mathis

L'examen radiographique conventionnel et scannographique des restes humains anciens, A. Cotten, S. Boudard et J. Blondiaux

La paléo-neuro-anatomie, P. Charlier et I. Huynh-Charlier

Moulages accidentels et volontaires des corps anciens, P. Charlier

La reconstitution faciale à partir des données crâniométriques, J.N. Vignal

Apport de l'endoscopie à la paléopathologie (tête et cou), A. Guerre et P. Charlier

Apport des isotopes stables à la paléopathologie, J. Poupon et C. Polet

Les examens biochimiques complexes en paléopathologie, P. Charlier

Méthodes de la paléogénétique. Modalités de prélèvement sur le squelette et les restes momifiés, B. Ludes, C. Keyser-Tracqui et S. Amory

Quelques détails sur les prélèvements destinés aux examens de paléogénétique, C. Keyser-Tracqui

Principes de la paléoparasitologie. Modalités de prélèvement sur le squelette et les restes momifiés, P. Charlier

L'étude microscopique des restes humains anciens, P. Charlier

Etude anatomo-pathologique (optique et MET) de trois échantillons cutanés de momies Chinchorro (Chili), P. Charlier et P. Soto-Heim

Etude microscopique (optique et MEB) du liquide de décomposition solidifié, P. Charlier, G. Lorin de la Grandmaison

Etude microscopique (optique et MEB) du tartre dentaire, P. Charlier

Poils et cheveux en paléopathologie et anthropologie médico-légale, P. Charlier et M. Durigon

Des cheveux ou poils proviennent-ils du même individu ? L'exemple d'Agnès Sorel (1422-1450) et de ses médaillons de cheveux, P. Charlier

Paléodermatologie: lésions dermatologiques sur les restes humains anciens, E.J. Lowenstein

Approche méthodologique pour la conservation des os et des corps humains, N. Gabrielli

La différenciation d'ossements animaux et humains, P. Méniel

Liste des collections de comparaison en France et dans les pays voisins, P. Méniel

Méthodes de l'analyse des incinérations humaines, S. Monozzi

L'identification du sexe d'un individu à partir du squelette, J. Bruzek et A. Schmitt

Quelle démarche suivre pour estimer l'âge au décès à partir du squelette ?, A. Schmitt et P. Georges

La combinaison des informations apportées par plusieurs germs dentaires: une approche statistique, A. Chambaz

Donner un âge précis ? L'exemple des individus du caveau royal de Louis XI à Cléry-Saint-André (Loiret), P. Georges et A. Schmitt

Détermination de l'âge par la méthode des anneaux du cément. Approche méthodologique, N. Gabard et T. Colard

Les lésions traumatiques: dénomination, typologie, P. Charlier

La chirurgie orthopédique à Argos (Grèce). Succès et échecs d'après les cas paléopathologiques, P. Charlier

L'identification du travail infantile en paléopathologie, P. Charlier

Des lésions traumatiques sur un squelette d'immature: enfant battu, enfant malade ou enfant turbulent ?, P. Charlier et C. Rambaud

L'étude des modifications de surface osseuse d'origine anthropique. L'apport des exemples historiques, E. Boës et P. Georges

Exemple de description d'un lacune crânienne, E. Boës et P. Georges

Actes de violence sur un sujet de la nécropole mérovingienne d'Erstein (Bas-Rhin), E. Boës et P. Georges

Intérêt des lacunes crâniennes cicatrisées pour l'histoire de la violence et de la compréhension de l'anatomie du crâne, E. Boës

Reconnaître une trépanation, E. Jamet

Altérations articulaires, M. Billard

Les marqueurs ostéoarticulaires d'activité, S. Villotte

L'insertion humérale en fosse du muscle grand pectoral, S. Villotte

Les lésions tumorales osseuses, G. Fornaciari et V. Giuffra

Un tératome mature médiastinal (Rome 1er-3e s. ap. J.-C.), P. Charlier

Le diagnostic des calcifications biologiques, C. Kramar

L'hyperostose frontale interne, P. Charlier et L. Brun

Anomalies ophtalmologiques et orbitaires en paléopathologie, P. Charlier

Les lésions de stress et carencielle. Analyse critique et réévaluation, P. Charlier

Un cas de scorbut dans la Rome médiévale (Tombe Bulgaria, Gerione), P. Charlier

La Paléopathologie des tréponématoses, J. Blondiaux

Méthologie de la paléodontologie, P. Charlier et F. Tilotta

Déséquilibre architectural crânio-facial et ses relations avec l'occlusion et le squelette post-crânien, D. Hadjouis

Diagnostic des malformations humaines en paléopathologie, P. Charlier

L'utilisation des caractères discrets et des maladies dans l'établissement des liens de parenté entre squelettes, P. Charlier

Le diagnostic des déformations crâniennes intentionnelles, E. Jamet et M. Awazu

La paléodémographie. Gestion des données paléopathologiques et anthropologiques à l'échelle d'une nécropole, J. Zammit

La paléopathologie des sépultures atypiques: méthodologie générale et étude de cas, A. Tsaliki

La néolithisation des les modifications des lésions paléopathologiques, J. Zammit

L'iconodiagnostic et l'histoire des maladies dans le monde gréco-romain, D. Gourevitch

Bibliographie

Please visit the site: <http://bmcr.brynmawr.edu/2009/2009-08-35.html>

THE ENCYCLOPEDIA OF ANCIENT NATURAL SCIENTISTS: THE GREEK TRADITION AND ITS MANY HEIRS, PAUL T. KEYSER, GEORGIA L. IRBY- MASSIE

Bryn Mawr Classical Review 2009.08.25

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Reviewed by Katharina Volk, Columbia University (kv2018@columbia.edu)

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The *Encyclopedia of Ancient Natural Scientists* (EANS), edited by Paul T. Keyser and Georgia L. Irby-Massie, is a remarkable achievement, covering in its 2,053 entries a wide variety of scientific authors who range in time from Homer to around AD 650 and in place from India to Britain. Given that "science" is nearly impossible to define, especially in the context of premodern societies, the editors have wisely decided on an inclusive approach, using as the sole criterion for selection whether the author's "endeavor was to understand or model some aspect of the natural world on the basis of investigation and reason" (1). The EANS thus covers specialists in the fields of agriculture, alchemy, architecture, astrology, astronomy, biology, cosmology, geography, harmonics, mathematics, mechanics, medicine, meteorology, metrology, optics, pharmacy, physiognomy, psychology, and veterinary medicine, as well as encyclopedists, doxographers, and paradoxographers. Most entries are on individuals, but some treat trends or schools (e.g., Babylonian astronomy), anonymous sources (including 44 papyri), or even objects (e.g., the Antikythera device and the Lion Horoscope of Commagene).

This comprehensiveness, coupled with the compilers' diligence in ferreting out obscure authors, makes the EANS a resource like no other. As the statistics-happy editors point out (5), less than 25% of their entries are found in such standard English-language reference works as the *Oxford Classical Dictionary* or the *Dictionary of Scientific Biography*; even Brill's *New Pauly* (the English version of the *Neuer Pauly*), once completed, will cover only about 40% of the material of the EANS. Furthermore, 276 names (over one-eighth of the entries) are effectively new to modern scholarship: 121 of these are medical writers mentioned previously only by Johann Albert Fabricius in volume 13 of his *Bibliotheca Graeca* of 1726; the remaining 155 do not appear in any reference work.

About half the entries, including all the major ones, were written by 119 international scholars, many of them outstanding specialists in their fields. The editors themselves penned the remaining articles, including most on the minor or next-to-unknown figures. I should note that in reading and assessing the entries, I have primarily concentrated on my own interests, which include astronomy and astrology, philosophy, and Latin authors, and my remarks in what follows will focus on these. I am working on the assumption that my observations apply to the EANS as a whole, though it would be interesting to know how specialists in, for example, medicine or some of the more technological fields judge the volume.

As is perhaps not surprising, the quality of the entries varies considerably. Many are excellent, a few are mediocre, and some are so idiosyncratic or otherwise problematic that readers would be well advised to consult instead a more level-headed source, such as the OCD. There are also great differences in style and structure. Apparently no firm guidelines were given, and it was left to the authors what to include or not. As a result (to take just one issue), some entries abound in biographical information, while others contain hardly any. We thus learn in detail about the military and political careers of Julius Caesar and Germanicus, while the article on Cicero tells us nothing about his life and does not even mention that he was also active in politics. Instead, we find a perceptive discussion of Cicero's intellectual importance both in his own time and in later periods, information of a kind lacking from many other entries.

The relative length of the articles leads to some skewing of perspectives. The entry on M. Tullius Cicero--to stay with this example--is followed by one on his brother Q. Tullius Cicero, included in the EANS by virtue of a poetic fragment attributed to him that treats the zodiac. The leisurely exposition on Quintus is about one-third the length of the highly compressed discussion of Marcus, giving a distorted impression of the relative significance of the two brothers. Obviously, the encyclopedia format--at least in the case of a one-volume, printed book--necessitates a word limit for entries, which means that major figures end up getting comparatively short shrift. Still, it is jarring when after only three and a-half pages on Aristotle (one of the longest entries in the EANS and an outstanding example of how to convey maximal information in minimal space), we find eight pages on individual pseudo-Aristotelian works.

The lack of a common format means that some contributors very carefully document each piece of information they provide, while others indiscriminately report often questionable doxographical and biographical material. The plain statement that "Thales said all was water" (779) is the kind of thing one would not like to read in a student's term paper. More problematic is the narrative of Vergil's life that reports without any qualification that "[a]fter moving to Naples," the poet "joined an Epicurean school led by Siron and became acquainted with Philodemos. During the veteran-resettlement program of 42-40 BCE his family's estate was confiscated, then apparently restored through the intervention of his patron, Asinius Pollio" (824).

A widespread problem is the failure of many authors to make a clear distinction between a writer's extant and lost works. The otherwise exemplary entry on Pliny, for example, could well raise readers' hopes that they might be able to get their hands on Pliny's manual on throwing javelins from horseback. Positively misleading is the statement, in the article on Lucan, that "[h]is best known works are the *Siluae* and the *Bellum Ciuile*"

(83). Not surprisingly, nothing more is said about the Siluae, a title known to us only from the Lucan biography of the late-antique grammarian Vacca.

Despite the claim of the subtitle that the EANS covers a "tradition" with "many heirs," it is not easy to get a sense from the book how individual figures and achievements are connected. As already mentioned, reception (whether in antiquity or beyond) does not figure large in most articles, and while there is the usual cross-referencing (names printed in small capitals are ones that have their own entries), there are no "see also" sections or other mechanisms for opening up the discussion. Readers of the highly informative article on Epicurus, for instance, get no sense that there were Epicureans after the master, who they were, and what they were up to. In order to find out, they would need to look up "Epicurean" in the Glossary (on which see further below), where all related entries are listed. This system is cumbersome, and not all readers may realize that they have to take this extra step.

Sometimes, a strand in the larger intellectual tradition gets entirely lost. The article on Aratus makes no mention of the fact that the *Phaenomena* became one of the most popular poems of antiquity, served for centuries as a textbook of astronomy, and occasioned numerous commentaries. It states in general terms that the work was repeatedly translated into Latin, but no details are given, and since there is no entry for "Aratea" either, readers who did not know about Aratus' reception in Rome will not find out from the EANS and those who were hoping to learn more will be forced to look up separately all the individual translators. If they do so, they will encounter further obstacles. While there is an entry on Germanicus, the already stuffed article on Cicero does not mention his translation of Aratus, and the pitifully short discussion of Avienus contains only the briefest reference (ditto for Varro of Atax). By contrast, the disproportionately long entry on Ovid tells us what each of the two tiny fragments of his *Phaenomena* is about. Though the article on Vergil dutifully reports Aratean influence (the one on Manilius does not), and though there are numerous individual entries on commentators of his poem, the overall significance of Aratus (not exactly a major scientist, but still an important figure in the history of science) is not apparent from the EANS.

However, one of the great joys of encyclopedias in general and the EANS in particular is not so much looking up central figures (on whom information is easy to come by elsewhere, after all) as having the opportunity to encounter previously unknown characters and facts. With its stress on novelty, the EANS is perfect for browsing, and the dozens of short notices on obscure scientists, most of them written by the editors themselves, are colorful gems in this Wunderkammer. Who would not be delighted to find out about Agesias of Megara, "cited for crane ethology by the *Paradoxographus Vaticanus*" (45); Calliphanes, an "authority on Libyan hermaphrodites" (464); and the medical writer Apollodorus of Citium, who "recommended crushed radish in water as an antidote to mistletoe poisoning" (108)? The comprehensiveness of the EANS indeed borders on the marvelous. I had made a list of figures that I consider, well, marginal and was impressed to find each and every one of them in the work, including such not-exactly-household names as the first-century BC Latin didactic poet Egnatius and Fronto the astrologer, quoted for his antiscia theory by Firmicus Maternus.

It is in the copious appendices that the editors get carried away by their encyclopedic urge to a point that transcends the utilitarian. Some parts of these 200+ pages of what one

might think of as bonus features are genuinely helpful. These include the already-mentioned Glossary, which explains common terms used in the entries: mostly philosophical schools, philosophical and medical terms, and the names of plants (some accompanied by illustrations from the Athos Dioscurides, as explained in a learned disquisition on the manuscripts of Dioscurides, which follows the Glossary--but is, unfortunately, not cross-referenced in the entry on Dioscurides). Also very useful is a list of all entries by topic; this is where you go if you want to find all agricultural authors or all encyclopedists. The various indices, by contrast, seem inspired by nothing so much as an unfettered delight in classification: scientists are categorized not only by ethnicity and the language in which they wrote, but also according to whether they were female, poets, monotheists, or rulers. I am sure I am not the only person to be reminded of the Chinese encyclopedia ("Celestial Emporium of Benevolent Knowledge") playfully reported by Jorge Luis Borges as classifying animals as "(a) those that belong to the Emperor, (b) embalmed ones, (c) those that are trained, (d) suckling pigs, (e) mermaids" all the way up to "(n) those that resemble flies from a distance" (in Borges's "The Analytical Language of John Wilkins").

The benevolent knowledge of the editors is on evidence in the monumental Gazetteer, 55 pages that list "all 290 or more sites and all 35 or more regions from which around 1000 ancient scientists are attested or considered to have originated" (855). This catalogue, of which Pliny would have been proud, is an obvious labor of love: it gives brief historical sketches and secondary literature, as well as the modern place name and--"[b]ecause modern names are subject to change" (855)--the longitude and latitude of each town! Perhaps it attests to my lack of imagination that I fail to see the use of this particular appendix for the readers of the EANS, though I assume that if you look at the world with the ambition of an encyclopedist, more is always better than less, and if you can have an Encyclopedia of the Places of Origin of Ancient Natural Scientists, why not? I only briefly mention that there is also a frankly amazing index of all the plants that make an appearance in the EANS (beyond those included in the Glossary), which first lists them alphabetically according to their Greek, Latin, or English names and then provides a second list by binomial taxonomy.

To end on a more mundane note, the volume is generally attractive and well produced, with a nice cover picture of the Antikythera device. The typographic conventions (use of bold, underlining, small caps, etc.) take some getting used to, as does the consistent transliteration of Greek names, with the more common Latinate or Anglicized forms used only in special cases (the reader will notice that I have tacitly reverted to Latinate spelling for the purpose of this review). This is a matter of taste, though I note that while most classicists will have no problem with finding Heraclitus under Herakleitos, historians of science who specialize in more recent periods--and who might otherwise use the EANS with great profit--may end up confused. I myself was more perturbed by the spelling of Latin

names: if u is used for both /u/ and /w/ in the lower case, then V should be its equivalent in the upper case, but the EANS uses V only at the beginning of names and only if it is a consonant, and U word-internally throughout. This enables the editors to keep names separate that begin with U- and V-, but in turn gives us such atrocities as VITRUIUS.

Needless to say, all serious libraries need to own this book (which is also available in electronic form). Most individuals will balk at the price of \$360, but if you can afford it, you will have bought yourself a book of wonders.

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Articles

221-253 The Palaeo-Environmental Contexts of Three Possible Phoenician Anchorages in Portugal Shelley Wachsmann, Richard K. Dunn, John R. Hale, Robert L. Hohlfelder, Lawrence B. Conyers, Eileen G. Ernenwein, Payson Sheets, Maria Luisa Pienheiro Blot, Filipe Castro, Dan Davis Abstract Published Online: 3 Apr 2009 DOI 10.1111/j.1095-9270.2009.00224.x

254-280 Traces of Roman Offshore Navigation on Skerki Bank (Strait of Sicily) Christian Weitemeyer, Hardi Döhler Abstract Published Online: 18 Mar 2009 DOI 10.1111/j.1095-9270.2009.00228.x

281-296 Sailing the Bremen Cog , Gabriele Hoffmann, Per Hoffmann, Abstract Published Online: 18 Mar 2009 DOI 10.1111/j.1095-9270.2009.00225.x

297-313 Designing the 9th-Century-AD Vessel from Bozburun, Turkey Matthew Harpster Abstract Published Online: 18 Mar 2009 DOI 10.1111/j.1095-9270.2009.00226.x

314-330 Windward Sailing Capabilities of Ancient Vessels Colin Palmer Abstract Published Online: 4 Nov 2008 DOI 10.1111/j.1095-9270.2008.00208.x

331-342 Trajan's Bridge over the Danube Marko Serban Abstract Published Online: 23 Jan 2009 DOI 10.1111/j.1095-9270.2008.00216.x

343-368 Ancient Sounding-Weights and Navigation along the Mediterranean Coast of Israel Ehud Galili, Baruch Rosen, Dov Zviely Abstract Published Online: 23 Jan 2009 DOI 10.1111/j.1095-9270.2008.00218.x

369-385 Boats on Bark: an Analysis of Groote Eylandt Aboriginal Bark-Paintings featuring Macassan Praus from the 1948 Arnhem Land Expedition, Northern Territory, Australia Sally K. May, Jennifer F. McKinnon, Jason T. Raupp Abstract Published Online: 11 Jun 2009 DOI 10.1111/j.1095-9270.2009.00230.x

386-399 An Exploratory Geophysical Survey at the Pyramid Complex of Senwosret III at Dahshur, Egypt, in Search of Boats Pearce Paul Creasman, Benjamin Vining, Samuel Koepnick, Noreen Doyle Abstract Published Online: 12 Jan 2009 DOI 10.1111/j.1095-9270.2008.00214.x

Notes

400-405 The Ships on the Novilara Stele, Italy: Questions of Interpretation and Dating
Francesco Tiboni Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00238.x

406-412 Stone Anchors from Minicoy Island, Lakshadweep, India Sila Tripathi Abstract
Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00239.x

412-417 A New View of the Interpretation of the Presumed Medieval Po Delta Wrecks,
Italy Carlo Beltrame Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00240.x

417-421 Ecofriendly Protection from Biofouling of the Monitoring System at
Pantelleria's Cala Gadir Underwater Archaeological Site, Sicily Pietro Selvaggio,
Sebastiano Tusa, Michael R. Detty, Frank V. Bright, Rosaria Ciriminna, Mario Pagliaro
Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00241.x

421-423 New Boat Paintings from Angkor Wat? Veronica Walker-Vadillo, Abstract
Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00242.x

Conference Report

424-425 The Fourth Symposium on Shipbuilding and Ships on the Thames Andrew
Lambert Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00243.x

Reviews

426-427 The Steamboat Montana and the Opening of the West: History, Excavation and
Architecture ANDREW LAMBERT Abstract Published Online: 10 Aug 2009 DOI
10.1111/j.1095-9270.2009.00244_1.x

427-428 Pathfinders: a Global History of Exploration FILIPE CASTRO Abstract
Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_2.x

428-429 Indo-Roman Trade: From Pots to Pepper LIONEL CASSON Abstract
Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_3.x

429-430 Trading Encounters: from the Euphrates to the Indus in the Bronze Age
KENNETH McPHERSON Abstract Published Online: 10 Aug 2009 DOI
10.1111/j.1095-9270.2009.00244_4.x

430-431 Maritime Ireland: an Archaeology of Coastal Communities THIJS J.
MAARLEVELD Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_5.x

431-432 The Archaeology of Islands, ROBERT VAN DE NOORT, Abstract Published
Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_6.x

432-434 The Maritime World of Ancient Rome LIONEL CASSON Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_7.x

434-434 Medieval Ships and Warfare, JOE FLATMAN, Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_8.x

435-435 Heritage Microbiology and Science: Microbes, Monuments and Maritime Materials MICHAEL McCARTHY Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_9.x

436-436 A History of the British Merchant Navy: Neptune's Trident Vol. 1: Spices and Slaves: 1500–1807 JOHN McALEER Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_10.x

437-437 Deutsches Schifffahrtsarchiv 30 (2007) ARNE EMIL CHRISTENSEN Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_11.x

438-439 Whaling and the Hebrides: the History of Whalers in the South Atlantic and Whaling in and around the Hebrides Monstrous Fishes and the Mead-Dark Sea: Whaling in the Medieval North Atlantic JOE FLATMAN Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_12.x

439-440 British Warships in the Age of Sail 1714–1792: Design, Construction, Careers and Fates British Warships in the Age of Sail 1793–1817: Design, Construction, Careers and Fates MICHAEL DUFFY Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_13.x

440-441 Treasure Hunt: Shipwreck, Diving and the Quest for Treasure in an Age of Heroes JOHN McALEER Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_14.x

441-442 The Great Guns Like Thunder: the Cannon from the City of Derry COLIN MARTIN Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_15.x

442-443 'Roses II', 'Perola V' i 'Presido': Tres Vaixells Enfonsats a L'Empordà durant la Guerra del Francès (1808–1814) JOSÉ MANUEL MATÉS LUQUE Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_16.x

443-444 Colin J. McRae, Confederate Financial Agent: Blockade Running in the Trans-Mississippi South as Affected by the Confederate Government's Direct Procurement of European Goods Borderland Smuggling: Patriots, Loyalties and Illicit Trade in the North East, 1783–1820 ANDREW LAMBERT Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_17.x

444-445 Building a Miniature Navy Board Model COLIN MARTIN Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_18.x

445-447 Gold Rush Port: the Maritime Archaeology of San Francisco CLAIRE P. DAPPERT Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_19.x

447-448 Uriah Levy: Reformer of the Antebellum Navy ANDREW LAMBERT Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_20.x

448-448 Inshore Craft: Traditional Working Vessels of the British Isles ARNE EMIL CHRISTENSEN Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_21.x

449-450 Records of Traditional Watercraft from South and West Sri Lanka JULIAN WHITEWRIGHT Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_22.x

450-451 Big Gun Monitors: Design, Construction and Operations 1914–1945 ANDREW LAMBERT Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_23.x

451-451 Shipwreck Salvage in the Northern Territory—the Wreck of the Brisbane as a Case Study in Site Salvage and Material Culture Reuse PAULA MARTIN Abstract Published Online: 10 Aug 2009 DOI 10.1111/j.1095-9270.2009.00244_24.x

Index

452-454 Index to IJNA Volume 38

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BRITISH WRITER DISCOVERS THE PHARAOHS' LOST UNDERWORLD

A British writer has staked claim to finally finding the lost underworld of the pharaohs which has been rumoured to exist since the construction of the Great Pyramid nearly 5,000 years ago, creating a stir that is set to rock the Egyptological world.

Armed only with the forgotten memoirs of a nineteenth century British explorer, history and science writer Andrew Collins, working alongside Egyptological researcher Nigel Skinner Simpson, tracked down the entrance to this forgotten cave system and were the first to explore it in modern times.

The story begins in 1817 when Henry Salt, a former British Consul General to Egypt, and Italian explorer Giovanni Caviglia entered a series of what they described as “Catacombs” beneath Giza’s famous pyramid field and travelled for a distance of “several hundred yards”, before coming upon four large chambers from which went further cave passageways.

Salt’s memoirs were never published, and no one seems to have recorded the caves existence since that time.

“The importance of the memoirs had previously been overlooked,” Collins said. “They’d been catalogued but never studied in depth. They were published, finally, in 2007.

“We found in them reference to Salt and Caviglia’s exploration of the Catacombs and after reconstructing the two men’s explorations on the plateau we eventually located the cave entrance.”

It turned out to be a previously unrecorded tomb west of the 5,000-year-old Great Pyramid, which Collins and his team explored in March 2008. Here they came upon an opening that led into a vast cave chamber filled with fallen rock debris, animal bones, colonies of bats and venomous spiders.

Following in the footsteps of Salt and Caviglia, Collins and his team explored the caves for some distance, finding incised walls and mummy fragments, before the air became too thin to carry on.

Subsequent visits to the caves revealed more about their extent and construction.

Is it possible that Collins has beaten the Egyptologists at their own game by finding the entrance to Giza's lost underworld?

Dr Zahi Hawass, Secretary General of Egypt's Supreme Council of Antiquities has been quick to dismiss the discovery: "There are no new discoveries to be made at Giza", he stated. "We know everything about the plateau - amateurs cannot find anything new."

Yet Collins is confident that his discovery is genuine: "We have searched academic libraries in London and Cairo and have found no mention of the caves or the tomb in modern times."

"I have asked Dr Hawass to supply me with any report or paper relating to either the tomb or the caves. He said he would send them. I am still waiting."

Collins says that since the caves are tens of thousands, if not hundreds of thousands of years old, they may have influenced the development not only of the famous pyramid field but also ancient Egyptian beliefs in an underworld where the soul achieves resurrection before ascending to the stars.

"Ancient funerary texts clearly allude to the existence of a subterranean world in the vicinity of the Giza pyramids, calling it variously the Underworld of the Soul and the Shetayet, quite literally the Tomb of God." He said. "Hopefully, the existence of the caves will help us understand the earliest human activity on the plateau."

The full story of the discovery of Egypt's lost underworld is revealed in Collins's new book *Beneath the Pyramids* (Fourth Dimension Press, 2009).

End.

To contact Andrew Collins and learn more about the discovery of Giza's lost underworld go to http://www.andrewcollins.com/page/news/EQ12%20_2_beneath.htm

To email Andrew Collins, go to <http://www.andrewcollins.com/page/news/email.htm>

For more on the release of "Beneath the Pyramids" by Andrew Collins, contact Jennie Taylor Martin of Fourth Dimension Press at jennie.taylor.martin@edgarcayce.org

Photographic evidence of the caves is available on request.

Please visit the site:

http://www.responsesource.com/releases/rel_display.php?reid=49510

AEGEAN ARCHAEOLOGY, VOL. 8 (2005- 2006)

The editors of Aegean Archaeology are pleased to announce that vol. 8 (2005-2006) is out. For contents, please see below. For any further details (abstracts of articles, contents of previous volumes, PDFs of selected articles, ordering info) please consult our website at: <http://www.iaepan.edu.pl/AEA/>

Contents of Vol 8:

M. Georgiadis, *The Prehistoric Finds from the Halasarna Survey Project 2003-2006, Kos: A Preliminary Report*, p. 7-19;

M.G. Clinton, S. Martino, G.H. Myer, D.O. Terry, Jr., and P.P. Betancourt, *Rapid Cooling Effects in Early Bronze Age Copper Smelting Slags from Chrysokamino*, p. 21-30;

E. Miller Bonney, *A Reconsideration of Depositional Practices in Early Bronze Age Crete*, p. 31-50;

L. Tyree, F.W. McCoy, A. Kanta, D. Sphakianakis, A. Stamos, K. Aretaki, and E. Kamilaki, *Inferences for Use of Skotino Cave During the Bronze Age and Later Based on a Speleological and Environmental Study at Skotino Cave, Crete*, p. 51-63;

M. Devolder, *From the Ground Up: Earth in Minoan Construction. The Case of Building 5 at Palaikastro*, p. 65-80;

E. Drakaki, *The Ownership of Hard Stone Seals with the motif of a Pair of Recumbent Bovines from the Late Bronze Age Greek Mainland: A Contextual Approach*, p. 81-93;

R.A.K. Smith, E. Pappi, M.K. Dabney, S. Triantaphyllou, and J.C. Wright, *2006–2007 Excavations of the Mycenaean Cemetery at Ayia Sotira, Ancient Nemea*, p. 95-109;

R. Jung and M. Mehofer, *A sword of Naue II type from Ugarit and the Historical Significance of Italian-type Weaponry in the Eastern Mediterranean*, p. 111-135;

Obituary:

Paul Faure 1916 – 2007 (Florence Driessen-Gaignerot), p. 137-139;

Reviews:

R. Koehl, *Aegean Bronze Age Rhyta* (Carl Knappett), p. 141-144;

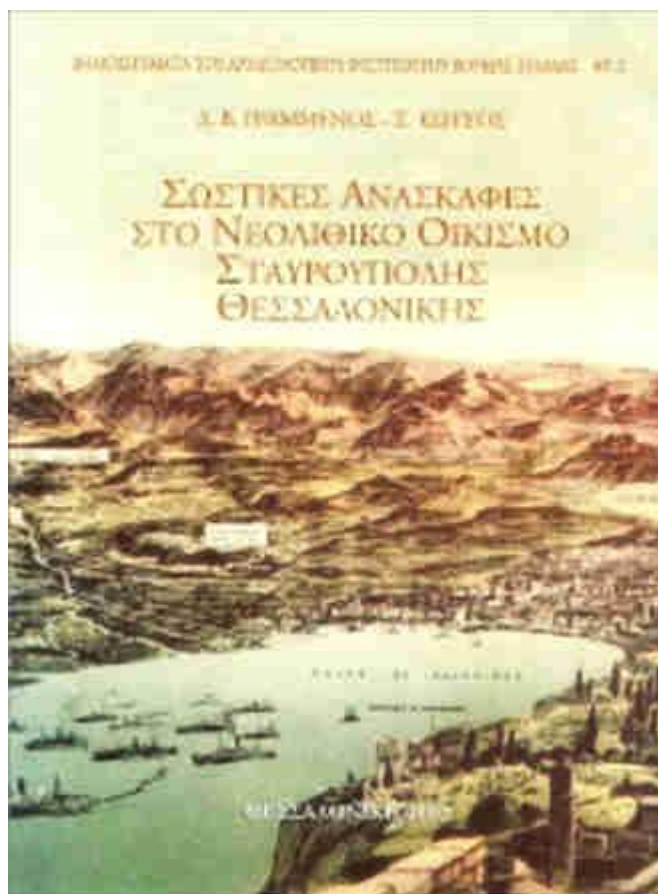
C. Davaras and Ph.P. Betancourt, *Hagia Photia Cemetery I: The Tomb Groups and Architecture* (Krzysztof Nowicki), p. 144-146.

DIMITRIOS GRAMMENOS BIBLIOGRAPHY



It is a complete scientific publication of the trench at the hill of toumba (tell) from the top to the virgin ground and of the trial trenches at the wider area. This area hosted a great Neolithic settlement whose life continued during the Bronze Age and finally became a toumba. The examination of the archaeological material is made in comparison to the other excavated or identified with surveys-sites of the wider area (such as Kastanas, Sitagri, Stavroupolis etc).

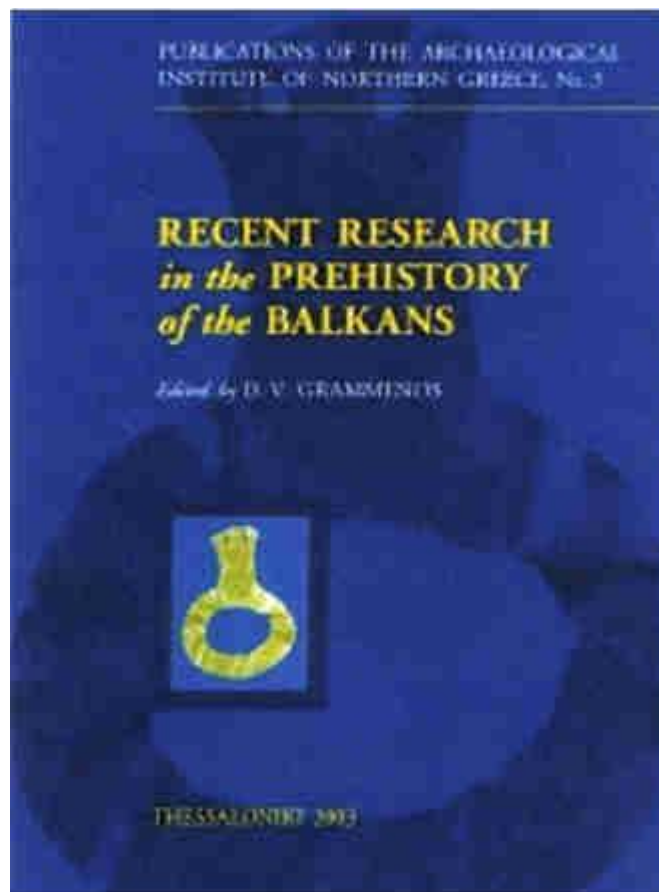
Pages: 534 - Price: 44€ + Postal Charges



It includes the complete publication of 11 rescue excavations in equal in number fields at the great settlement of the late, mainly, Neolithic period at the suburb of Stavroupolis in Thessaloniki. The publication will continue with the publication of other sites and a new approach to all the conclusions will be made. The presentation and examination of the material has been made in consideration of the most recent researches in the Balkan area. Pages:847 - Price:59€ + Postal Charges

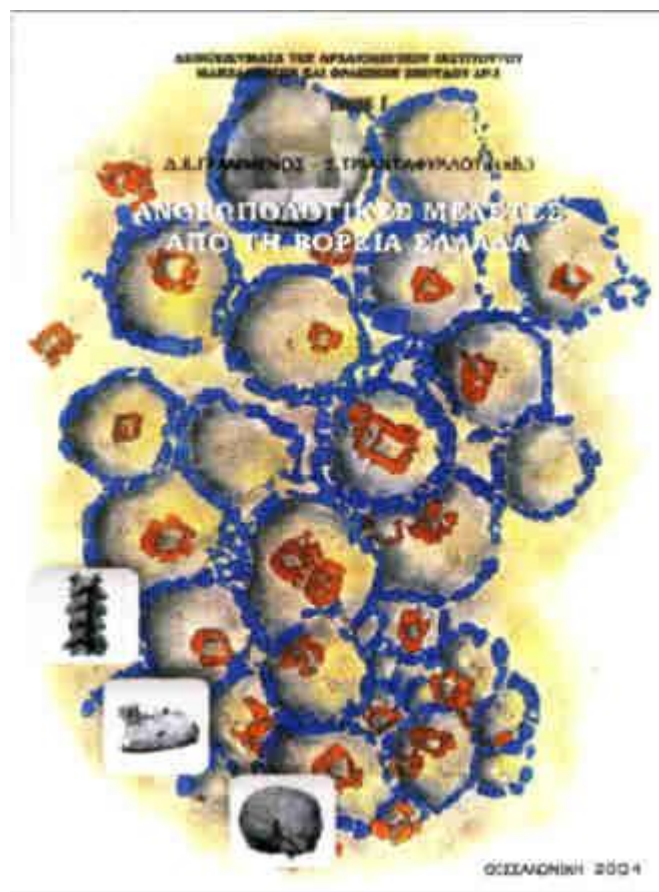


This volume represents the consecution of the publication of the Neolithic settlement of Stavroupoli Thessaloniki. It comprises of the excavation reports of four building plots along with the papers by several experts on different aspects of material culture.
Pages:628 - Price: 50€ + Postal Charges

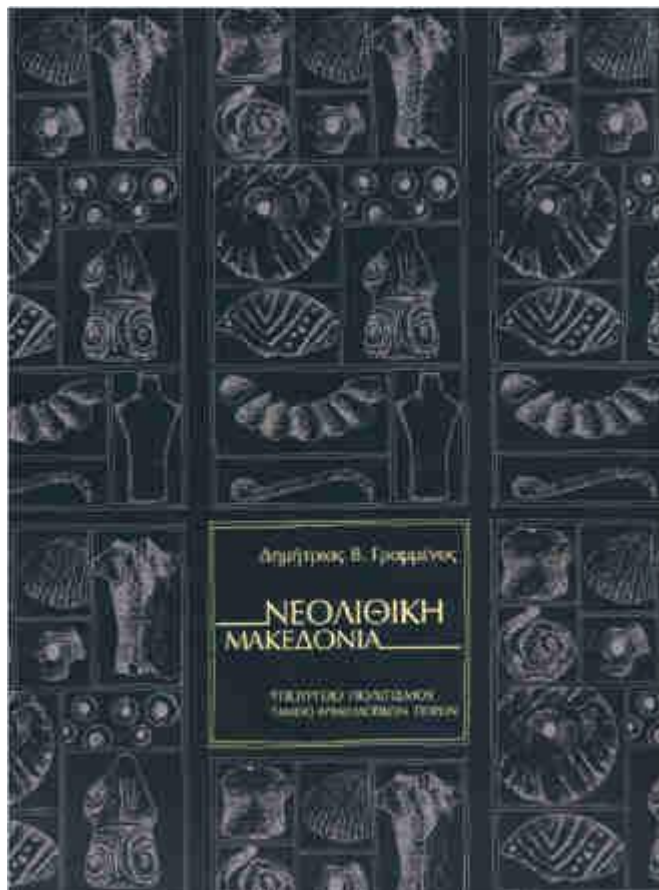


It includes the most recent research in prehistory, from the Paleolithic to the Iron Age, of almost all the Balkan countries and Hungary. The texts, written by the experts in prehistoric archaeology of these countries, are in English. The book includes the most recent bibliography and a variety of illustrations.

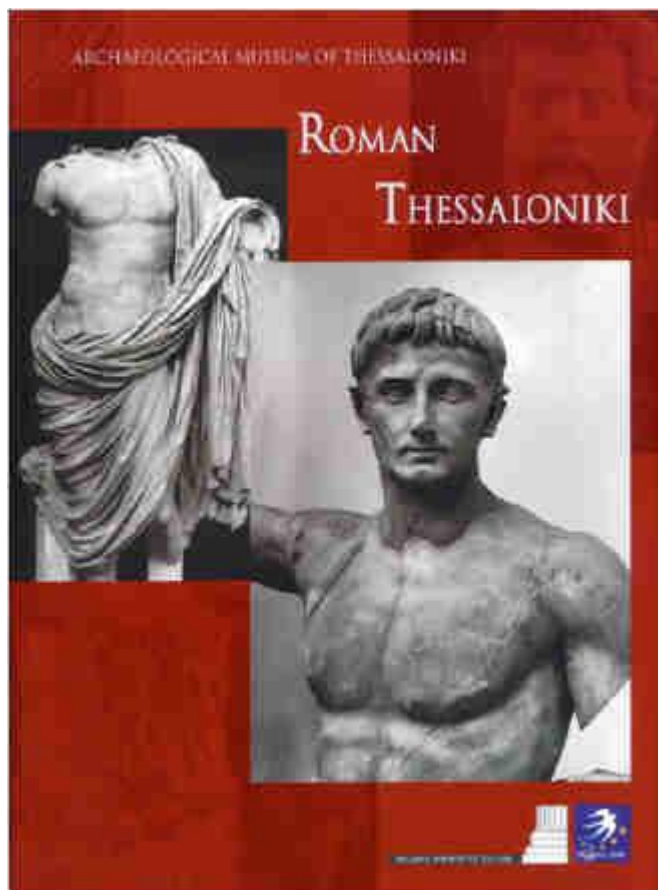
Pages:537 - Price:50€ + Postal Charges



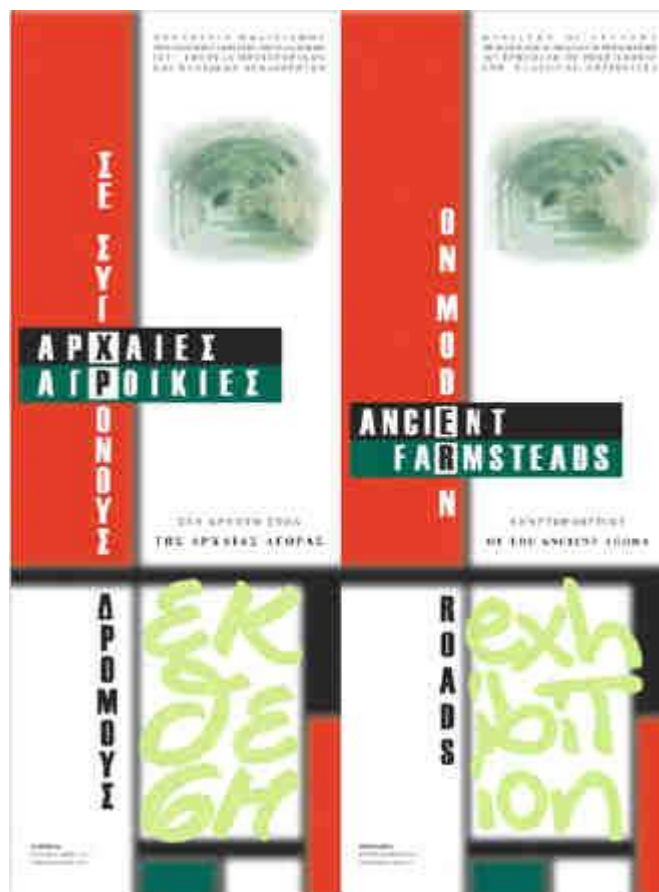
This book consists a fundamental work on the systematic recording, study and publication of skeletal populations in Northern Greece. This volume represents a thorough analysis conducted on three skeletal collections: a) the Early Bronze Age tumulus of Kriaritsi, Chalkidiki, b) the Archaic cemetery of Agia Paraskevi, Thessaloniki, and c) the Early Iron to Classical Ages cemetery of Nea Filadelfeia, Thessaloniki. The ultimate goal of this work is to discuss paleodemography, health and oral status as well as skeleto-muscular stress markers in order to approach aspects of life reconstruction of the once living ancient populations. The two primary collaborators in this volume, E. Milka and C. Papageorgopoulou have been affiliated with the Laboratory of Physical Anthropology, Demokritean University of Komotini run by Professor N. Xirotiris. In Greek with English summary.
Pages:612 - Price: 20€ + Postal Charges



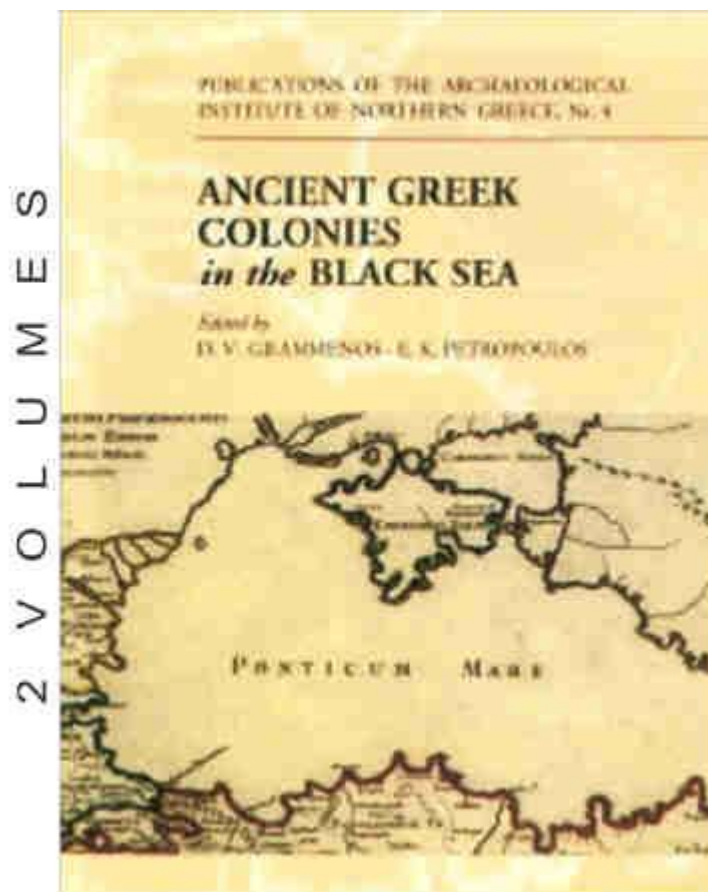
It is an interdisciplinary publication, with the cooperation of special scientists, of a small area excavation in the neolithic settlement of Dimitra in Eastern Macedonia. Several basic and crucial problems of the neolithic research in the region are being discussed in the context of the excavations material from Macedonia and Thrace. (In greek with experts texts in english).



The book consists of a catalogue, that accompanied the exhibition of the Archaeological Museum of Thessaloniki, held in 2003 in the Teloglion Foundation of Art . The book contains studies of special scientists, that cover all aspects of public and private life of the city, urban planning etc. from her foundation (315 B.C.) up to late antiquity, based on the totality of the excavations (rescue excavations, in the first place) intra muros but also outside the city's walls. (In greek and english).

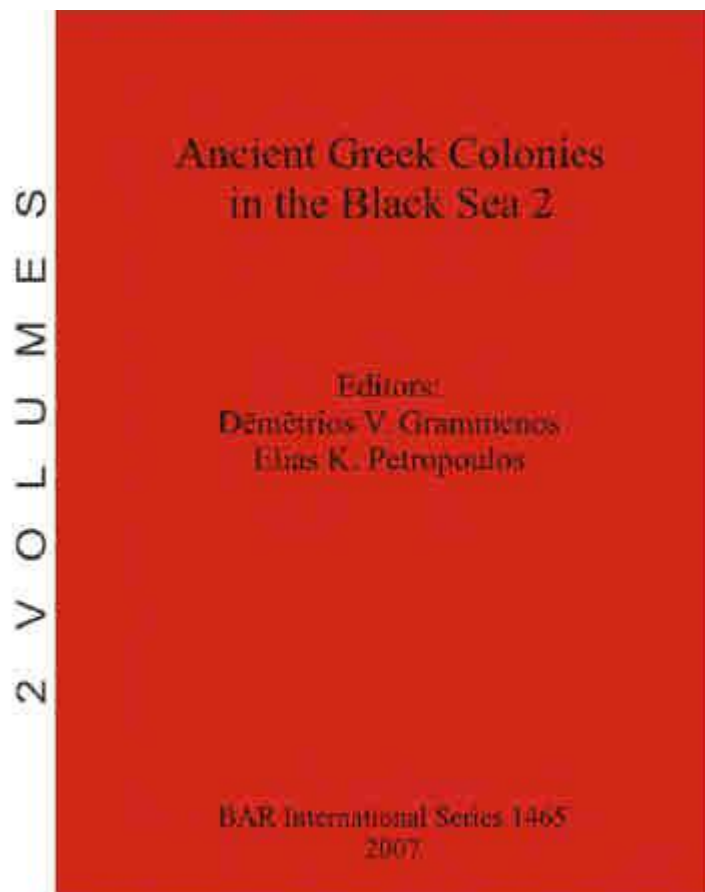


The book consists of a catalogue, that accompanied the exhibition of the Archaeological Museum of Thessaloniki, held in 2003 in the cryptoporticus of city's ancient forum. The exhibition's purpose was to present findings from late hellenistic and roman farmsteads, that were discovered in course of important road construction works (in the Thessaloniki and Olympus districts). The exhibition begins with the presentation of the excavations from the excavators and continues with the corresponding entries of all exhibits. Studies and exhibits are important for the knowledge of the countryside during antiquity. (In greek and english).



It includes English texts written by the archaeologists - excavators of the 30 Greek colonies in the Black Sea. This research renews the interest in the phenomenon of the colonization. It is an original research as the material has been studied directly, unlike the other indirect western researches. The introduction of the volume is written by E. K. Petropoulos, Phd in Ancient History at the University of Moscow, who has a good knowledge of the area and the people.

(The book is sold by Archaeological Receipts Fund, Panepistimiou str. 57, Athens 10564 - <http://www.tap.gr> - info@tap.gr).



It is a two volume publication which supplements and completes the other, also in two volumes, publication from the Archaeological Receipts Fund. The excavators continue the presentation of excavations and archaeological material from ancient Greek colonies. (The book is sold by British Archaeological Reports - International Series).



The book is the catalogue that accompanies the central part of the re-exhibition of the Archaeological Museum of Thessaloniki. The latter has been completely renovated as building and as exhibition in September 2006. The re-exhibition contains basically golden objects, from cemeteries of central Macedonia, especially the Derveni crater, but also the wall known papyrus with orphic content, etc. The catalogue contains many multidisciplinary scientific papers, but also entries / photographs from the sum of the exhibits (above 600).

(The book is sold by Zitros Publisher, Platonos 2, Thessaloniki 54631 - www.zitros.gr).

EΙΔΗΣΕΙΣ - NEWS RELEASE

ARTFUL SCIENCE: PEERING INTO ANCIENT PIGMENTS. AN IMPROVEMENT IN MICROSCOPIC DYE ANALYSIS IS ALLOWING SCHOLARS TO STUDY THE ORIGINS AND HISTORIES OF ANCIENT, COLORFUL ART, BY KATHERINE HARMON

The chemistry skills and know-how needed to extract pigment from a plant or insect and create a solid dye date back some 4,000 years to ancient Egypt, new research concludes. Previous analysis had only confirmed such techniques to about 1200 B.C.

Analyzing pigment has been an important way of identifying and studying artwork for decades. Chemical profiles of colored material can tell a detailed story about when, where, how, and sometimes even by whom a piece of art was made.

But the older the remnant, the fewer fragments of color typically remain. And organic dyes—such as those derived from plants and insects—have required larger samples for analysis than inorganic colors extracted from the most ancient, mineral-based pigments. Taking a sizable sample of pigment from a painting or sculpture for analysis is "absolutely out of the question," says Marco Leona, a scientist at The Metropolitan Museum of Art (the Met) in New York City; doing so would destroy too much of the work. So, until now, many ancient works have kept their secrets locked away in natural pigments.

But by improving on a tried-and-true laser-based microanalysis technique, Leona, head of the Met's Scientific Research Department, has been able to analyze priceless pieces of pigment from extremely old cultural products without damaging their integrity.

The process—a version of surface-enhanced resonance Raman scattering (SERRS)—uses silver nanoparticles to absorb miniscule amounts of dye molecules. In doing so, it overcomes two key obstacles that had prevented the compounds from being studied in the past: The silver nanoparticles enhance the reading of the otherwise dilute dyes; they also prevent the otherwise fluorescent substances from reflecting too much light when a laser is shined on them.

The findings, published online today in the Proceedings of the National Academy of Sciences, reveal some of the oldest known uses of various natural dyes, including the discovery of madder (red, plant-based) dye on a leather Egyptian quiver remnant (2124 to 1981 B.C.)—thought to be the earliest example of such pigment use.

The results were obtained by analyzing microscopic samples, some less than 25 micrometers across. "We were surprised that it worked with...samples [that small],"

Leona says. With previously available methods, he notes, "we would have had to remove a visible chunk."

The importance of studying organic dyes in addition to traditional mineral-based pigment is clear to Leona. "They correspond to major industries, commerce and technology," he says of the dye advances. The organic pigments can also be studied to identify forgeries and match similar works of art.

New analysis also helped to confirm trade of nonnative dyes from south Asia to Europe. Although documents had noted the use of a red insect-based dye called lac by A.D. 1222, it had yet to be found on any European art that early. However, after analyzing an A.D. 1150 to 1200 piece, Virgin and Child in Majesty (the Morgan Madonna) from Auvergne, France, Leona found it to contain the dye, which had most likely passed through north Africa from India.

He and the research team will continue testing even older items in the museum's collection (where "the [new] technique has been almost routine," he says) to see if the earliest dates for these organic dyes can be pushed back even further. But he is also anxious to use the technique on more modern work. With the explosion of organic chemistry in the 19th century, he says, all the natural dyes are supplanted by manufactured dyes, which were promptly patented. Such specific date information for the pigments will help scholars date art and "get a sense of the global commerce," tracking these compounds as they spread around the globe.

The knowledge will also bring new power to the art industry, Leona says. "By knowing what's in them, we have a better chance of conserving them."

Please visit the site: <http://www.scientificamerican.com/article.cfm?id=artful-science-peering-in>

See also: http://www.msnbc.msn.com/id/32362118/ns/technology_and_science-science/

**THE ANCIENT ROMAN CITY OF ALTINUM
RISES FROM VENICE LAGOON USING
AERIAL, NEAR-INFRARED PHOTOS TAKEN
DURING A DROUGHT, RESEARCHERS
HAVE MAPPED THE CITY THOUGHT TO BE
THE ANCESTOR TO PRESENT-DAY VENICE.
IT NOW AWAITS UNDER MODERN
FARMLAND, BY JOHN JOHNSON JR.**

Aerial photographs taken during a drought two years ago have enabled Italian researchers to produce the most detailed map ever of the ancient Roman city of Altinum, considered by some historians to be the ancestor of modern-day Venice.

The dryness of the landscape enabled the team from the University of Padua to see evidence of 2,000-year-old structures beneath the soil -- including remnants of churches, city walls, gates and even a theater, according to the research published in this week's edition of the journal Science.

Like Venice, Altinum sat in the large lagoon connected to the Adriatic Sea that is now known as the Venice Lagoon. At around 200 square miles, it is one of the largest bodies of water of its kind in the world. Larger than Pompeii, Altinum was among the most influential cities in northern Italy during Roman times and home to as many as 20,000 people, according to Alessandro Fontana, one of the researchers who produced the map.

In the 1st century BC, "Altinum was a quite important harbor," said Fontana, a professor in the university's geography department.

"Archaeologists consider it to be like a maritime emporium where traders arrived from all around the Mediterranean."

Altinum had also been famous since the Iron Age for wool production and horse breeding, Fontana said.

Creating this new map of one of the Roman Empire's great cities was possible because Altinum, unlike most ancient cities in Europe, was not built over by later generations. As a result, the researchers were able to use aerial photographs to peer beneath the modern farmland covering the ancient city to reveal subsurface stones, bricks and compacted soil. The severe drought of 2007, which dried up vegetation in the area, also made it easier for the visible-light and near-infrared cameras to reveal the structure of the city.

Today, about 11% of the lagoon is permanently covered by open water, and around 80% consists of mud flats, tidal shallows and salt marshes.

As with Venice, life in Altinum was dominated by water.

Residents willingly accepted the curse of mosquitoes and other insects in exchange for the relative safety of life protected from land invaders, according to Fontana. The resources of the lagoon itself -- fish, game and salt -- would have been an additional inducement to settlers, Fontana said, along with a direct route to the Adriatic.

Altinum's eventual destruction was signaled by the arrival of Barbarian invaders in the 5th century AD. The inhabitants began fleeing deeper into the lagoon, eventually settling in what later became Venice. The local bishop held on until as late as the 7th century, before moving to Venice, Fontana said.

The memory of Altinum is preserved today in the names of several Venetian islands -- Torcello, Burano, and Murano -- which were named for districts in the old city.

Not only is the spirit of Altinum preserved in modern Venice, its roots are in the foundation of Venice itself, Fontana said. Much of the early stone and brick-work used to build the churches and palaces in Venice was carted in from Altinum.

Geoffrey Symcox, a professor emeritus of European history at UCLA, said the Italian team's work will likely revise history's opinion of Altinum's role in Roman affairs. "Its main claim until now was that it was sacked by Attila and the Huns," he said.

After looking at the new map, he added: "I think they're onto something. There's a very good case to be made that this was a place people fled to Venice to get away from the Huns."

It's ironic, he said, that "a climatic accident" made the discovery possible.

Fontana said he and co-workers Paolo Mozzi and Andrea Ninfo have received funding for a much more ambitious research project at Altinum that could include opening the site to tourists. Archaeological digs to unearth buried structures are also possible, he said.

john.johnson@latimes.com

Please visit the site: <http://www.latimes.com/news/nationworld/nation/la-sci-ancient-rome1-2009aug01,0,5101657.story> Science article , with maps at: <http://sciencenow.sciencemag.org/cgi/content/full/2009/730/1>

DIGITAL SYSTEMS TO PROTECT **IRANIAN SALTMEN**

Iran's cultural heritage officials say they will use digital systems to protect the saltmen found in the country's Chehrabad Salt Mine.

The Cultural Heritage, Handicrafts and Tourism office of Zanjan Province announced that the new systems would control the temperature and humidity of the cases in which the salt mummies will be housed.

Iranian experts had previously expressed their concern about the critical condition of the saltmen, which they said were kept under substandard conditions.

Six saltmen have been unearthed in the Chehrabad Salt Mine over the past decade, the first of which is housed at Iran's National Museum and four others are kept at the Archaeology Museum of Zanjan.

The first mummy is in good condition and is being kept in an environment with controlled temperature, humidity and light.

The sixth saltman has been left untouched since a snowstorm hit its resting place in 2008.

The third, fourth and the fifth salt mummies date back to the Achaemenid era while the sixth one belongs to either the Parthian or the Sassanid era.

Numerous studies have been conducted on the Chehrabad salt mummies. Oxford and York University studies revealed important information about their diet.

Other studies showed that the fourth saltman had moved from the northern Mazandaran Province to his final home in Zanjan.

Please visit the site:

<http://www.presstv.ir/detail.aspx?id=103317§ionid=351020105>

CAVE COMPLEX ALLEGEDLY FOUND UNDER GIZA PYRAMIDS ROSSELLA LORENZI, DISCOVERY NEWS

An enormous system of caves, chambers and tunnels lies hidden beneath the Pyramids of Giza, according to a British explorer who claims to have found the lost underworld of the pharaohs.

Populated by bats and venomous spiders, the underground complex was found in the limestone bedrock beneath the pyramid field at Giza.

"There is untouched archaeology down there, as well as a delicate ecosystem that includes colonies of bats and a species of spider which we have tentatively identified as the white widow," British explorer Andrew Collins said.

Collins, who will detail his findings in the book "Beneath the Pyramids" to be published in September, tracked down the entrance to the mysterious underworld after reading the forgotten memoirs of a 19th century diplomat and explorer.

"In his memoirs, British consul general Henry Salt recounts how he investigated an underground system of 'catacombs' at Giza in 1817 in the company of Italian explorer Giovanni Caviglia," Collins said.

The document records that the two explored the caves for a distance of "several hundred yards," coming upon four large chambers from which stretched further cave passageways.

With the help of British Egyptologist Nigel Skinner-Simpson, Collins reconstructed Salt's exploration on the plateau, eventually locating the entrance to the lost catacombs in an apparently unrecorded tomb west of the Great Pyramid.

Indeed, the tomb featured a crack in the rock, which led into a massive natural cave.

"We explored the caves before the air became too thin to continue. They are highly dangerous, with unseen pits and hollows, colonies of bats and venomous spiders," said Collins.

According to Collins, the caves -- which are tens of thousands, if not hundreds of thousands of years old -- may have both inspired the development of the pyramid field and the ancient Egyptian's belief in an underworld.

"Ancient funerary texts clearly allude to the existence of a subterranean world in the vicinity of the Giza pyramids," Collins told Discovery News.

Indeed, Giza was known anciently as Rostau, meaning the "mouth of the passages."

This is the same name as a region of the ancient Egyptian underworld known as the Duat.

"The 'mouth of the passages' is unquestionably a reference to the entrance to a subterranean cave world, one long rumored to exist beneath the plateau," Collins told Discovery News.

Collins' claim is expected to cause a stir in the Egyptological world.

Zahi Hawass, chief of Egypt's Supreme Council of Antiquities, has dismissed the discovery.

"There are no new discoveries to be made at Giza. We know everything about the plateau," he stated.

But Collins remarks that after extensive research, he found no mention of the caves in modern times.

"To the best of our knowledge nothing has ever been written or recorded about these caves since Salt's explorations. If Hawass does have any report related to these caves, we have yet to see it," Collins said.

**Please visit the site: <http://dsc.discovery.com/news/2009/08/13/caves-giza.html>
VIDEO at <http://dsc.discovery.com/videos/cool-jobs-archaeologist.html>**

ANCIENT TOOLMAKERS DISCOVERED **FIRE TREATMENT, BY RANDOLPH E.** **SCHMID**

Maybe it was an accident or perhaps an ancient experiment.

Many thousands of years ago, early humans somehow figured out they could make better stone tools by treating the rocks with fire.

Evidence of that, dating 72,000 years ago, has been found on the southeastern tip of Africa, researchers report in Friday's edition of the journal Science.

The find pushes back the first evidence of such technology by at least 45,000 years, according to Curtis Marean, a paleoanthropologist at the Institute of Human Origins at Arizona State University, a co-author of the report.

"Heat treatment technology begins with a genius moment—someone discovers that heating stone makes it easier to flake," Marean said in a statement. The new discovery is then passed on and improved.

The researchers found items made from a stone called silcrete, which usually was poor for tool making. But heating it causes it to change color and alter its grain structure, making it more usable.

To test their idea, the researchers heated some silcrete overnight. In the morning, they found they could flake it into shiny tools similar to the ones they found at the archaeological site in Pinnacle Point in South Africa, overlooking the Indian Ocean near Mossel Bay.

The silcrete tools would have been excellent as hunting weapons, knives and for exchange, the researchers said.

"Here are the beginnings of fire and engineering," said lead author Kyle Brown, a doctoral candidate at the University of Cape Town in South Africa.

John Webb and Marian Domanski of La Trobe University in Australia said in a commentary on the report that the development of heat treatment may have played a role in allowing early modern humans to spread from the milder African environment to colder, more hostile regions such as Europe.

It may have given them an advantage over the Neanderthals, who lacked this skill, noted Domanski and Webb, who were not part of the research team.

The research was funded by the U.S. National Science Foundation, the Hyde Family Trust and Arizona State University.

Please visit the site:

<http://www.usnews.com/articles/science/history/2009/08/14/ancient-toolmakers-discovered-fire-treatment.html>

METRO STATION IN ALGERIA'S CAPITAL: LINK TO THE PAST BY PIERRE-YVES JULIEN

ALGIERS — Workmen digging the foundations of a new metro station in Algeria's capital stumbled on an archaeological goldmine that gives new meaning to "time travel" - opening a window on 2,300 years of history.

Relics from the French colonial era lie on top of those from the Ottoman period, in turn covering those from the Middle Ages and early Roman Empire.

Then comes what archaeologists hope will be ruins from the Punic period -- when Phoenician traders established north African outposts in the first millennium BC.

Work on the metro station has now been stopped and archaeologists and academics have replaced labourers on the site at the far end of the Casbah, the historic heart of the capital placed on UNESCO's world heritage list in 1992.

Fences prevent entry to the area on Martyrs Square as excavations take place right next to the 12th-century grand mosque.

Teams of specialist workers probe the ground under the watchful eyes of Algerian and French archaeologists.

In just a few weeks, an area covering several dozen square metres has been opened up, confirming the initial findings by the city's cultural authority in 2008.

Experts initially uncovered relics from the beginning of French colonisation in the 1830s before Ottoman remains came to light.

"Here's the workshop of an iron worker with its forge still visible," said Kamel Stiti, co-director of the excavations and a member of Algeria's national centre for archaeological research.

"This site is evidence of a whole neighbourhood of craftsmen being here," he said.

Stiti believes the Ottoman neighbourhood was built on the ruins of the medieval city, traces of which have also been found, along with several graves and complete skeletons.

Beneath that came the remains of a Paleo-Christian church dating from the 4th or 5th century AD, said Francois Souq, director for the Mediterranean region at the National Institute for Preventive Research (INRAP) in the southern French city of Nimes.

The bases of columns are still visible, surrounding a nave around 20 metres (65 feet) wide, with the floor covered in mosaics.

The archaeologists hope that by digging a bit deeper they will uncover remains dating from the Punic era, when the Phoenicians built trading posts along a 1,200-kilometre (745-mile) stretch of the Algerian coastline.

One of the ports was Icosium, the ancient city on which Algiers now stands.

Archaeologists believe Icosium would have been founded in the 3rd century BC although they admit their knowledge is limited.

Among the few clues so far was a pot of money discovered during the building of a road near the Casbah.

It contained coins with the Punic inscription for Icosium and the effigy of a man who could have been Melqart, a Phoenician god.

Aware of the value of the heritage that is only now coming to light, the Algerian authorities hope to incorporate it into the site of the future metro station.

They have asked to INRAP to help come up with ways of preserving this unique archaeological heritage -- proof of more than 2,000 years of Algerian history.

Please visit the site:

<http://www.google.com/hostednews/afp/article/ALeqM5g39uRfWDMWgGpn0IYd1VwfketW7A>

UNIVERSITY OF TORONTO **ARCHAEOLOGISTS FIND CACHE OF** **CUNEIFORM TABLETS IN 2,700-YEAR** **OLD TURKISH TEMPLE, MAY PROVIDE** **INSIGHTS INTO ASSYRIAN IMPERIAL** **ASPIRATIONS, BY SEAN BETTAM**

Excavations led by a University of Toronto archaeologist at the site of a recently discovered temple in southeastern Turkey have uncovered a cache of cuneiform tablets dating back to the Iron Age period between 1200 and 600 BCE. Found in the temple's cella, or 'holy of holies', the tablets are part of a possible archive. The cella also contained gold, bronze and iron implements, libation vessels and ornately decorated ritual objects.

"The assemblage appears to represent a Neo-Assyrian renovation of an older Neo-Hittite temple complex, providing a rare glimpse into the religious dimension of Assyrian imperial ideology," said Timothy Harrison, professor of near eastern archeology in the Department of Near and Middle Eastern Civilizations and director of U of T's Tayinat Archaeological Project (TAP). "The tablets, and the information they contain, may possibly highlight the imperial ambitions of one of the great powers of the ancient world, and its lasting influence on the political culture of the Middle East."

Partially uncovered in 2008 at Tell Tayinat, capital of the Neo-Hittite Kingdom of Palastin, the structure of the building where the tablets were found preserves the classic plan of a Neo-Hittite temple. It formed part of a sacred precinct that once included monumental stelae carved in Luwian (an extinct Anatolian language once spoken in Turkey) hieroglyphic script, but which were found by the expedition smashed into tiny shard-like fragments.

"Tayinat was destroyed by the Assyrian king Tiglath-pileser III in 738 BCE, and then transformed into an Assyrian provincial capital, equipped with its own governor and imperial administration," said Harrison. "Scholars have long speculated that the reference to Calneh in Isaiah's oracle against Assyria alludes to Tiglath-pileser's devastation of Kunulua - i.e., Tayinat. The destruction of the Luwian monuments and conversion of the sacred precinct into an Assyrian religious complex may represent the physical manifestation of this historic event."

The temple was later burned in an intense fire and found filled with heavily charred brick and wood which, ironically, contributed to the preservation of the finds recovered from its inner chambers. "While those responsible for this later destruction are not yet known, the remarkable discoveries preserved in the Tayinat temple clearly record a pivotal moment in its history," said Harrison. "They promise a richly textured view of the cultural and ethnic contest that has long characterized the turbulent history of this region."

TAP is an international project, involving researchers from a dozen countries, and more than 20 universities and research institutes. It operates in close collaboration with the Ministry of Culture of Turkey, and provides research opportunities and training for both graduate and undergraduate students. The project is funded by the Social Sciences and Humanities Research Council of Canada and the Institute for Aegean Prehistory (INSTAP), and receives support from the University of Toronto.

Please visit the site: <http://www.news.utoronto.ca/lead-stories/university-of-toronto-archaeologists-find-cache-of-cuneiform-tablets-in-270-1.html>

TWO THOUSAND YEAR-OLD REMAINS OF EMPEROR VESPASIAN'S HOUSE DISCOVERED A TEAM OF BRITISH AND ITALIAN ARCHAEOLOGISTS HAVE DISCOVERED THE REMAINS OF A LAVISH VILLA BELONGING TO THE EMPEROR VESPASIAN, EXACTLY 2,000 YEARS AFTER HIS BIRTH, BY NICK SQUIRES IN ROME

The archaeologists have unearthed reception rooms, colonnades, mosaic floors and traces of a hot bath complex at a site in mountainous countryside near the town of Rieti, north of Rome.

The villa is close to the ancient Roman village of Falacrinae, where Vespasian was born in AD 9.

Its discovery coincides with events in Rome and elsewhere in Italy marking the 2000th anniversary of his birth.

"We've found a monumental villa with elaborate floors made of marble brought from quarries in Greece and North Africa," said Dr Helen Patterson, of the British School at Rome, the archaeological institute involved in the excavation.

"There's also a very extensive bath complex which is just beginning to emerge. It's the only large villa in the area, and the size and dating fits in perfectly with Vespasian.

"Until we find a stone or marble inscription saying 'Vespasian lived here', we can't be 100 per cent certain, but it seems very likely. It's in a perfect position, overlooking a river and the old Via Salaria trade route."

The head of the team of 25 British and Italian archeologists, Professor Filippo Coarelli of the University of Perugia, said: "It's a very important find. It's a rich villa which is pretty much in the middle of nowhere."

Before becoming emperor, Titus Flavius Vespasianus had a successful military career, commanding the second legion in the invasion of Britain in AD 43 and penetrating as far as Devon and Cornwall in an attempt to subdue the south-west.

He later became governor of the province of Africa and a trusted aide to the emperor Nero.

He is best known for ordering the construction of the Colosseum in Rome but is also remembered for his decision to tax the collection of urine, which was valued for its ammoniac properties. Even now, public urinals in Italy are known as "vespasiani".

"The villa is in what would have been a very small, very remote village," said Andrew Wallace-Hadrill, director of the British School at Rome.

"He was a local boy made good. He was the first of a series of emperors who did not come from Rome itself. Given where he was from, to have risen to the position of emperor was amazing."

Please visit the site:

<http://www.telegraph.co.uk/news/worldnews/europe/italy/5985623/Two-thousand-year-old-remains-of-Emperor-Vespasians-house-discovered.html>

SHEDDING OLD LIGHT ON ARCHAEOLOGICAL ARTEFACTS, BY JO MERCHANT

New Scientist, Magazine issue 2720, 05 August 2009 (p. 20), Technology

FROM cave paintings to Roman mosaics, our perception of archaeological artefacts is affected by how they are lit - which is usually by bright modern lights. As a result, the way we see them may bear little resemblance to how they would have looked to the people who created them.

Alan Chalmers of the Digital Laboratory at the University of Warwick, UK, wants to fix that. He is working with computer scientists and archaeologists at the Roman site of Conimbriga in Portugal to come up with computer reconstructions that take account of the lighting conditions of the time. "We want a research tool, not just a pretty picture," he says.

Conimbriga was known for its splendid House of Fountains, and many of the mosaics and frescoes at this richly decorated villa are still intact. These include a hunting scene on the floor of the sala da caçada or hunting room.

Most computer reconstructions of the way archaeological sites would have looked assume uniform lighting conditions, and even when given this treatment, the sala da caçada looks impressive enough. But as Chalmers points out, the room would have normally have been lit by a series of lamps or lucernas that burned olive oil, which would give it a quite different look.

Computer science students at the Polytechnic Institute of Leiria and the University of Trás-os-Montes and Alto Douro in Portugal, supervised by Chalmers, recreated a Roman-style lucerna and measured the properties of its light. They then used rendering software to model how the room would look when lit by such lamps (ACM Journal on Computing and Cultural Heritage, DOI: 10.1145/1551676.1551679).

The result is a warm, sumptuous glow, which the researchers describe as subtle and pleasant compared with the "rough, almost unnatural" effect of modern lighting (see images). As well as giving us more authentic images, the technique could help answer questions such as how many lamps it would have taken to light a room.

Chalmers has tested the approach at other archaeological sites, with intriguing results. Simulations from Cap Blanc, a 15,000-year-old cave site in France, hint that the prehistoric inhabitants who carved wild beasts into the cave wall may have deliberately left the legs blurred to enhance the effect of movement in the light of a flickering flame.

Archaeologist Duncan Brown of the Art and Heritage department of Southampton City Council in the UK, who has worked with Chalmers, says the approach adds a new dimension to his work. "It gives you a better understanding," he says. "You can model

any space you want, but unless you model the light authentically, you won't see it the same way as the people who lived there."

Please visit the site:

<http://www.newscientist.com/article/mg20327206.500-shedding-old-light-on-archaeological-artefacts.html>

MANNU-KI-LIBALLI'S LAST PLEA

A letter scratched into a clay tablet reveals a desperate plea for reinforcements that came just too late. Alone, petrified and facing almost certain death, the ancient Assyrian leader Mannu-ki-Libballi scrawled a call for help to his commander, but his cry for extra troops came too late.

Soon after it was sent, the ancient city of Tushan was overrun by Babylonian invaders, its temples and palaces pillaged, then torn down or set aflame.

The letter, scratched into a clay tablet in 630BC, may never have reached its intended recipient. But more than 2,500 years later it has been unearthed almost intact by archaeologists, offering an unprecedented glimpse into the downfall of the one of the most powerful empires of the ancient world.

In the 30-line letter, the author despairs that he lacks the necessary equipment and manpower to stave off the enemy, suggesting that the issue of military resources may be as old as warfare itself.

Archaeologists have identified the author as a city treasurer who had been charged with building up an army to defend Tushan against a coalition of foreign forces, led by the Babylonians.

At its height, in 668-627BC, the Assyrian Empire spanned from Egypt to Iran, and encompassed most of modern Turkey. Tushan, a bustling trade centre and the regional capital, would have been one of the empire's richest cities.

But in its latter years, the empire, mired in corruption and too large to sustain, ultimately fell to an aggressive enemy campaign. The invasion of Tushan is believed to have marked a tipping point in its dissolution.

The letter, found during the excavation of an Assyrian acropolis in southeastern Turkey, gives a remarkable insight into the final collapse of the empire and suggests that the Assyrians may have been militarily unprepared and put up a feeble resistance.

John MacGinnis, an archaeologist from the University of Cambridge who led the excavation, said: "The letter is written during the process of downfall. The chances of finding something like this are unbelievably small." Mannu-ki-Libballi laments that he has neither the equipment nor the troops needed for the onerous task ahead. He lists cohort commanders, craftsmen, coppersmiths, blacksmiths, bow makers and arrow makers as essential to building a resistance.

It is apparent that all of the above have already fled the city and that he has been left with a near-impossible task. "Nobody mentioned in this letter, not one of them is there!" he writes. "How can I command?"

He also lacked horses, containers, bandage boxes and chariots.

Expecting the imminent arrival of the Babylonians, armed with arrows, spears, boulders and battle rams, the letter ends with the despairing declaration: “Death will come out of it! No one will escape. I am done!”

Irving Finkel, a British Museum specialist in Assyrian history, said that the tablet captured an epic event. “It has almost a Hollywood quality, this sense of the enemy are coming. I can hear their hooves,” he said.

After the invasion, the Assyrian territory was carved up between the Babylonians, and their allies the Medes and the Cimmerians. Half a century later it would be absorbed into the Persian Empire, under Cyrus the Great.

The letter is written on a clay tablet in ancient Assyrian, using a script called cuneiform based purely on lines and triangles. It was written by jabbing a quill with a triangular-shaped nib into wet clay.

Different letters were formed by superimposing identical triangles in different combinations.

Dr MacGinnis said: “A complex character might involve around 13 triangles.”

The researchers believe that Mannu-ki-Libbali would have written the letter himself, although there would have been professional scribes at the time. The tablet, which is about the size of a mobile phone, is held by the Diyarbakir Museum in southeastern Turkey, close to where it was discovered.

Please visit the site:

http://www.timesonline.co.uk/tol/life_and_style/court_and_social/article6740694.ece

RESEARCH UNDERMINES DOG DOMESTICATION THEORY, BY NICHOLAS WADE

Few people spend their honeymoon catching and drawing blood from village dogs up and down Africa. But Ryan and Corin Boyko, two anthropologists at the University of California, Davis, chose this way to collect valuable genetic data that is casting a new light on the domestication of dogs.

The opportunity to combine love with science arose when Ryan's brother Adam Boyko, a biologist at Cornell University, was discussing dog genetics with his professor, Carlos Bustamante. Dr. Bustamante, just back from a visit to Venezuela, remarked on how small the street dogs there were.

The two researchers wondered if the dogs carried a recently discovered gene that downsizes dogs from wolves and is found in all small dog breeds. Dr. Bustamante said the idea could be explored by collecting street dogs from up and down South America. Dr. Boyko, knowing his brother was planning a honeymoon in Africa but lacked the money to go far, proposed that the survey be done in Africa instead. "I paid for half their honeymoon," Dr. Bustamante said.

Ryan and Corin Boyko collected 223 samples of village dog blood from Egypt, Uganda and Namibia. The small gene question has not yet been assessed, but their samples, reported in the current issue of the Proceedings of the National Academy of Sciences, have called into question a finding on the origin of dog domestication from wolves.

The origin is thought to be East Asia, based on a 2002 survey of both village dogs and breed dogs. But most of the village dogs in that survey came from East Asia, which could have tilted the outcome. The African village dogs turn out to have much the same amount of genetic diversity as those of East Asia. This is puzzling because the origin of a species is usually also the source of greatest genetic diversity.

The Boykos and Dr. Bustamante do not think dogs were domesticated in Africa — there are no wolves in Africa now, apart from the Ethiopian wolf — but they say the origin may not be East Asia. The issue is better addressed by looking just at village dogs, they think, and by excluding European breeds, which are mostly of recent origin.

They are now collecting samples from village dogs throughout the world — Ryan and Corin Boyko are at present catching dogs in New Guinea — in hope of tracing not just the place or places where dogs were first domesticated, but also the travels that dogs then took around the world with their masters.

The lack of any sharp gradient of genetic diversity between East Asian and African village dogs could mean that once domesticated, dogs spread very quickly from their point of origin. Another explanation, Dr. Boyko said, is that they originated at some point halfway between the two regions, like in the Caucasus mountains.

Robert Wayne, a biologist at the University of California, Los Angeles, said the new report “leaves in disarray” the thesis that dogs evolved in East Asia. But they could not have evolved in sub-Saharan Africa, which has no wolves, and “so must have evolved somewhere else, maybe in the Middle East,” Dr. Wayne said.

The solution to the origin of the dog will come from sampling wolves throughout the world as well as village dogs, Dr. Wayne said. A genome-scanning chip, similar to those developed for studying the human genome, has been developed for dogs. Dr. Wayne, working with Dr. Boyko and colleagues, has used the chip to scan wolf genomes. He said they were now working on a report that might resolve the current quandary as to where the first dogs originated.

Please visit the site:

http://www.nytimes.com/2009/08/04/science/04dog.html?_r=1&scp=2&sq=dog&st=cs

8,000-YEAR-OLD HUMAN SKELETON **FOUND IN A TURKEY TOMB**

An 8,000-year-old human skeleton was found during excavations in one of the oldest residential areas in southern Turkey, a media report said.

The skeleton was discovered inside a Neolithic-age tomb unearthed in Yumuktepe Hoyuk of the southern Mersin province by archeologists from the Italian Lecce University and Turkish Mimar Sinan Fine Arts University, the semi-official Anatolia news agency reported.

Besides the skeleton, three bowls, a wheat kernel and a dried olive seed from that era were also found in the tomb, it added.

“Vases, bowls and food products were often put in tombs in the late Neolithic period. This shows that people living in that era believed in life after death,” said professor Isabella Caneva of Italian Lecce University.

Systematic excavations in Yumuktepe Hoyuk first started in 1936 under the supervision of British archeologist John Garstang.

Since 1993, the excavations have been conducted by a team headed by Caneva, the report said.

Please visit the site:

<http://blog.taragana.com/n/8000-year-old-human-skeleton-found-in-a-turkey-tomb-128299/>

ANTIKYTHERA CLOCKWORK COMPUTER MAY BE EVEN OLDER THAN THOUGHT

New detective work suggests that the ancient mechanism for simulating planetary motions and predicting lunar eclipses was built in the 2nd century BC

I thought my capacity for sheer jaw-dropping amazement at the Antikythera mechanism had been well and truly exhausted – until last night. The puzzling instrument is a clockwork computer from ancient Greece that used a fiendishly complex assembly of meshed cogs to simulate the movement of the planets, predict lunar eclipses and indicate the dates of major sporting events.

The clockwork technology in the device was already known to be centuries ahead of its time, but new evidence suggests that the enigmatic machine is even older than scientists had realised. "It is the most important scientific artefact known from the ancient world," said Jo Marchant, who has written a compelling book on the find called *Decoding the Heavens*. "There's nothing else like it for a thousand years afterwards."

First, a quick recap. The Antikythera mechanism was discovered by sponge divers in 1901 who chanced upon the wreck of a Roman vessel off the coast of the Greek island of Antikythera. The ship was filled with bronze statues, pottery and glassware – booty that had been plundered from across the ancient Greek world.

At first no one noticed the corroded lump of cogs among the treasures, but the mechanism has since attracted the, at times, obsessive interest of a small group of scientists. What we now know about the mechanism and its purpose is a fascinating tale of scientific rivalry, low-down skulduggery and eventual glory.

There is much still to learn about where the machine came from, who made it and what it was for, but the best guess seems to be that it was more must-have executive toy than useful gadget. It modelled the state-of-the-art astronomy of the time: a universe with the Earth at the centre with planets following circular orbits that included apparent wobbles called epicycles.

The mechanism was probably not used for navigation but perhaps served more as a beautiful representation of an ordered, clockwork universe.

"Something to elevate the spirit and get closer to God or the true meaning of things," as Marchant put it during a talk at the Royal Institution in London last night.

So what about the new stuff? Research from Prof Alexander Jones of the Institute for the Study of the Ancient World, New York, which has yet to be published, suggests that rather than dating from the 1st century BC the Antikythera mechanism may in fact have been constructed in the preceding century.

The new data concerns the four-year Olympiad dial, which has the names of significant Greek games etched into it – Isthmia, Olympia, Nemea, Pythia and Naa (plus one other

that hasn't been deciphered). The first four were major games known throughout the ancient world, but the Naa games, held near Dodona in northwest Greece, were a much more provincial affair that would only have been of local interest. "One possibility is that it was made by or for somebody in Naa," said Marchant, who described the clockwork computer on the Guardian's Science Weekly podcast last year.

This also helps to pin down the date because the Romans took over that region in the 2nd century BC. A Greek-inscribed gadget like this, reasons Jones, would not have been made after the Romans took charge.

The highlight of Marchant's talk, though, was a new animation of the Antikythera device that brings it to life like nothing I have seen before. "That's one of my favourite things at the moment," said Marchant as the packed audience at the Royal Institution broke into spontaneous applause after watching the animation in stunned silence. I think I agree.

Jo Marchant's book *Decoding the Heavens* will be published in paperback on 6 August. It is among the six books shortlisted for this year's Royal Society Science Book Prize

Please visit the site:

<http://www.guardian.co.uk/science/blog/2009/jul/29/archaeology-astronomy>

[Animation by Mogi Vicentini at:

<http://www.guardian.co.uk/science/video/2009/jul/29/antikythera-computer-animation>]

MAPPING ANCIENT EGYPTIAN SITES WITH GPS AND IMAGERY

Mapping Ancient Egyptian Sites With Gps And Imagery Filed Under Gps Michiel Van Kets asked:

C. Jason Smith is an associate professor at the City University of New York, LaGuardia and founder of the freelance writing collective Discipline & Publish. Visit www.yale.edu/egyptology/ae.htm for more information on Yale's archaeological activities in Egypt.

Hundreds of viper trails covered the sand before them. The Egyptologists could only hope that the serpents themselves were long gone as they made their way off the ancient desert road towards the limestone cliffs.

First to reach the wall, Dr John Coleman Darnell of Yale University, was surprised to find the surface covered with rough hieroglyphic inscriptions in apparently random patterns. What did they mean?

His past experience in the field led Darnell to think the markings were graffiti. The wall was close enough to an ancient campsite to serve as the common latrine for drivers, merchants and guards. The inscriptions, over 500 counted so far, were the ancient equivalent of writing on the bathroom wall. Darnell was the first person to see that graffiti in possibly 5000 years.

Using standard archaeological methods to measure, record and interpret the inscriptions on this wall could be the work of an entire career, by itself. But Professor Darnell's plan wasn't to use conventional techniques in this survey. His team was packing a technological edge that would make quick work of this fascinating new find.

When most people think of Egypt, the Great Pyramids, the Sphinx, Queen Cleopatra, King Ramses II and, of course, the boy king Tutankhamen, spring to mind. In the popular imagination, thanks to explorers like John Carter and classic films such as The Ten Commandments and Cleopatra, Egypt is renowned as an ancient land of mystery whose roots run back to the foundations of human civilisation. It is the Egyptologists who dedicate themselves to uncovering the hidden past of this glorious land.

An author of several books on Egyptology, including Tutankhamun's Armies, with Colleen Manassa (J. Wiley and Sons, 2007), Professor Darnell is the co-director of the joint Thebian Desert Road Survey and Yale Toshka Desert Survey.

Darnell's team is working in a harsh environment in the Western Desert, which lies to the west of the Nile in Egypt, Libya and north western Sudan. About 700,000 square km in area, the temperature can rise to over 40 degrees in the midday heat and drop towards zero at night.

The varied terrain includes shifting sand dunes in the Great Sand Sea that can reach hundreds of metres high, and vast, featureless plains of rock and stony plateaux, some reaching 2000 metres.

Although easy to lose yourself in the vastness of the Western Desert, modern satellite imaging and mobile GPS locators mean it is very unlikely to stray completely off 'mapped' terrain. However, Professor Darnell says the archaeological map for the region is still quite bare.

Archaeologists are the most meticulous and versatile of explorers, covering vast distances in a few days or mere inches in a month. Their discoveries can vary from massive temples or burial sites to shards of pottery scattered across an endless desert plain. With enough patience, they might be able to construct a complete urn.

A good archaeologist has lots of patience. Although often backbreaking work on hands and knees with shovels and trowels, or lying on the ground for hours searching for tiny shards of pottery amidst pebbles, bits of bone and offal cast away millennia ago, it can provide a goldmine of information about a past world.

The measuring and recording of sites is one the most tedious jobs for an Egyptologist. Typical methods take an inordinate amount of time and meticulous record keeping, both on-site and in the office. Intensive surveys, for example, involve teams of archaeologists walking slowly side-by-side across a site marking each find with a small flag. Each one is then individually recorded and described in detail. The records are then sent off for later review and interpretation.

The on-site work is only part of the vast machine that records, analyses, and archives thousands of observations, measurements and locations. A massive web of record keeping work surrounds each field expedition and binds them together with the larger archaeological record. Without this detailed work, pieces of the puzzle could be misplaced or misinterpreted resulting in whole sites lost in the vastness of the desert.

A few archaeological expeditions have turned up finds that cannot be placed in the historical record because of unclear record keeping. On the other hand, searching through even the most meticulous of records can be a daunting project.

One such example is the legendary City of Troy records of the Heinrich Schliemann, Wilhelm Dörpfeld, and Carl Blegen expeditions, where new date is still being found since its discovery over 70 years ago.

Archaeologists have to think in three dimensions, which make things more difficult. Generally, the deeper into the ground you go, the further back in history you are seeing. For centuries that work has been accomplished with the same basic technologies: rulers, plum-bobs, photographs and maps.

Lost sites have been rediscovered years later, most recently the King Menkauhor pyramid, relocated after 166 years (German archaeologist Karl Richard Lepsius' reported discovery in 1842 went unconfirmed.)

Darnell was hoping industrial GPS technology could help speed up the process and accuracy of their work.

One logical concern was the learning curve. The professors and their graduate students needed to be able to use the equipment with limited support in the field, as they are the ones who have spent the majority of their lives learning about former cultures and ‘dead’ languages. They’re not professional engineers or surveyors, however their fieldwork does require a specialised understanding of surveying techniques.

In the event, the team went into the field with a Topcon GPT-2005 reflectorless total station. Professors and students underwent training essential to prepare the group for their upcoming expedition.

The team uses the equipment in three ways. First, a lot of time is spent mapping the ancient desert caravan roads that run from Thebaïd to Kharga Oasis. But surveying the road doesn’t only involve drawing lines on the map.

There are ancient campsites and military outposts, some dating back 5000 years, to be identified. That means finding buildings and lots and lots of potshards. Darnell explains: ‘Broken pots were seldom recovered by their original owners, as they were un-reusable. They left them where they fell.’

With the total station, Darnell’s team could place-capture potshards almost instantly. There was no more need for the meticulous record keeping on-site, with GPS technology, a simple point-and-shoot process replaced an immense record keeping apparatus and allowed the Egyptologists to get results very quickly.

They also used the total station to situate the ancient graffiti site – which they named Kom Hefaw, meaning ‘mound of serpents’ – and the specific inscriptions at the sites (over 500 inscriptions so far).

The ability to produce a 3D record, again with a simple point-and-click, saved countless hours of measuring, situating and recording the inscriptions. And they can find their way back to an exact inscription easily.

The total station transformed the archaeologists’ efforts, from laborious manual measurements with tape and plum-bob, allowing for precise measurements in a fraction of the time. They were able to lay in their own specific grid pattern of the site. Even more significantly, the site could be revisited at any later date. This allowed for future expeditions to carry on with the efforts of previous groups.

Darnell has facilitated computerised surveying equipment since 2003. In 2007, he began using a total station – a GPT-7005i – that provides a digital image to correspond with points shot on the ground or a vertical surface, such as a building. It became possible to combine digital imagery and measurement for the first time.

On the ground, the difference was obvious immediately. At Tudenab, the team located an ancient deep well and could produce a 3D digital plan of it practically on-site.

The well was not a complex project, but they had another surprise coming. After assembling their data from the Ghueita Temple site, they were able to generate a 3D model of the temple that could be examined from any angle, whilst sitting in a hotel room in Cairo.

‘We were really surprised,’ said Darnell. ‘We knew it was possible to use the software that way but really never imagined it would be so easy. In the models, you can “walk” right through the building and see the placements of all the major architectural elements. It’s really impressive.’

Using the 3D images – combined with satellite linkages and other technologies – archaeologists from around the world will soon be able to work simultaneously ‘on-site’ from any internet connection.

In the future, Darnell hopes that the GPS technology will continue to help us understand our past and, in so doing, better understand ourselves.

Please visit the site:

<http://archaeology-news.org/gps/mapping-ancient-egyptian-sites-with-gps-and-imagery/>

COMPUTERS TACKLE FRESCO PUZZLES, CHALLENGING PROGRAM AT SANTORINI’S AKROTIRI BRINGS TOGETHER ARCHAEOLOGISTS AND SCIENTISTS COMPARING FRESCO FRAGMENTS ON SCREEN. BY MARGARITA POURNARA

Some are using the invaluable experience of the trained eye, while others are working with pixels and algorithms. The goal, however, is common and sacred: the restoration of the frescoes at Akrotiri on the Cycladic island of Santorini has brought together Greek archaeologists and computer scientists from Princeton University, in a scientific program under the name “Grifos” (Riddle).

The collaboration between Akrotiri archaeologists and restorers and Princeton University, as well as University College London, goes beyond the realm of digital assistance. A recent gathering at the island’s excavation site united students, young archaeology researchers and computer scientists from five different countries and seven universities (Athens, Thessaly, Ioannina, Liverpool, London, New York and Princeton).

For the last two years, a three-dimensional puzzle showcasing fragments of colorful frescoes has been studied on the screens of computer scientists, archaeologists and fresco restorers, both at the excavation site on Thera as well as at Princeton University in the United States.

A group of Princeton computer scientists working along with archaeologists and – above all – restorers at Akrotiri, developed a special software titled “Grifos,” whose mission is to decode the secrets of frescoes. The software’s logic is straight-forward: The system is searching for connections between hundreds of fresco fragments.

“It is a faster and cheaper procedure than traditional methods of restoration,” notes Professor Christos Doumas, director of the Akrotiri excavations.

“Under no circumstances are computers able – at present – to replace the trained eyes, brains and hands of our restoration experts but, as far as we’re concerned, it is extremely interesting to observe ancient Thera’s frescoes opening new roads in the development of technology that focuses on executing complex archaeological objectives, such as the restoration of hundreds of square meters of Akrotiri’s frescoes,” said Doumas.

Among those who attended the recent meeting were Thomas Funkhouser and Szymon Rusinkiewicz of Princeton University’s Computer Science Department, Tim Weyrich, a computer science lecturer at University College London, and Doumas, of the University

of Athens, all of whom informed participants of the latest conclusions reached regarding the archaeological findings, the methods used in the restoration work of the last four decades as well as the operating principles of the Grifos software program.

It is worth noting that each year, under the direction of Dimitris Gontikas, Princeton University's program of Hellenic Studies is involved in a wide range of activities regarding issues of Greek culture.

Please visit the site:

http://www.ekathimerini.com/4dcgi/w_articles_civ_2_31/07/2009_109409

ITALY FINDS 4,500-YEAR OLD SKELETON OF WARRIOR, BY DEEPA BABINGTON

A roughly 4,500 year-old skeleton of a man, probably a warrior killed by an arrow to the chest, has been discovered on a beach south of Rome, Italian police said.

The well-preserved skeleton, dubbed "Nello," was found during a routine flyover around areas of archaeological interest in May that prompted police to probe a fissure in the ground.

"We thought it was that of a Roman soldier, but then the experts identified it as dating back to the third millennium B.C.," said Raffaele Mancino, an official with the police division overseeing Italy's cultural heritage.

Six small vases were found buried alongside the skeleton, whose feet are missing. The young man probably lived just within a few hundred years of "Otzi," the prehistoric iceman whose corpse was found frozen in the Italian Alps in 1991.

Archaeologists said they plan further excavations since the discovery could be a tip-off to a broader necropolis in the area.

Please visit the site:

http://news.yahoo.com/s/nm/20090801/sc_nm/us_italy_warrior_1

16,000 YEAR-OLD MOTHER GODDESS FIGURINE UNEARTHED

Archeologists unearthed 16,000 year-old mother goddess figurine during excavations in Direkli Cave in the southern province of Kahramanmaraş.

Gazi University Archeology Department lecturer Cevdet Merih Erek told the Anatolia news agency on Monday that the excavations in Direkli Cave, 65 km away from Kahramanmaraş, started on July 15.

Noting that it was the third cave excavation of Turkey, Erek said that the clay mother goddess figurine they found was 16,000 years old.

Erek said that the figurine showed that the social status of women was very important 16,000 years ago.

Erek noted that the oldest fired clay god or goddess figurines --unearthed in Mesopotamia, Anatolia and Near East-- were made in 5,000 BC. He added that experts believed that the clay was used earliest in that period, however, the goddess figurine showed that this method was older than thought.

Please visit the site: <http://todayszaman.com/tz-web/news-184230-16000-year-old-mother-goddess-figurine-unearthed.html>

STRUGGLE TO SAVE THE APPLE'S ASIAN BIRTHPLACE

The Garden of Eden has no sooner been found than it is in danger of being lost.

By Richard Spencer in the Zailiyskei Alatau Mountains

Oxford scientists have used DNA evidence to find the forests where the first domestic eating apple grew - and was consumed. The common ancestor of all the Granny Smiths and Cox's Orange Pippins still grows on some of the world's most beautiful but little known mountainsides in the former Soviet Republic of Kazakhstan.

The discovery in Central Asia has triggered efforts to save what remains of the forests, always known for their abundance of wild fruit. Once under assault by Soviet agricultural planners, they are now menaced by the wealth of oil capitalism and as much as 80 per cent has disappeared.

"In earlier historical times there were vast mixed fruit forests across the area," said Dr Barrie Juniper, the Emeritus Reader in plant sciences at Oxford University and author of "The Story of the Apple".

The book describes how he and other researchers used gene sequencing to trace the family of the common or garden apple to the Tian Shan, or Celestial Mountains, on Kazakhstan's border with China.

"There are just a mere handful of fruit forest patches now, and to find them you have to be taken there by someone who knows where they are going."

Dr Juniper's findings came as a surprise. Apples are well known to be among the most easily hybridised of fruits, explaining the many varieties in the world's greengroceries. It was previously thought that different sub-species mutated from wild crab apples.

But genetic comparisons showed that all sweet apples were relatives of the *malus sieversii* family.

This flourishes uniquely in the northern reaches of the Tian Shan, more sheltered from the harsh sun and deserts of the south.

Dr Juniper believes the first large, sweet varieties were chosen and spread by bears - who have a sweet tooth, like Winnie the Pooh - and then taken to the West by horses, which were first domesticated in what is now Kazakhstan.

But the Soviet Union's agricultural policies claimed most of the forests. Stalin ordered the Kazakhs, who were largely nomadic, to settle and form collective farms. This caused famine and led desperate people to strip the woodlands for food and firewood.

Then Stalin murdered Nikolai Vavilov, the great Russian botanist, who first surveyed and collected the forests' variety of wild fruit samples.

In the 1950s, Nikita Khrushchev cleared the land for intensive farming as part of his campaign to open up "virgin lands". That turned Kazakhstan into a bread-basket, but was no less ecologically destructive.

By the end of the last century, 80 per cent of the apple forests in the Trans-Ili Alatau range had disappeared, said Tatiana Salova, the lead researcher at the Kazakh Laboratory of Gene Pool Research.

The Kazakh government knows the importance of what remains. It could hardly avoid it - the name of Almaty, the former national capital, translates as "Father of Apples", a title that was truer even than the tourist brochures knew.

Since Dr Juniper's findings, the government and the United Nations Development Programme have established a conservation project and a protected reserve in the Zailiyskei Alatau mountains. But the encroachment of holiday villas for the country's new rich is plain for all to see.

Please visit the site:

<http://www.telegraph.co.uk/news/worldnews/asia/kazakhstan/6068161/Struggle-to-save-the-apples-Asian-birthplace.html>

WAS ANCIENT CYPRIOT CAVE A PREHISTORIC DINER? BY MICHELE KAMBAS

Thousands of prehistoric hippo bones found in Cyprus are adding to a growing debate on the possible role of humans in the extinction of larger animals 12,000 years ago.

First discovered by an 11-year-old boy in 1961, a tiny rock-shelter crammed with hippo remains radically rewrote archaeological accounts of when this east Mediterranean island was first visited by humans.

It has fired speculation of being the first takeaway diner used by humans to cook and possibly dispatch meat. It also adds to growing speculation, controversial in some quarters, that humans could have eaten some animals to extinction.

In Cyprus, where islanders' love of the barbeque is alive and well to this day, it would have been the pygmy hippo, or "Phanourios minutus," an endemic species resembling a large pig which apparently vanished around the same time people appeared on the island.

"We claim that humans likely were at least partially responsible for their extinction," said Alan H. Simmons, a professor and former chair of the Department of Anthropology at the University of Nevada, Las Vegas.

Half way down a cliff on Cyprus's southern coast, researchers dug up thousands of remains of the animal which is thought to have roamed the island for perhaps a million or more years during the Pleistocene period, and then died out around 12,000 years ago.

Today, nothing remotely resembling a pygmy hippo roams Cyprus. Its largest wild mammals are timid sheep, strictly protected from an army of enthusiastic hunters, and donkeys.

HUMAN IMPRINT

With permission from Cypriot antiquity authorities and primary funding from the National Geographic Society and the National Science Foundation, Simmons led excavations on the site, Akrotiri-Aetokremnos, in 1987, 1988, 1990, and in 2009 concluded a smaller scale excavation of the area.

"There were over 500 individual hippos represented at the site ... for some reason they (humans) stored the bones, instead of throwing them into the sea, perhaps for use as fuel," said Simmons, who has written a book on the subject.

Together with thousands of pygmy hippo bones, as well as several large birds and a few dwarf elephants, the archaeologists discovered man-made implements on the same site, pointing to a link between humans and the animals.

Radiocarbon dating puts the site at around 10,000 BC, some 3,000 years earlier than most scholars had assumed humans had arrived on the island.

Simmons says a small group of humans could have triggered extinction of the animals, which were already under stress from cold and dry climatic changes around 12,000 years ago. Many animals went extinct around the same time.

"There are two extinction scenarios: that they went extinct due to climate changes at the end of the Pleistocene or that humans contributed to their extinction," he told Reuters.

The hippo itself, like other animals, swam across from the nearest land mass.

"These animals swam from the mainland full-sized and then, due to isolation, no prey, and limited food, underwent the dwarfing process, which is well documented on islands," said Simmons. "This could occur relatively quickly."

"We believe that they were primarily taken, processed and cooked at the site ... and maybe, some at least, were consumed there," said Simmons.

"But they also then could have been sent out to other related sites in the vicinity, although documenting contemporary sites has proven difficult."

Whether the humans using Aetokremnos were permanent occupants of Cyprus or long-stay visitors is a matter still open to debate. It is likely, says Simmons, that the hunters may not have lived on the island, but were traveling in search of meat or other resources.

Cyprus is between 30 and 60 km from the nearest land mass, and such voyages would have required considerable sea-faring skills.

The skills of prehistoric humans should not be under-estimated, said Simmons.

"These were pretty sophisticated people. Certainly if they could figure out how to navigate the Mediterranean, even at a small distance, they knew what they were doing."

(Editing by Steve Addison)

Please visit the site:

http://news.yahoo.com/s/nm/20090819/lf_nm_life/us_cyprus_hippos_2

GRAND EGYPTIAN MUSEUM PROJECT **MOVES FORWARD**

CAIRO // When Egyptians completed the Giza Pyramids in 2490 BC, the monuments were the largest man-made structures in the world. Now, more than 4,000 years later, Egyptians say the time is right to add another fitting flourish to the Giza Plateau: the world's largest museum.

The government hopes that the Grand Egyptian Museum (GEM), which culture officials say will be finished by 2012 at a cost of about US\$592 million (Dh2.2bn), will improve the way Egypt's celebrated patrimony is preserved and displayed to millions of visitors from around the world.

“The need came to have such a building in order to protect and secure our artefacts and display them in the proper way,” said Mohammed Ghoneim, the director of the project.

Mr Ghoneim said the new museum will ease the burden on the old Egyptian Museum, which was built in 1900 to accommodate about 15,000 artefacts and 500 tourists each day. It now takes in about 10,000 visitors each day and holds some 176,000 artefacts.

“You feel that it's crowded, many artefacts are in storage. Many artefacts are being displayed not in the scientific way. It's a small space to accommodate even the recent discoveries,” said Mr Ghoneim.

While such conditions are uncomfortable for visitors, they are untenable for the priceless relics, more and more of which are discovered each year. In the century since the first Egyptian Museum was built, Egypt has struggled to match its conservation efforts with the pace of discovery.

These days, curators at the old Egyptian Museum are doing as much digging in their basement as archaeologists do in the field. The extent of the managerial oversight at the museum first became clear in 2004, when 38 pieces of jewellery were reported to have disappeared from the museum's stockroom. Ensuing investigations revealed that most of the objects had neither been catalogued nor examined since they were discovered, some as long ago as early last century.

Mr Ghoneim hopes that a new world-class conservation centre, which has already been completed alongside the site of the proposed museum, will help archaeologists organise and maintain the more than 100,000 objects that culture ministry officials say will rotate through the new museum, including the 5,000-object King Tutankhamen Collection. The plan will also add hundreds of items that have never before been seen by the public, said Nadia Lokma, the general director of conservation for the Supreme Council of Antiquities.

“There are beautiful coffins that no one has seen and now they can be seen. People will love that,” said Ms Lokma, who helped to plan the 14,000 sq metre conservation centre, which will be linked to the museum through an underground passageway. “For me, it's

always been my dream to have a huge conservation centre with all of the equipment, something that all conservators dream of.”

Unlike the current Egyptian Museum, the new facility will be sealed from outdoor elements – a precaution that Ms Lokma said will halt the deterioration of the ancient objects.

The \$32m centre also allows natural light to enter the building, reducing the need for harsh artificial lighting that can damage the items. The council is in the process of moving small artefacts into the new facility from the old Egyptian Museum, which will be converted into a pharaonic art museum for some of Egypt’s finer antiquities.

But alongside conservation, Mr Ghoneim and other culture officials hope the new museum will add value to the educational experience of visiting the pyramids – an element that is lacking at many Egyptian historical sites.

The Giza Pyramids, for example, which sit on a sand-swept bluff overlooking the Nile Valley, have been left much the way they were built, without even a sign or explanatory placard in sight. The Egyptian Museum, meanwhile, bears a closer resemblance to a crowded, un-air conditioned warehouse than an educational space. Many of the museum’s greatest treasures are arranged pell-mell on shelves or even the floor. Inscriptions and explanations for the exhibits are few and far between.

But come 2012, visitors will be able to see the pyramids from inside the museum, which will rest 2.5km from the necropolis. The view, planners hope, will effect a seamless connection between the pharaoh’s greatest monuments and the museum’s display of smaller artefacts and objets d’art that bring the pharaonic experience to life.

The design evokes an architectural bridge between the ancient pyramids on one side and Cairo’s urban cityscape on the other. The floor plan guides visitors from the entrance, which faces Egypt’s capital, to a grand staircase that ends with a view of the three Giza Pyramids in the distance through a 600 sq m translucent stone wall.

The GEM exhibits are classified into five main themes, or “streams”, of ancient Egyptian life: “Land of Egypt” (an outdoor garden featuring pharaonic-era agriculture), “Kingship and State”, “Religion and Afterlife”, “Man, Society and Work”, and “Scribes and Learning”. The exhibits and artefacts for each will be arranged chronologically along parallel exhibition halls emanating from the main gallery at the top of the grand staircase.

The final design, which won a competition of nearly 1,600 entries in 2003, came from the Ireland-based Heneghan Peng Architects. In their renderings of the project, the museum and its grounds are arranged into a low-rise triangle shape jutting from the edge of a low cliff. The museum itself is built out of alternating opaque and translucent stones, which again form triangles in the building’s walls.

Tucked into the architecture, the museum campus will offer a learning centre for children, a 1,000-seat conference centre, an Imax theatre and some six different parks and gardens for displaying ancient Egyptian agriculture. A planned “school of museumology” will act as a training centre for aspiring museum curators, conservationists and administrators.

And yet, only one-third of the museum's 50 hectares will be occupied by commercial properties, said Nora Ebeid, the financial resources development manager for GEM.

While the on-site commerce will contribute to the museum's operations and maintenance, project planners are looking outward for the majority of their funding.

Last year, GEM secured \$300m from the Japan Bank for International Co-operation in the form of a soft loan, payable over 30 years at low interest. The Egyptian government, meanwhile, will pitch in \$147m, while the rest of the about \$150m is expected to come from private donors, foreign companies and international organisations.

In short, the museum is an expensive project. But given the importance of tourism to the Egyptian economy – the industry earns Egypt nearly 12 per cent of its GDP and employs more than 12 per cent of its workers – it is an investment that Ms Ebeid said will pay off in the long-run.

The museum itself will directly employ a staff of about 500 people along with about 1,300 support jobs, such as maintenance and cleaning. But the cash-carrying tourists will contribute to “downstream” business such as outside hotels, restaurants and transportation – an add-on benefit Ms Ebeid expects to generate about 10,000 employment opportunities outside the museum.

For now, the Egyptian government is preparing to launch a tender for a construction firm before the end of the year – almost 17 years after a presidential decree allocated land for the project. When asked why the culture ministry chose the present moment to replace the old Egyptian Museum, which was built more than 100 years ago, Mr Ghoneim did not demure.

“I prefer that your question be why didn't you do it before, not now,” he said. “I mean, it's late to do this. It should have been done before.”

Please visit the site:

<http://www.thenational.ae/apps/pbcs.dll/article?AID=/20090820/FOREIGN/708199898/1185/enewsletter>

ANCIENT PORT DISCOVERED NEAR SHORE OF KÜÇÜKÇEKMECE LAKE

An archaeological excavation has started near Lake Küçükçekmece in Avcılar to uncover the ancient city of Bathonea, which is estimated to be 1,600 years old.

Dr. Şengül Aydıngün from Kocaeli University explained that an ancient city had been found after they had conducted surface research in Yarımburgaz, the oldest settlement area in the Küçükçekmece basin. Speaking to the press, Aydıngün, head of the İstanbul Prehistoric Research (İTA) Project, said they had found out about the ancient port, located 20 kilometers away from Byzantium (old İstanbul), during research conducted last year into historic documents and compositions written by geographers several centuries ago.

Permission has now been granted to start the excavation, and Aydıngün said they are currently at the start of a very long dig. “It might take a century,” he added. Aydıngün said they had detected the remains of the port during their initial search and had found ceramics and similar small findings near the surface. They also detected a “grid system” of roads from aerial views, and they expect to unearth a city built in a manner similar to the planned urban developments of Ephesus and other ancient cities.

The area where they have started to work is the most important spot, according to Aydıngün, who said they think a structure possessing important architectural features such as columns and doors might be a temple.

Pointing out that the city is situated on a peninsula, Professor Hakan Öniz, a marine archeologist from Eastern Mediterranean University said structures in the city connect with a pier, port and a lighthouse in the farthest point of the city. Explaining that the connection between Lake Küçükçekmece and the Sea of Marmara was wider 1,000 years ago, Öniz said divers are conducting research on the lighthouse.

Öniz argues that a military port on the site had the capacity to host more than 40 ships. He said the search for a lighthouse was started after people claimed “there is a minaret in the lake.”

Culture and Tourism Ministry Monuments and Museums Department General Director Orhan Düzgün said Bathonea was added to the 150 ancient cities that are currently being excavated. Düzgün said the lighthouse found here is one of the three most important ancient lighthouses.

Please visit the site:

<http://www.todayszaman.com/tz-web/news-184385-101-ancient-port-discovered-near-shore-of-kucukcekmece-lake.html>

A SUB-SAHARAN CONUNDRUM, GERMAN ARCHAEOLOGISTS LABOR TO SOLVE MYSTERY OF THE NOK, BY MATTHIAS SCHULZ

Some 2,500 years ago, a mysterious culture emerged in Nigeria. The Nok people left behind bizarre terracotta statues -- and little else. German archaeologists are now looking for more clues to explain this obscure culture.

Half a ton of pottery shards is piled on the tables in Peter Breunig's workroom on the sixth floor of the University of Frankfurt am Main. There are broken pots, other storage vessels, a clay lizard and fragments of clay faces with immense nostrils.

The chipped head of a statue depicts an African man with a moustache, a fixed glare and hair piled high up on his head. He looks gloomy, almost sinister. Just a few days ago, the ceramics traveled 8,000 kilometers (5,000 miles) by sea from Nigeria, where they were unearthed.

Breunig runs an excavation near the Nigerian highlands of Jos, where the mysterious Nok culture once blossomed. Spanning more than 80,000 square kilometers (31,000 square miles), the tropical region they lived in was larger than Ireland. Its inhabitants lived in wooden huts and ate porridge made from pearl millet. Some women subjected themselves to bloody "scar ornaments" scratched into their breasts with knives. And, as archaeologists imagine it, smoke hung in the air as people fired masterly terracotta creations in kilns heated to 700 degrees Celsius (1,300 degrees Fahrenheit).

The most astonishing fact about what Breunig calls "a society without writing" is its age. It dates from around 2,500 years ago, a time when a wave of change in belief systems washed over other continents. Nok sculptors were contemporaries of Solon, Buddha and the early Mayans.

For years, people have believed that Africa was left behind at that time -- but Breunig knows better. "Around 500 B.C., the population exploded," he says. People that had been living a Stone Age-like nomadic existence suddenly settled. Breunig speaks of a "cultural Big Bang."

This region near the equator is still largely unexplored, and the German Research Foundation has allocated sizable funding toward that task. If the researchers from Frankfurt deliver promising results, they will continue to receive state funding until 2020.

With the help of some locals, German researchers set up their base last spring, which consists of nine mud huts in the village of Janjala. A flag with the image of Goethe, the symbol of Breunig's university, flutters on a mast. The Germans have drilled wells, and solar panels provide electricity.

Conditions there are hard. Murky water sloshes from the pump, and the solitary lightbulb in the main bricked-lined hut is the only one within 100 kilometers (62 miles). At night, owing to the heat, the researchers have gotten used to sleeping under the night sky, as wild dogs howl in the distance.

Shards, Shards Everywhere

Bathed in the light of the morning sun, the team sets forth. With shovels, pickaxes, laptops and GPS navigation devices in tow, the excavators trudge past an enchanting tree savannah and granite hilltops rising like small islands.

In their excavations, the team encounters hardly any other traces of life. There are no skeletons preserved in the earth since the acidic soil dissolved all bones. Like their cemeteries, the temples and huts of the Nok have disappeared without a trace. No one knows what their farm animals, streets or religious ceremonies were like.

But the shards of clay statues are everywhere -- on rock slopes, in ancient refuse pits and in open spaces. Burrowing animals occasionally dislodge them from their original resting places.

The largest of these impressive figures can stand up to one meter (3.3 feet) tall and resemble what might be kings or members of a social elite. Others wear horned helmets or carved-out gourds on their heads. A third of these figures are women.

The clay figures are strangely uniform, almost as if they had been mass produced. The eyes are always triangular, the pupils are pierced, and the eyebrows are high and arched. They look sedate and immersed in their thoughts. Lightning-shaped tattoos adorn their cheeks.

Scientists are puzzled about who could have created this collection of curiosities. How, they ask, could such a fanciful world emerge 10 degrees latitude south of the equator and far away from the rest of the world's civilizations?

Particularly perplexing is the question of how the Nok people smelted iron. Excavators have found iron bracelets, arrowheads and knives. No sub-Saharan people made anything comparable at the time.

The German researchers, which include geologists and paleoethnobotanists, have now used state-of-the-art analytical devices to examine this area. They use X-ray fluorescence devices, for example, to detect shattered bones, and their infrared cameras should make the remnants of buildings visible. In their initial findings, they have learned that the Nok lived on millet, cowpeas and an olive-like fruit. And Breunig now believes that the statues "were made centrally in some large workshops."

Next winter, the high-tech caravan of researchers will move back into the bush with up to 40 excavation assistants. The project could finally shed some light on a phenomenon that is one of the biggest mysteries of early history.

A Startling Discovery

In 1943, the British colonial civil administrator Bernard Fagg was the first to acquire a Nok figure, which had been used as a scarecrow in a yam field. Fagg encouraged the workers in the surrounding tin mines to come forward with any similar finds. Locals from more distant regions soon began bringing Fagg other artifacts, which brought his collection up to 150 pieces. They brought him amulets and clay elephants. They brought him a figure with a gigantic phallus reaching up to its head; another had vampire-like teeth.

For a long time, experts in Europe and the United States were largely unaware of the exciting findings. Only when a pioneer of thermoluminescent imaging presented new data in the 1970s did the archaeological community start to prick up its ears.

These findings led the community to ask a puzzling question: Was it possible that, between 600 B.C. and 300 A.D., when the Chinese started building the Great Wall and the Romans dotted their empire with triumphal arches, African master sculptors in faraway Nigeria were making statues of the highest aesthetic order out of mud coils?

The swiftest reaction to the sensational discovery came from people in the antiquities trade. In the late 1980s, Nok sculptures appeared sporadically in Brussels and Paris. Not only private collectors, but also state-owned museums, discreetly tapped into the fenced merchandise, and prices climbed as high as \$50,000 (€35,000) per statue.

Then, in 1996, the sculptures came to the attention of the wider public when the exhibition "Africa: the Art of a Continent" traveled to London and Berlin. Still, at that time, it was mostly photos of the Nok works that went on display. The owners of the original statues -- mostly of whom were rich American collectors -- did not dare lend the exhibition their dubiously acquired African sculptures.

Interpol, the international law-enforcement agency, noted that the objects were being "systematically stolen" and that Africa's heritage was under threat from thieves. UNESCO finally put the sculptures on a list of objects that were illegal to import or export.

Still, these actions did little to temper the treasure-hunting fever in Nigeria. A gem mine near Kubacha, located in the tribal area of the Koro, emerged as an El Dorado for the sculptures.

"Extremely beautiful and barely damaged statues were discovered there in the tombs of the underground shelters," recounts one insider.

Miners there were constantly finding new choice pieces, including a rider on a fanciful horse and a figure holding a cat in a stranglehold.

Details about the mine are hard to come by. It is located in a semi-autonomous district ruled by Koro chief Yohanna Akaito with an iron fist. Akaito has sealed off the area with his private army, and even Nigerian government officials have no access.

One of the few whites who has been granted access to the area is Gert Chesi, and ethnologist and Voodoo researcher.

"The chief entertained me in his mud palace," Chesi says. "In the morning, trumpet calls woke us up, and then we went to the mine."

Chesi had an ulterior motive in coming here. He runs the "House of the People," a museum in Schwaz, Austria, which houses 50 Nok statues, the most splendid collection in the world. Once he was with Akaito, Chesi got right down to business.

Most museums purchased Nok artifacts without certificates and now hide them in their repositories. But Chesi makes no secret of his treasures.

"Each of our sculptures has an export license issued by Omotoso Eluyemi, the manager of the national museum," he says. "Everything was done legally."

It is true that the late Nigerian antiquities official's office could issue customs documents. But it would appear that he did this all too gladly -- while stuffing his pockets in the process.

Poison and Corpses

Now and then, you hear mention of bodies. Eluyemi died on February 18, 2006. According to the official version of events, he choked on a glass of water at dinner and suffocated. But insiders are sure that the 58-year-old was poisoned.

These are the circumstances in which the archeologists are operating.

In describing the situation on the ground, Breunig says that "thieves have rummaged through many thousand square meters of ground; there's one hole next to another."

Still, there is some hope for Africa's heritage. To this day, countless Nok villages lie untouched beneath the earth. In Ungwar Kura, for example, the team recently came across more than 130 millstones, which suggests that there was once a large village there.

The statues found there also contain new details. Some have boils and furuncles on their faces, while others appear to be high dignitaries. Foot rings, loincloths and arm chains ornament their bodies. While their hair is formed into buns and braids, twisted chains adorn necks like thick Christmas wreaths. "The social distinctions are clearly defined," Breunig says.

The researchers are still not sure what these peculiar adornments are supposed to indicate. Since stone pavement is often found near the statues, some have thought that they were situated in holy places or near altars. The archeologists have found remnants of deliberately deposited jewelry chains alongside them, which might lend some degree of support to this hypothesis.

For the time being, though, the purpose of the Nok statues remains unclear. And then there's still the question of whether these objects have anything to do with the Nok people making contact with other people. Some archeologists believe that the cultural renaissance resulted from contact with northern peoples, such as the Carthaginians, who might have arrived by desert. Still others point to the so-called "black pharaohs" of Sudan, who subjugated the whole Nile region between 750 and 670 B.C.

But, for his part, Breunig rejects the idea of such a far-reaching transfer of ideas. "It's 3,000 kilometers from Egypt to Abuja, and there was the obstacle of the Sahara in between," he explains. And, he adds, Africans didn't have camels in pre-Christian times. Instead, Breunig believes that Nok art evolved independently.

Still, the mysteries remain. If Breunig is correct, the Nok were isolated geniuses who created a tropical civilization out of nothing.

"There's no doubt that the Nok will continue to baffle us," Breunig says. "We're unearthing a magnificent part of the history of sub-Saharan Africa."

Please visit the site:

<http://www.spiegel.de/international/world/0,1518,642521,00.html>

DIVING INTO THE SECRETS OF HAGIA SOPHIA, BY SERHAN YEDIG

With unprecedented access to underground tunnels and reservoirs that permeate the earth around Hagia Sophia, filmmaker Göksel Gülensoy sets out to discover their histories in his new documentary. In the film he explores spaces untouched by man for centuries. ‘I believe what is beneath Hagia Sophia is much more exciting than what is above the surface,’ Gülensoy says

Chasing 1,700-year-old secrets hidden beneath Hagia Sophia is no easy feat, but documentary filmmaker Göksel Gülensoy has navigated the labyrinths, ancient and bureaucratic, and will soon release his cinematic chronicle of the subterranean adventure. Gülensoy’s team of two divers and four spelunkers searched the reservoirs connecting the famous Byzantine building to Topkapı Palace and the Yerebatan Cisterns. The spelunkers tried to find the secret passages said to extend from Tekfur Palace, next to the old city walls, to the islands of the Marmara Sea.

Although Gülensoy started shooting his documentary back in 1998, he finished work on it only recently due to obstacles with the budget, official permissions and restoration work on the Hagia Sophia museum. His 50-minute documentary, “Ayasofya’nın Derinliklerinde” (In the Depths of Hagia Sophia), will compete at international festivals starting in the fall.

Beneath the Hagia Sophia

On the floor of the main hall under the gigantic dome, the reservoir door close to the entrance was opened first. Judging by the concrete around it, it had not been used for a long time. According to records about the building, it had been decided in 1945 to empty the water under the floor for research purposes, but that attempt failed when the water level did not go down. The idea was given up all together after the pump’s motor burned out.

Thus, the doors were opened for the first time in 64 years, and for the first time in history, a diver was going underneath Hagia Sophia. It was 9:30 on a December morning and the water temperature was 6 degrees Celsius. Cameraman Engin Aydın and photographer Ozan Çokdeğer were the first to go down into the reservoir. During the exploratory work done the week before, they had lowered a camera down and saw passages below the building. As the entrance was too narrow to accommodate the oxygen tanks of the divers, a 50-meter-long hose was prepared so they could breathe in case the passages extended to the depth of the building.

The reservoir under the first door was 12 meters deep. Near the bottom, Çokdeğer saw two thick pieces of wood, resembling shovel handles, in what looked like fine condition. They turned into dust when he touched them. Then he saw a bucket, which also broke to pieces when he touched it, and an animal’s skeleton. Çokdeğer studied the walls of the reservoir for 50 minutes, and then returned to the surface.

An exciting photograph

The research team had permission to work for only a day, so they rapidly moved to the second shutter, closer to the center of the dome. Years ago, Erdem Yücer, one of the former directors of the museum, had shown Gülensoy a photograph that was taken of the foundations of Hagia Sophia. The photo showed researchers in a boat in a place filled with water, resembling the Yerebatan Cisterns. Seismic research had also demonstrated that the area underneath the big hall was empty. The team, which had previously lowered a camera down from the second door during the first exploration, was thrilled to see two passages extending to the center of the building and to the exit door – passages that might extend to Yerebatan and Topkapı.

Holy water flasks

Diving supervisor Levent Karataş and diver Kenan Ergüç lowered the cameraman and the photographer with a rope down to the bottom of the second reservoir. The floor was covered with ooze up to their knees. The first things Çokdeğer noticed were around a dozen flasks dated 1917. British soldiers likely dropped them while trying to get some of the holy water during the invasion that year. Next they found glass from the giant chandeliers that used to light up Hagia Sophia. A further search led to a chain with two rings at the end. Perhaps a prisoner met his death there. Chilled by the thought, Çokdeğer next found what looked like pieces of stained glass in seven colors. He sent some of the pieces up for better examination; later, they were returned to the water.

The two divers were in the reservoir for 50 minutes and left after they finished recording the sealed passages inside the stone walls. They went straight to the mobile x-ray machine, where Ministry of Health personnel confirmed that the divers had no foreign objects on their bodies. Permission for exploration had been granted on the condition that everything found was to be left in its original place and that no changes to the structure of the building were to be made. That is why the sealed passages were left untouched.

283-meter underground tunnels

The research and recording work in the tunnels beneath Hagia Sophia's main hall was undertaken by the International Speleological Society of Boğaziçi, or BUMAD. Four experienced spelunkers with professional cameras on their helmets had eight hours to explore as deeply as they could.

First, a team from the Istanbul Gas Distribution Industry and Trade Joint Stock Company, or IGDAS, checked the entrance of the passage for poisonous gases and decided there was no threat. Just in case, the team of four was still equipped with gas detectors. Assoc. Prof. Haluk Dursun, the director of the Hagia Sophia Museum, joined the spelunkers this time. The hall they first stepped into was long, like a corridor, and strengthened with pillars. Two stone tunnels of approximately 70 centimeters in height extended in the direction of Sultanahmet Square and Topkapı Palace – presumably the tunnels the mighty 5th-century Byzantine Emperor Theodosius II had used to go to Tekfur Palace and the hippodrome without being seen by the public.

The spelunkers split into two teams and entered the tunnels in opposite directions. Both of the tunnels were strengthened with brick arches and split into two after 50 meters. One branch of each tunnel led to a spot under the dome, but those passages were

closed. Yaman Özakin and Emrah Çoraman took measurements with a laser and drew a sketch while Pelin Kurt and Aydın Menderes continued to move in the direction of Topkapı Palace.

After a while, Menderes resumed his journey, starting to crawl as the tunnel height decreased to 25 centimeters. When he saw daylight between the stones in front of him, he used his pen camera and saw he had reached the palace yard. Menderes returned the way he had come and entered another tunnel to discover two rooms approximately two meters high and five square meters in size. Bones and broken jugs were scattered around. This place, it seemed, was likely the gravesite of St. Antinegos, the first person to be buried in Hagia Sophia, in the 13th century, and Patriarch Athanasius, who was interred 200 years later. It was the most exciting discovery of the day.

Director Göksel Gülensoy: ‘What is underneath is more exciting than on the surface’

“My friend Assoc. Prof. İhsan Tunay, a student of Semavi Eyice, took me on a tour of Hagia Sophia in 1990 and told me legends about the structure. Thanks to him, I became passionately devoted to the building,” said Gülensoy.

In 1992, he shot a documentary on the building and its legends, “Hagia Sophia,” that won awards at the San Sebastian, Tampere and Ankara film festivals. Further motivated by this, he started work on a second film about the tunnels and reservoirs that hide the building’s secrets. “I searched for the mystery under the floor with the help of Assoc. Prof. Haluk Çetinkaya. I believe what is beneath Hagia Sophia is much more exciting than above the surface,” he said. “I want to follow the traces of the two rooms under the abscissa for my third film. The room believed to be the place where the first priest of Hagia Sophia was buried with his belongings has not been thoroughly searched before.”

Hagia Sophia Museum Director Haluk Dursun: ‘The museum should be closed for a while’

Though foreign and domestic researchers have been inspecting Hagia Sophia since 1935, many of the building’s characteristics are still unknown, says Dursun. “I believe Gülensoy’s team made important discoveries, including discovering the rooms mentioned in archives as priests’ graves.”

The director believes those findings should be examined from an archeological perspective and that Hagia Sophia should be closed for a while so the building can be extensively scanned. “All restorers in Turkey should gather and quickly restore the mosaics and other parts,” he said, adding that there should be a “Classical Istanbul” or “Eastern Roman Civilization” museum in the city where the findings could be displayed.

Please visit the site: <http://www.hurriyetdailynews.com/n.php?n=diving-into-the-secrets-of-hagia-sophia-2009-08-04>

BULGARIA RECREATES ORPHEUS'S LYRE

The lyre of Orpheus, the string instrument which the Thracian and ancient Greek mythological musician played with mastery, was recreated and will be displayed in the Bulgarian city of Plovdiv as part of a project of the Municipal Institute Ancient Plovdiv, its representatives recently announced.

The instrument, which is 40 centimetres long, was made from cycamore tree and a turtle's hollow. According to national media, although the original idea was to make the instrument from materials that were as close as possible to the authentic ones, it turned out that no animal species existed from which to get 45-centimetre-long horns.

The lyre was recreated as part of a 150,000-euro project between Bulgaria, Spain and Italy.

The model of the instrument will be officially presented on September 12 in Plovdiv's Ancient Theatre. According to national media, a film which tells the story of the ancient lyre's recreation is also in the works.

The legendary figure of Orpheus was venerated by the Thracians and ancient Greeks as the most gifted poet and musician and the perfecter of the lyre invented by Hermes. According to legend, with his music and singing, Orpheus could charm birds, fish and wild beasts, coax the trees and rocks into dance, and even divert the course of rivers.

Perhaps the best-known myth about Orpheus is his descent into the Underworld and with his music softened the hearts of Hades and Persephone, who agreed to allow his dead wife Eurydice to return with him to earth on one condition: he should walk in front of her and not look back until they both had reached the upper world. But his anxiety made him look back as soon as he reached the upper world and she vanished forever. Orpheus nevertheless remains one of the handful of Greek heroes to visit the Underworld and return.

Please visit the site: <http://www.balkantravellers.com/en/read/article/1441>

HAPPY CLAPPY DAY

Egyptologists have poured scorn on a new study claiming that construction of the great pyramid began on 23 August reports Nevine El-Aref

Constructed 4,500 years ago, and the only extant wonder of the ancient world, the great pyramid of Khufu has remained an enigma that excites the curiosity of experts and the imagination of amateurs. It has been subject to the wildest of theories. Among the more far fetched is the suggestion it was built by the inhabitants of the lost city of Atlantis.

Khufu's pyramid is in the headlines once again. A team of scientists, Egyptologists and astronomers, led by Abdel-Halim Nouredin, professor of ancient language at Cairo University's Faculty of Archaeology, announced that 23 August 2470 BC is the day on which Khufu, and his engineer Hemunu, began construction of the great pyramid.

They base their theory on the heliacal rising of the star Sopdet. Sopdet (Sirius), Nouredin told reporters, was first recorded in 4241 BC. The Nile begins its annual flood approximately 35 days after Sirius appears in the July sky, and the ancient Egyptians naturally connected the two events. Assuming that construction of the pyramid would have begun with the inundation, since that would have freed vast numbers of farmers who could be used as labour, Nouredin's team have calculated that construction of the pyramid began on the evening of 22 August or the morning of 23 August, and opted for the latter as being more likely.

Following the announcement Giza Governor Sayed Abdel-Aziz declared that 23 August would henceforth be Giza governorate day instead of 21 March, which is now the national day of 6 October governorate. He also said that Giza governorate's logo would be changed from a Lotus flower to feature the three pyramids of Giza, the Nile and Cairo University against a backdrop of the rising sun.

Nouredin's announcement has triggered controversy among Egyptologists, who claim the team's theories are based on inaccurate evidence.

"There is not a jot of scientific evidence that can accurately determine the day, or even the season, on which pyramid construction work started," Ramadan El-Badri, supervisor of the national project for documenting Egypt monuments, told Al-Ahram Weekly. "Ancient Egyptians calculated years in a different way than we do today. Each king has his own chronology, and we do not even know whether they begin with the coronation, or with the completion of the Pharaoh's first year in office."

Zahi Hawass, secretary-general of the Supreme Council of Antiquities, questions Nouredin's assertions on two grounds. He points out that it is impossible to establish equivalencies between Egyptian months and their Coptic counterparts, let alone the modern 12 months used today. He also says that the actual length of Khufu's reign has yet to be determined with any accuracy. According to the Turin papyrus King Khufu ruled for 33 years while other archaeological evidence suggests that he was on the throne for 30 or 32 years.

Hawass questions the source of the team's conviction that construction of the pyramid was related to the timing of the Nile flood. It is based, he says, on suggestions made by Herodotus, a speculation that recent discoveries by American Egyptologist Mark Lehner at the administrative complex on the Giza Plateau has shown to be inaccurate. Lehner has conclusively shown that construction work lasted for the whole year and not only along the inundation season, though the number of workers did indeed increase during the flood.

Professor Mamdouh El-Damati, a former director of the Egyptian Museum, dismisses the theory as little more than an amusing anecdote.

"It is nonsense and completely untrue," he says, insisting that no one can know when work on the pyramid began or was finished.

Musalem Shaltout, professor of astronomy and a member of Nouredin's team, says his role was restricted to providing information about the heliacal rising of Sopdet and its relation to the flood cycle season, and takes no responsibility for how that information has been used.

Hawass has called for a scientific, archaeological and astronomical committee to be formed to discuss the results with Nouredin in order to end the controversy.

Please visit the site: <http://weekly.ahram.org.eg/2009/962/fr2.htm>

RARE ANCIENT JEWELS FOUND

ARCHAEOLOGISTS on the Greek island of Crete have unearthed the 2,900-year-old tomb of three women buried with jewels of surprisingly advanced skill, culture officials said on Friday.

The tomb in the ancient town of Eleutherna, near the modern city of Rethymno in northern Crete, held gold necklaces and medallions decorated with lion heads and the forms of ancient gods, excavation supervisor Nikos Stambolidis said.

'The jewels are of a style that appeared in the Hellenistic Era (many centuries later),' said Stambolidis, director of the Cycladic Museum in Athens.

'We had no knowledge that this level of craft existed earlier,' he told AFP.

The elaborate nature of the tomb indicates that its three occupants, two of whom were adolescents, were likely priestesses or princesses.

A number of offerings including scarabs, amber seals and earthenware were also found in the burial chamber which was two metres high.

The town of Eleutherna is believed to have reached its peak in the Geometric Era around 3,000 years ago. Excavation in the last 25 years has so far yielded over 500 items of clay, metal and ivory including sculptures, tools and weapons.

One of the most prized sculptures of the Louvre Museum in Paris, a limestone female statue called the Lady of Auxerre, is believed to have come from Eleutherna. -- AFP

Please visit the site:

http://www.straitstimes.com/Breaking+News/Tech+and+Science/Story/STIStory_422842.html

ARCHAEOLOGISTS UNCOVER LARGE ROMAN STATUE OF AUGUSTUS

Archaeologists in have discovered fragments of a 2,000-year-old bronze Roman equestrian statue of Emperor Augustus in a stream near Giessen, the Hessian state science ministry has announced.

"There has never been a find of such quality and preservation in Germany," a statement from the ministry said, adding that it was a "sensational" discovery.

On August 12, archaeologists pulled the gold-gilded, life-sized head of a horse and a shoe of the emperor – who ruled the Roman Empire between 23 BC and 14 AD – from a stream in what was once the Roman outpost Germania Magna. Experts there have uncovered several bits of the statue among some 20,000 artefacts uncovered at the site in recent years.

Scientists from the University of Jena believe it may have been destroyed by Roman soldiers retreating after the legendary Varusschlacht, or the Battle of the Teutoburg Forest in 9 AD, when Germanic tribes ambushed and wiped out three Roman legions. As the remaining Roman troops retreated after the devastating defeat, they destroyed most of what they could not take with them.

“Due to the location of the find, there is a unique possibility to date the statue to a few exact years and establish a connection to the events surrounding the Varusschlacht 2,000 years ago,” the statement said.

The ministry plans to make an official presentation of the find on August 27.

Please visit the site: <http://www.thelocal.de/sci-tech/20090825-21467.html>

UNPRECEDENTED MINIATURE CARVING OF ALEXANDER THE GREAT FOUND BY NISSAN RATZLAV-KATZ

Excavations in Tel Dor have turned up a rare and unexpected work of Hellenistic art: a precious stone bearing the miniature carved likeness of Alexander the Great. Archaeologists are calling it an important find, indicating the great skill of the artist.

The Tel Dor dig, under the guidance and direction of Dr. Ayelet Gilboa of Haifa University and Dr. Ilan Sharon of Jerusalem's Hebrew University, has just ended its summer excavation season. For more than 30 years, scientists have been excavating in Tel Dor, identified as the site of the Biblical town of Dor. The town's location, on Israel's Mediterranean Sea coast some 30 kilometers south of Haifa, made it an important international port in ancient times.

"Despite the tiny proportions - the length of the gemstone (gemma) is less than a centimeter and its width less than half a centimeter - the artist was able to carve the image of Alexander of Macedon with all of his features," Dr. Gilboa said. "The king appears as young and energetic, with a sharp chin and straight nose, and with long, curly hair held in a crown."

According to the archaeologists involved in the Tel Dor excavations, the discovery of the miniature Alexander gemstone carving in Israel is fairly surprising. The Land of Israel was not, for the Greek Empire, a central or major holding.

"It has been accepted to assume that first-rate artists - and whoever carved the image of Alexander in this gemstone was certainly one of them - were primarily active under the patronage of the large royal courts in Greece itself or in major capitals," the scientists explained. "It turns out that local elites in secondary centers such as Dor could allow themselves - and knew to appreciate - superior artwork."

Additionally, the new find is important for the study of the historical Alexander the Great. The gemstone was found in the remains of a large public building from the Hellenistic period in the southern area of the tel. Unlike most of the portraits of Alexander in museums throughout the world, with unknown origins, the Tel Dor carving was found and classified within its archaeological context. The face was definitively identified as that of Alexander the Great by Dr. Jessica Nitschke of Georgetown University and Professor Andrew Stewart of UC Berkeley.

Historically, Alexander himself passed through Dor in 332 BCE, during his voyage to Egypt. It appears that the city fell to him without resistance. Since that time until its conquest by the Hasmonean Jewish King Alexander Yannai around 100 BCE, Dor served as a stronghold of non-Jewish Hellenists in the Land of Israel.

Please visit the site: <http://www.israelnationalnews.com/News/News.aspx/133097>

NEW YORK UNIVERSITY DIGS IN CYPRUS SHOW WORSHIP OF GOD APOLLO, BY PAUL TUGWELL

Archaeologists in Cyprus found evidence that an island off the Mediterranean country's south-west coast was the site of a temple for worshipping Apollo, the ancient Greek god of light, prophecy, music and healing.

Excavations led by New York University on Geronisos unearthed fragments of pithoi, or storage vessels probably used to hold olive oil, that could be repaired to stand to a height of 1.20 meters, among the largest storage containers ever found on Cyprus, according to a statement today on the Web site of the Cypriot Interior Ministry's Public Information Office.

The vessel fragments, which date from the 1st century B.C., were found in what appears to be a storeroom or pantry facility, probably servicing a complex of previously found dining rooms, the statement said.

The digs also unearthed a sculptured lion's head that "would have been plastered and painted as a fitting adornment for a monumental structure, possibly a temple," according to the statement.

Previous digs on the island showed that Geronisos was an ancient religious tourist center for worshipping Apollo, son of the king of the Greek gods, Zeus, and the nymph, Leto.

"The discovery of this storage facility represents an important breakthrough in our understanding of the experience of ancient pilgrims on Geronisos," the Cyprus Department of Antiquities said in the statement, "and the ritual dining that seems to have taken place within the complex of rooms in the central south sector of the island."

To contact the reporter on this story: Paul Tugwell in Athens at ptugwell1@bloomberg.net

Please visit the site:

<http://www.bloomberg.com/apps/news?pid=20601120&sid=axRLVOI3zlvU>
