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<http://archaeometry.org.gr>

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# Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

**- Αύγουστος 2023 -**

**Excellence is never an accident. It is always the result of high intention, sincere effort, and intelligent execution; it represents the wise choice of many alternatives - choice, not chance, determines your destiny.**  
*(Aristotle)*

## Newsletter of the Hellenic Society of Archaeometry

**- August 2023 -**

**Nr. 269**

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## ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS



ΙΝΣΤΙΤΟΥΤΟ ΑΡΧΑΙΟΛΟΓΙΑΣ ΠΑΡΟΥ ΚΑΙ ΚΥΚΛΑΔΩΝ  
THE INSTITUTE FOR ARCHAEOLOGY OF PAROS AND THE CYCLADES

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Paroikia, 84400 Paros, email: paros.iapk@gmail.com

### FIRST CIRCULAR, JUNE 2023

## CALL FOR PAPERS

# SIXTH INTERNATIONAL CONFERENCE ON THE ARCHAEOLOGY OF PAROS AND THE CYCLADES

## Η ΠΑΡΟΣ ΚΑΙ ΟΙ ΚΥΚΛΑΔΙΤΕΣ ΓΕΙΤΟΝΕΣ ΤΗΣ Σχέσεις, Επαφές, Επιρροές

## PAROS AND ITS CYCLADIC NEIGHBOURS Relations, Contacts, Influences

### Paroikia, Paros, June 2024

The Sixth International Conference on the *Archaeology of Paros and the Cyclades* (Paros VI) will take place in Paroikia of Paros in June 2024. The Conference is dedicated to Paros and its Cycladic neighbour islands of Syros, Tenos, Mykonos, Naxos, Ios and the Small Cyclades, in prehistoric and historic times.

The Conference is the sixth in a series of International Conferences under the specific title *Paros*, organized by our Institute and held in Paroikia of Paros at periodic intervals. The previous Conference (Paros V) was held in Paroikia in June 2019, the volume of Proceedings published in 2021. The Paros VI Conference, including scientific announcements, cultural events and guided tours, will be held in the town centre of Paroikia.

Conference languages are Greek and English. Talks should not exceed the 20'. All Conference participants (speakers and session Presidents) will stay at Paroikia and their hotel accommodation will be covered by the organizers.

#### CONFERENCE TOPICS:

1. History, Archaeology, Religion, Geology/Environment of ancient Paros-Antiparos
2. History, Archaeology, Religion, Geology/Environment of Paros' neighbour islands of Syros, Tenos, Mykonos, Naxos, Ios and the Small Cyclades

More specific topics include:

#### I.

- relations/contacts/influences
- coinage, epigraphy, economy and society
- trade, sea routes and mobility
- architecture, material culture and arts (sculpture, painting)
- sculpture workshops & sculptors
- pottery workshops and styles
- cults and sanctuaries

#### II.

- geodynamics and tectonics
- geography and geomorphology
- natural hazards, earthquakes, tsunamis
- archaeometry research/dating and paleoenvironment

A special session will be devoted to Paros-Naxos relations

#### ABSTRACT SUBMISSION DEADLINE

Abstracts of papers up to one page, written in both languages (English & Greek), including full information on authors (title, institution, post address, email address), are to be sent until **October 15, 2023** to Organizer of the Conference Prof. Dora Katsonopoulou: [paros.iapk@gmail.com](mailto:paros.iapk@gmail.com)

A second Circular will be sent in early 2024 including the preliminary program of the Conference.

With best regards,

For the Organizing Committee

Prof. Dora Katsonopoulou  
President

<https://cornell.academia.edu/DoraKatsonopoulou>  
[researchgate.net/profile/Dora\\_Katsonopoulou](https://researchgate.net/profile/Dora_Katsonopoulou)

## **ΤΕΧΝΗ\*: MAKING, CREATING, AND** **AGENCY NETWORKS IN THE ANCIENT** **MEDITERRANEAN WORLD**

The TEXNH team is pleased to announce another series of lectures/discussion sessions for the autumn season of 2023 to be held at NIA each time on Wednesdays at 6pm.

The following talks are planned at the following dates:

20/9/2023: Dr. Despoina Ignatiadou – National Archaeological Museum Athens  
Title: **The cross-overs between three pyrotechnologies: Pre-Roman pottery, metalware, and glassware**

18/10/2023: Dr. Athina Boleti – Marie Curie Fellow, Leiden University  
Title: **Abrasive technologies and cross-craft interaction in the Bronze Age Aegean world**

08/11/2023: Dr. Eleni Konstantinidi-Syvridi – National Archaeological Museum  
Title: **Working side-by-side with goldsmiths in the Mycenaean times**

Very much looking forward to having you with us on these dates.

Best wishes for the summer,

In name of the entire team,

Prof. dr. Ann Brysbaert

Director, Netherlands Institute at Athens  
Prof. in Ancient Technologies, Materials and Crafts, Leiden University

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<p>ΟΡΓΑΝΩΤΙΚΗ ΕΠΙΤΡΟΠΗ ΣΥΝΕΔΡΙΟΥ ΕΛΛΑΔΑ <a href="http://www.euromed-dch.eu">www.euromed-dch.eu</a></p>	 <p>5<sup>ο</sup> Πανελλήνιο Συνέδριο Ψηφιοποίησης Πολιτιστικής Κληρονομιάς - EUROMED</p>	

**ΠΡΟΣΚΛΗΣΗ ΣΥΜΜΕΤΟΧΗΣ**  
**ΣΤΟ 5Ο ΠΑΝΕΛΛΗΝΙΟ ΣΥΝΕΔΡΙΟ**  
**ΨΗΦΙΟΠΟΙΗΣΗΣ ΠΟΛΙΤΙΣΤΙΚΗΣ**  
**ΚΛΗΡΟΝΟΜΙΑΣ-EUROMED 2023**  
**5TH PAN-HELLENIC CONFERENCE ON**  
**DIGITAL CULTURAL HERITAGE-**  
**EUROMED 2023)** ,

**ΛΑΡΙΣΑ, ΤΕΤΑΡΤΗ 15 – ΣΑΒΒΑΤΟ 18**  
**ΝΟΕΜΒΡΙΟΥ 2023**  
**ΔΗΜΟΤΙΚΉ ΠΙΝΑΚΟΘΉΚΗ ΛΑΡΙΣΑΣ-**  
**ΜΟΥΣΕΙΟ «Γ.Ι. ΚΑΤΣΙΓΡΑ»- ΝΕΑΠΟΛΗ**  
**ΛΑΡΙΣΑΣ**

Η μεγάλη συνάντηση των Νέων Τεχνολογιών με την Πολιτιστική Κληρονομιά  
Πολιτισμός, Παιδεία, Νέες Τεχνολογίες, Καινοτομία, Τουρισμός, Κλιματική Αλλαγή  
Όλες οι λεπτομέρειες σύντομα στο [www.euromed-dch.eu](http://www.euromed-dch.eu)

Ανακοινώνεται η διοργάνωση του 5ου ΠΑΝΕΛΛΗΝΙΟΥ ΣΥΝΕΔΡΙΟΥ  
ΨΗΦΙΟΠΟΙΗΣΗΣ ΠΟΛΙΤΙΣΤΙΚΗΣ ΚΛΗΡΟΝΟΜΙΑΣ-EuroMed 2023 , που έχει  
θεσμοθετηθεί και διοργανώνεται στην Ελλάδα κάθε δύο (2) χρόνια, μετά από απόφαση  
των διοργανωτών Φορέων, που είναι:

- το Τεχνολογικό Πανεπιστήμιο Κύπρου (ΤΕ.ΠΑ.Κ.- Εργαστήριο Ψηφιακής Πολιτιστικής Κληρονομιάς(UNESCO Chair on Digital Cultural Heritage και EU-ERA Chair on Digital Cultural Heritage) ,



- το Πανεπιστήμιο Δυτικής Αττικής (Πανεπιστημιακό ΕΡΓΑΣΤΗΡΙΟ Μη – Καταστροφικών Ελέγχων και Μεθοδολογιών Διάγνωσης Συστημάτων (NDT-SD Lab), του Τμήματος Μηχανικών Βιομηχανικής Σχεδίασης και Παραγωγής της Σχολής Μηχανικών) και
- ο Πολιτιστικός Οργανισμός "Δίκτυο ΠΕΡΡΑΙΒΙΑ" ( Εργαστήριο Ψηφιοποίησης Πολιτιστικής Κληρονομιάς).

Το Συνέδριο θα πραγματοποιηθεί στο Αμφιθέατρο και στους εξαιρετικούς χώρους της Δημοτικής Πινακοθήκης Λάρισας-Μουσείο «Γ.Ι. Κατσίγρα»- Νεάπολη Λάρισας, (<https://www.katsigrasmuseum.gr/>).

Θα πρέπει να τονίσουμε ότι τα μοναδικά αυτά Συνέδρια, που λόγω της θεματολογίας τους, χαρακτηρίστηκαν , απ' όλους, ως πρωτοπόρα και καινοτόμα, αλλά και ως εθνικής σημασίας, συγκεντρώνουν το ενδιαφέρον όλου του Ελληνισμού ( εντός και εκτός Ελλάδος) και τα προηγούμενα Συνέδρια τελούσαν υπό την Αιγίδα της **ΑΕ του Προέδρου της Ελληνικής Δημοκρατίας** και της **Α.Θ. Παναγιώτητος του Οικουμενικού Πατριάρχου Κωνσταντινουπόλεως κ.κ. Βαρθολομαίου**, ενώ είχαν και την υποστήριξη-αιγίδα του Υπουργείου Ψηφιακής Διακυβέρνησης, του Υπουργείου Πολιτισμού και Αθλητισμού του Υπουργείου Τουρισμού , της Ιεράς Αρχιεπισκοπής Αθηνών, του Ελληνικού Οργανισμού Τουρισμού, της Κυπριακής Πρεσβείας στην Ελλάδα ,του Πανεπιστημίου Θεσσαλίας και πολλών παγκόσμιων επιστημονικών Οργανισμών (ICOMOS, ICOM, UNESCO, E.E. κ.ά.). Το ίδιο θα ζητηθεί να συμβεί και με το 5<sup>ο</sup> Συνέδριο.

Στο πλαίσιο του 5<sup>ου</sup> Πανελληνίου Συνεδρίου προσκαλείται όλη η επιστημονική και ερευνητική κοινότητα, από την Ελλάδα και την Κύπρο, αλλά και Έλληνες και Κύπριοι ερευνητές ανά την υφήλιο, να δηλώσουν τη συμμετοχή τους ως Σύνεδροι, αλλά και ως εισηγητές, υποβάλλοντας τις εισηγήσεις και τα Posters τους, μέσω της επίσημης ιστοσελίδας του Συνεδρίου [www.euromed-dch.eu](http://www.euromed-dch.eu) (θα ενεργοποιηθεί σύντομα)

Το σημαντικό αυτό Συνέδριο, συγκεντρώνει το ενδιαφέρον της επιστημονικής κοινότητας, κάθε δύο χρόνια και αποτελεί τη μεγάλη συνάντηση της Επιστήμης με τον Ελληνικό Πολιτισμό, με κέντρο την παιδεία, την έρευνα, την καινοτομία, τις ψηφιακές τεχνολογίες και τον πολιτιστικό τουρισμό, αξιοποιώντας την απήχηση και σεβασμό, που τρέφει η παγκόσμια κοινότητα στον Ελληνικό Πολιτισμό και που πρέπει να διεκδικήσει τη θέση που του αξίζει.

Έχει χαρακτηριστεί από τα αρμόδια Υπουργεία , αλλά κυρίως από την επιστημονική κοινότητα, ως καινοτόμο και πρωτοπόρο για την Ελλάδα και έχει καταστεί θεσμός από το 2015, γιατί παρουσιάζει , όχι μόνο το τεράστιο έργο που επιτελείται από σημαντικούς Έλληνες και Κυπρίους επιστήμονες στην Ελλάδα και στο εξωτερικό, αλλά και γιατί παρουσιάζει τις παγκόσμιες εξελίξεις στον μεγάλο τομέα της Ψηφιοποίησης της Πολιτιστικής Κληρονομιάς του Ανθρώπου, στο σύνολό του.

Ιδιαίτερα, μετά και τη μεγάλη καταστροφή στο παγκόσμιο μνημείο πολιτιστικής κληρονομιάς, της Παναγίας των Παρισίων, αλλά και τόσων άλλων μνημείων αυτά τα χρόνια, στην Ελλάδα και τον κόσμο, αναδεικνύεται η αξία και η σημασία της Ψηφιοποίησης και της διοργάνωσης τέτοιων επιστημονικών Συνεδρίων, που αναδεικνύουν την καινοτομία, την έρευνα, τις Νέες Τεχνολογίες και την μεγάλη

προσπάθεια της επιστημονικής κοινότητας για τη διάσωση του Πολιτιστικού Αποθέματος του Ανθρώπου.

### Επίκαιρα θέματα στο μικροσκόπιο της Επιστήμης

Από πλευράς Διοργανωτών τονίζεται ότι το Πανελλήνιο Συνέδριο θα πρέπει να επικαιροποιεί, κάθε δύο χρόνια, τα θεματικά του πεδία, λαμβάνοντας υπόψη τις παγκόσμιες εξελίξεις.

Το φετινό Συνέδριο θα αναλύσει σημαντικές παγκόσμιες προκλήσεις, όπως είναι η κλιματική αλλαγή και οι επιπτώσεις της στην πολιτιστική κληρονομιά, ο πολιτισμός – τουρισμός, ο ρόλος της τοπικής αυτοδιοίκησης Α' και Β' βαθμού στη διάσωση και ανάδειξη της πολιτιστικής κληρονομιάς και της δημιουργίας αναπτυξιακής δυναμικής της περιφέρειας (**θα βραβευτούν οι τρεις καλύτερες εργασίες-καλές πρακτικές Φορέων Τ.Α.**), τις νέες τεχνολογίες στη δημιουργία ψηφιακών μουσείων, τις παγκόσμιες τράπεζες δεδομένων και μετα-δεδομένων (π.χ. Europeana), την επιχειρηματικότητα που δημιουργεί η προστασία και η ανάδειξη της πολιτιστικής μας κληρονομιάς, της λεγόμενης δημιουργικής βιομηχανίας και την Τεχνητή Νοημοσύνη, θέλοντας το Συνέδριο αυτό, πέρα από τον βαθιά επιστημονικό του ρόλο, να έχει και έναν αναπτυξιακό χαρακτήρα και να συμβάλει στη δημιουργία της Ελλάδας του Μέλλοντος, μέσα από τον πολιτισμό και την ανάπτυξη που αυτός μπορεί να δημιουργήσει.

Το Συνέδριο αφορά:

- **Επιστημονικό δυναμικό** των Πανεπιστημίων, Ιδρυμάτων και Ινστιτούτων, όλων των βαθμίδων, με ειδικευση στην Αρχαιολογία, Ιστορία, Γεωλογία, Βιολογία, Ανθρωπολογία, Χημεία, Πληροφορική, Φυσική, Μαθηματικά, Πολιτισμική Πληροφορική, Πολυτεχνεία (Ηλεκτρολόγοι Μηχανικοί, Πολιτικοί Μηχανικοί, Αρχιτέκτονες κ.ά.), Συντηρητές Ανασκαφικών Ευρημάτων και Έργων Τέχνης, Γραφιστικές Τέχνες κ.α., ειδικότητες δηλ. που εμπλέκονται με οποιονδήποτε τρόπο στο μεγάλο θέμα της Ψηφιοποίησης της Πολιτιστικής Κληρονομιάς.
- **Στελεχιακό δυναμικό** του Υπουργείου Παιδείας και Θρησκευμάτων, Πολιτισμού και Αθλητισμού, του Υπουργείου Οικονομίας, Υποδομών, Ναυτιλίας και Τουρισμού, Εφορειών Αρχαιοτήτων, ICOMOS Ελλάδος και Κύπρου, Μουσείων, Γενικών Αρχείων του Κράτους, κρατικών και ιδιωτικών βιβλιοθηκών, Ιερών Μητροπόλεων της Εκκλησίας της Ελλάδος και άλλων Εκκλησιών, Ομοσπονδιών, Συλλόγων Επιστημόνων, Ένωση Ελλήνων Συντηρητών, Ελληνική Αρχαιομετρική Εταιρεία, Ένωση Αρχαιολόγων, Σύλλογο Αρχιτεκτόνων, ICOM Ελλάδος και Κύπρου, Συλλογικοτήτων, Μελετητικών Εταιριών, Φορείς υλοποίησης Εθνικών και Ευρωπαϊκών Προγραμμάτων, Μη Κυβερνητικών Οργανώσεων κ.ά. όπως και τους αντίστοιχους Φορείς της Κύπρου.
- **Στελέχη άλλων Υπουργείων**
- **Στελέχη ΟΤΑ Α' και Β' Βαθμού**
- Έλληνες και Κύπριους που εργάζονται σε Ελληνικά και Ξένα Πανεπιστήμια, Ερευνητικά Κέντρα σχετικά με τον Πολιτισμό
- Έλληνες και Κύπριους Φοιτητές Ελληνικών και Ξένων Πανεπιστημίων
- Ανεξάρτητους Επιστήμονες και Ερευνητές στην Ελλάδα, Κύπρο και όλο τον κόσμο
- Γενικά, κάθε ενδιαφερόμενο σε θέματα ψηφιοποίησης της Πολιτιστικής Κληρονομιάς

Οι θεματικοί άξονες εργασιών του Συνεδρίου είναι οι ακόλουθοι:

1. **Τρισδιάστατη απεικόνιση και Εκτύπωση** -Νέες τεχνολογίες στις ανθρωπιστικές επιστήμες
2. **Τεχνητή Νοημοσύνη** και εφαρμογές στον Πολιτισμό
3. **Ψηφιοποίηση στην Αρχαιολογία** και ανάδειξη της πολιτιστικής κληρονομιάς στο ψηφιακό πολυμεσικό περιβάλλον και διαδίκτυο (Εκπαίδευση κ.ά.)
4. **Πολιτιστικός και Θρησκευτικός Τουρισμός**-Ψηφιακή Πολιτιστική κληρονομιά και η διαχείριση της
5. **Κλιματική Αλλαγή και Πολιτιστική Κληρονομιά**
6. **Μουσεία, Βιβλιοθήκες, Πινακοθήκες- Ψηφιακές Τεχνολογίες-Europeana**
7. **Τοπική Αυτοδιοίκηση και Πολιτιστική Κληρονομιά**
8. **Δημιουργία έξυπνων Πόλεων** μέσα από τον Πολιτισμό-Κόμβοι Καινοτομίας – Βιομηχανική Αρχαιολογία -Ψηφιακές εφαρμογές προς όφελος της κινητικότητας και της προσβασιμότητας σε πολιτιστικούς χώρους
9. **Δημιουργική Βιομηχανία** και επιχειρηματικές ευκαιρίες στον Πολιτισμό
10. **Εμπειρίες, Νέες Προκλήσεις και Προοπτικές** για την ψηφιακή κοινωνία της Πολιτιστικής Κληρονομιάς-Πόροι και χρηματοδοτικά εργαλεία

Επίσης, το σημαντικό αυτό Συνέδριο :

1. **αποτελεί ιστορική αναγκαιότητα** για την Ψηφιοποίηση της Πολιτιστικής Κληρονομιάς, ιδιαίτερα των θρησκευτικών μας Μνημείων που πρέπει να καταγραφούν και να διασωθούν
2. **θα συγκεντρώσει τους καλύτερους επιστήμονες** που εργάζονται στο ερευνητικό πεδίο της Ψηφιοποίησης απ' όλο τον κόσμο
3. **θα φέρει κοντά όλους τους Έλληνες και Κυπρίους επιστήμονες** με τη δημιουργία συνεργασιών και συμπράξεων
4. **θα παρουσιαστούν όλες οι τελευταίες εξελίξεις στις νέες τεχνολογίες** και όλα τα Ευρωπαϊκά Προγράμματα που βρίσκονται σε εξέλιξη και αφορούν τον Πολιτισμό
5. **θα αναδείξει τον Ελληνικό Πολιτισμό**, σε όλο τον κόσμο

#### ΠΡΟΓΡΑΜΜΑΤΙΣΜΟΣ ΥΠΟΒΟΛΗΣ ΕΠΙΣΤΗΜΟΝΙΚΩΝ ΕΡΓΑΣΙΩΝ

<b>25 Σεπτεμβρίου 2023</b>	Καταληκτική ημερομηνία υποβολής περιλήψεων εργασιών ή POSTERS από τους συγγραφείς
<b>Μέχρι 5 Οκτωβρίου 2023</b>	Αξιολόγηση εργασιών από Επιστημονική Επιτροπή (Αποδοχή ή απόρριψη εργασίας)
<b>10 Οκτωβρίου 2023</b>	Ενημέρωση συγγραφέων σχετικά με αποδοχή εργασιών από την Επιστημονική Επιτροπή
<b>30 Οκτωβρίου 2023</b>	Καταληκτική ημερομηνία υποβολής full papers από τους συγγραφείς <b>(Σημειώνεται ότι η ΕΜΠΡΟΘΕΣΜΗ υποβολή του Full Papers είναι απαραίτητη προϋπόθεση για να μπορεί να παρουσιαστεί η εργασία στο Συνέδριο.</b> Σε αντίθετη περίπτωση η παρουσίαση της εργασίας στο Συνέδριο δεν θα είναι εφικτή και ως εκ τούτου δεν μπορεί να συμπεριληφθεί στα ΠΡΑΚΤΙΚΑ του Συνεδρίου)

**Όλοι οι συμμετέχοντες θα λάβουν ΒΕΒΑΙΩΣΗ ΣΥΜΜΕΤΟΧΗΣ.**

Η υποβολή των εργασιών θα ξεκινήσει σύντομα μέσα από την επίσημη ιστοσελίδα του Συνεδρίου( [www.euromed-dch.eu](http://www.euromed-dch.eu), από την οποία θα ενημερώνεστε για όλες τις εξελίξεις.

Σας ενημερώνουμε ότι το Συνέδριο θα πραγματοποιηθεί υβριδικά , δηλ. με φυσική παρουσία, που είναι άκρως προτεινόμενη από τους Διοργανωτές, που θα διοργανώσουν θεματικές συναντήσεις για τη γνωριμία των επιστημόνων μεταξύ τους, επαφές που δεν αντικαθίσταται από την τεχνολογία, αλλά και μέσω διαδικτύου, όταν δεν είναι εφικτή η φυσική παρουσία.

Όλες οι λεπτομέρειες θα ανακοινωθούν σύντομα στην επίσημη ιστοσελίδα του Συνεδρίου [www.euromed-dch.eu](http://www.euromed-dch.eu) (ξενοδοχεία, μετακινήσεις, κόστος συμμετοχής, παράλληλες εκδηλώσεις, Key Note Speakers κλπ).

Πληροφορίες: Κων. Σκριάπας, Τηλέφ. 6974-881944, E-Mail:  
[euromed.greece@gmail.com](mailto:euromed.greece@gmail.com)

### Με Εκτίμηση

Εκ μέρους των Διοργανωτών Φορέων των Συνεδρίων EUROMED

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#### ΣΤΟΙΧΕΙΑ ΟΡΓΑΝΩΤΙΚΗΣ ΕΠΙΤΡΟΠΗΣ

Όνοματεπώνυμο	Ιδιότητα-Φορέας	Στοιχεία Επικοινωνίας
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## RAA2023-SCIENTIFIC AND SOCIAL PROGRAMME

Dear Raman Enthusiasts!

The Raman spectroscopy training school and the RAA2023 conference scientific programmes are now available online!

Under the subtab scientific programme (tab: conference) in the conference website ([Home | RAA 2023 \(ugent.be\)](#)) the participants can find information regarding their sessions, instructions for oral and poster presentations and the keynote speakers of the 11<sup>th</sup> edition of the RAA conference.

Moreover, the social programme, including welcome reception, social dinner and excursion, is now ready to be explored.

Regarding the RAA2023 conference:

The scientific committee of the RAA2023 will select the best oral and best poster contribution presented by young researchers.

Regarding the Raman spectroscopy training school:

Our sponsor Metrohm together with the Raman spectroscopy research group of Ghent University will join forces for the hands on training on mobile Raman systems. The participants can bring their own samples. These can be measured/tested with the available mobile Raman spectrometers.

On behalf of the organizing and scientific committees of the 11<sup>th</sup> International Conference on the Application of Raman Spectroscopy in Art and Archaeology (RAA2023).

The Chairs of RAA2023

Dr. Anastasia Rousaki, Ghent University, Ghent, Belgium

&

Dr. Eleni Kouloumpi, The National Gallery-Alexandros Soutzos Museum, Athens, Greece



## **INTERDISCIPLINARY CONFERENCE "RED BECOMES BLACK - AND THEN WHAT? PIGMENT CHANGES ON ART AND CULTURAL HERITAGE", 9 NOVEMBER 2023 IN HILDESHEIM**

On the occasion of its 25<sup>th</sup> anniversary, the Hornemann Institute of the HAWK University of Applied Sciences and Arts in Hildesheim (Germany) together with the Conservation/Restoration Working Group of ICOMOS and the Association of German Restorers, are organising an interdisciplinary conference on chemically and physically induced pigment changes in paintings and settings.

The subject is of great importance to all those working with historical art and cultural heritage, and therefore to the practice of conservation, because pigment changes can fundamentally alter the original colour effect of a painting or mounting, and thus massively affect the artistic message. For example, the pigment red lead can change to lead oxide, turning formerly bright red areas brown or black. In extreme cases, pigment changes can lead to fading or almost complete loss of colour. How do conservators deal with this problem? Reconversion is only possible in very rare cases and is ethically questionable.

### **Focus**

The restoration courses at the HAWK, with their Bachelor and Master of Science degrees, focus on material science analysis and the restorative treatment of changes. Bonding agents and coatings must be considered, as they are often inseparable from pigment transformations and altered colour effects. Metallic coatings used in painting and in the mounting of sculptures should also be included, as they play an important role in the interaction with the paint layer and the paint mount. Another practical aspect is the viewer's perception of pigment changes, since brown or black spots, for example, caused by the transformation of cinnabar, red lead or white lead, are perceived as disturbing changes.

Conference Programme, 9.00 a.m. - 4.30 p.m.

Ursula Schädler-Saub, Hildesheim: Grüne Rosen: Farbveränderung als Geschichtszeugnis oder Verfälschung künstlerischer Intentionen? (*Green Roses: Colour Change as a Testimony to History or Falsification of Artistic Intentions?*)

Steffen Laue, Potsdam: Der Mund wurde schwarz – Pigmentumwandlungen in der Baudenkmalpflege (*The Mouth Turned Black - Pigment Transformations in the Conservation of Architectural Monuments*)

Albrecht Körber, Dresden: Die Rückumwandlung von Bleiweißverbräunungen und ihre Evaluierung am Beispiel von Wandmalereien in Burg Strehau und Schloss Tillysburg (*The Reconversion of Lead White Browning and its Evaluation Using the Example of Wall Paintings in Strehau Castle and Tillysburg Castle*)

Rainer and Ursula Drewello, Bamberg: Blau – das himmlische Pigment und seine verteuflerte Labilität (*Blue - the Heavenly Pigment and its Demonised Lability*)

Kristina Mösl, Berlin: Caspar David Friedrich und die Smalte. Pigmentveränderungen und Möglichkeiten der digitalen Rekonstruktion (Arbeitstitel) (*Caspar David Friedrich and the Smalte. Pigment Changes and Possibilities of Digital Reconstruction (working title)*)

Robert Fuchs, Göttingen: Farbveränderungen und restauratorischer Nutzen von geschädigtem Schriftgut und Fotografie unter Berücksichtigung restauratorischer Aspekte (*Colour Changes and Restoration Benefits of Damaged Written Material and Photography, Taking into Account Restoration Aspects*)

Babette Hartweg, Berlin: Veränderungen von Auripigment auf Vittore Carpaccios großen Leinwandbildern der Berliner Gemäldegalerie in Zusammenhang mit Restaurierungsmaßnahmen? Technologische Befunde und restauratorischer Umgang (*Changes in Auripigment on Vittore Carpaccio's Large Canvas Paintings in the Berlin Gemäldegalerie in Connection with Restoration Measures? Technological Findings and Restoration Treatment*)

Dörthe Jakobs, Esslingen: Pigmentveränderungen in der Wandmalerei oder kann Chemie auch Kunstgeschichte? (*Pigment Changes in Wall Painting or Can Chemistry also be Art History?*)

Opening of the poster section

All lectures are in German. Simultaneous translation cannot be financed.

More information and registration (until 31 October 2023) [here](#).

\*\*\*\*\*

Dr. Angela Weyer  
Institute Director,  
Hornemann Institute of the HAWK University of Applied Sciences and Arts  
Hildesheim/Holzminden/Göttingen

\*\*\*\*\*

## **WORKSHOP: ON STAMP SEALS AND SCIENCES. 23 AUGUST 2023 (HYBRID), TEL AVIV UNIVERSITY, ROOM 204, GILMAN BUILDING**

Organized by the SNSF Sinergia research project “Stamp Seals from the Southern Levant: A Multi-faceted Prism for Studying Entangled Histories in an Interdisciplinary Perspective” (SSSL; <https://en-humanities.tau.ac.il/Archaeology-institute/stamps>)

For abstracts see

[https://drive.google.com/file/d/1d3EVbwwdchMtQXOfThFTR62gSdVy4\\_8X/view?usp=share\\_link](https://drive.google.com/file/d/1d3EVbwwdchMtQXOfThFTR62gSdVy4_8X/view?usp=share_link)

For further information please email Ido Koch ([Idokoch@tauex.tau.ac.il](mailto:Idokoch@tauex.tau.ac.il))

The field of glyptic studies has developed in recent decades far beyond the expectations of early scholarship and specifically with the progress of the project Stamp seals from the Southern Levant. The study of stamp seals has proven to be a valuable component in the study of various aspects of ancient Levantine social, economic, cultural and religious history especially in pre-Hellenistic times. Yet, the field has thus far only marginally engaged in exchange with the sciences. Producing a reliable database, our project intends to lay the foundations for future scientific investigations, to be collectively explored for the first place in the proposed workshop, with the ultimate to clarify the possible interaction of stamp seal studies with the exact and natural sciences. The methods and potential of the latter should expose glyptic studies to new research questions, unprecedented insights and, possibly, breakthrough explanations. While previous research did already draw on the sciences occasionally, especially with regard to the determination of raw materials and their provenance, this workshop does so more decidedly and thus will definitely open new areas to the study of ancient Levantine stamp seals.

10:00 Welcome and Coffee

10:30 Introduction

Ido Koch (Tel Aviv University)

10:45 Signed and Sealed: Unrevealing the Material's Signature using Analytical Methods  
Adi Eliyahu Behar (Ariel University)

11:30 ArcAid: Analysis of Archaeological Artifacts Using Drawings Offry Hayon (Technion), Stefan Mürger (University of Bern), Ilan Shimshoni (University of Haifa) and Ayellet Tal (Technion)

12:15 Lunch break



13:45 Sealing Practices in Tel Azekah at the End of the Late Bronze Age: An Interdisciplinary Approach to the Study of Sealings Sabine Kleiman (Tel Aviv University), Daniel Burlakov (Tel Aviv University), and Ido Koch (Tel Aviv University)

14:30 Archaeomagnetism of Bullae: A New Method for Dating Bullae and Shedding Light on Their Use Yoav Vaknin (Tel Aviv University and the Hebrew University of Jerusalem)

15:15 Coffee break

15:45 Concluding discussion, and thoughts about future collaborations

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**ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ –**  
**JOB VACANCIES/FELLOWSHIPS**

**PHD IN RADIOCARBON DATING**  
**TRANSATLANTIC CONTACT PRIOR TO**  
**COLUMBUS (V23.0480)**

Job description

A fully funded PhD position is now available at the Centre for Isotope Research (CIO) in the UG's Faculty of Science and Engineering (FSE). The CIO is renowned for its isotope-based compositional and chronological studies, and is home to the longest running radiocarbon dating unit in the world. The CIO is located in the inspiring and futuristic Energy Academy Europe building at the Zernike Campus, and its facilities include a state-of-the-art MICADAS accelerator mass spectrometer capable of very high-precision radiocarbon measurements.

CONTACT (Chronology of the Norse TransAtlantic Colonies & Territories) is an interdisciplinary ERC-funded research project based at the UG and the University of Copenhagen. Its focus is on understanding the timing, nature and geographic extent of European incursions into North America prior to Columbus. The object is to shed new light on this emotive subject through radiocarbon dating with Bayesian modelling; solar-storm dating; ancient DNA and isotope analysis; as well as material and documentary research.

We are looking for a full-time, 4-year PhD employee to join the CONTACT team. The successful applicant will be expected to work independently and alongside other team members in Groningen and abroad. He/she will use radiocarbon dating to determine the timing and extent of contact between the Norse and the contemporaneous communities across the Atlantic.

The PhD research will include the chemical preparation of a range of samples for radiocarbon dating, the construction of Bayesian chronological models; and the dissemination of results via academic journals and conference papers. The employee will be expected to follow certain training courses; assist with Bachelor's and/or Master's teaching; and ultimately produce a research thesis. This PhD trajectory will be supervised by the PI of the CONTACT project, Prof. Michael Dee (CIO, RUG), Dr Sean Desjardins (Arctic Centre, RUG) and Dr Margot Kuitens (CIO, RUG).

**Organisation**

Since its foundation in 1614, the University of Groningen (UG) has enjoyed an international reputation as a dynamic and innovative centre of higher education, offering high-quality teaching and research. Study and career paths across a wide variety of disciplines currently allow more than 37,000 students and researchers to develop their

own individual talents. Amongst the finest research universities in Europe and the top 100 in the world, the UG is truly an international knowledge hub.

### **Qualifications**

The candidate should ideally have a Master's degree in the Archaeological Sciences or in a closely related field. Individuals with knowledge of the Viking Age are encouraged to apply. Preferably, the candidate will also be able to demonstrate practical laboratory experience. The Faculty of Science and Engineering of Groningen operates in English, so skills in this language are important; however, knowledge of Dutch is not required.

### **Organisation**

#### **Conditions of employment**

We offer you in accordance with the Collective Labour Agreement for Dutch Universities:

a salary of € 2,541 gross per month in the first year, up to a maximum of € 3,247 gross per month in the fourth and final year for a full-time working week

a holiday allowance of 8% gross annual income

an 8.3% year-end bonus

a full-time (1.0 FTE) position for four years; first, you will get a temporary position of one year with the option of renewal for another three years; extension of the contract is contingent on sufficient progress in the first year so that successful completion of the PhD thesis with the contract period is to be expected.

A PhD training programme is part of the agreement and the candidate will be enrolled in the Graduate School of the Faculty of Science and Engineering.

The conditions of employment: <https://www.rug.nl/about-us/work-with-us/>

### **Application**

Applications should include:

a letter of motivation

a curriculum vitae

contact information of two academic referees.

You may apply for this position until 14 August 11:59pm / before 15 August 2023 Dutch local time (CEST), by means of the application form (click on "Apply" on the advertisement on the university website).

All applications received before the closing date will be given full consideration. Initial selection takes place on the basis of the motivation letter and CV. Selected candidates will be invited to an interview and a short presentation about their educational experience.

The University of Groningen strives to be a university in which students and staff are respected and feel at home, regardless of differences in background, experiences, perspectives, and identities. We believe that working on our core values of inclusion and equality are a joint responsibility and we are constructively working on creating a socially safe environment. Diversity among students and staff members enriches academic debate and contributes to the quality of our teaching and research. We therefore invite applicants from underrepresented groups in particular to apply. For more information, see also our diversity policy webpage: [https://www.rug.nl/\(...\)rsity-and-inclusion/](https://www.rug.nl/(...)rsity-and-inclusion/)

Our selection procedure follows the guidelines of the Recruitment code (NVP): <https://www.nvp-hrnetwerk.nl/nl/sollicitatiecode>

Unsolicited marketing is not appreciated.

### **Information**

For information you can contact:

Prof. Michael Dee, [m.w.dee@rug.nl](mailto:m.w.dee@rug.nl)

Please do not use the e-mail address(es) above for applications.

[Apply](#)

Please visit the site: <https://www.rug.nl/about-ug/work-with-us/job-opportunities/?details=00347-02S000A93P&cat=wp>

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## *INTERNET SITES*

# **GLOSSARY OF ASTRONOMICAL & ASTROLOGICAL TERMINOLOGY FROM THE ANCIENT WORLD**

The project "ZODIAC - Ancient Astral Science in Transformation" (ERC, Berlin) is launching the first iteration of the digital ZODIAC glossary,

This cross-cultural lemmatized glossary contains astronomical and astrological terminology from the ancient world (ca. 400 BCE - 300 CE) in Akkadian, Egyptian (Demotic), Greek, and, in the near future, Latin, Hebrew, Aramaic, Sanskrit, and other ancient languages.

The glossary is being developed by Christian Casey in collaboration with Mathieu Ossendrijver and the ZODIAC team. Feel welcome to try it out and send your comments to Mathieu Ossendrijver ([mathieu.ossendrijver@fu-berlin.de](mailto:mathieu.ossendrijver@fu-berlin.de)).

Please visit the site: <https://zodiac.fly.dev>

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## *ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS*

### **ANCIENT EGYPTIAN GOLD: ARCHAEOLOGY AND SCIENCE IN JEWELLERY (3500–1000 BC)**

Edited by Maria F. Guerra, Marcos Martín-Torres & Stephen Quirke. McDonald Institute for Archaeological Research.

This book aims to provide a new level of synthesis in the study of gold jewellery made in Egypt between 3500 BC and 1000 BC, integrating the distinct approaches of archaeology, materials science and Egyptology. Following accessible introductions to the art and use of gold in Ancient Egypt, and to current advances in technical analyses, the volume presents detailed results on the manufacturing technology and elemental composition of some 136 objects in the collections of six European museums, with discussion of the findings in historical and cultural contexts. The questions generated by the jewellery buried with a woman and a child at Qurna (Thebes) led to investigation of assemblages and individual artefacts from later and earlier periods in varied social contexts, from the rural environment of Qau and Badari, to sites connected with urban or royal centres, such as Riqqa, Haraga and Lahun. A final discussion of the Qurna group provides an agenda for future research.

- [\*Complete volume - Ancient Egyptian gold: Archaeology and science in jewellery \(3500–1000 BC\)\*](#)
- [\*Chapter 1 - Gold, an exceptional material\*](#)
- [\*Chapter 2 - Centres of goldworking in ancient Egypt: Egyptological questions and sources\*](#)
- [\*Chapter 3 - Jewellery in Egyptian burials\*](#)
- [\*Chapter 4 - Jewellery manufacture: an Egyptian quartet\*](#)
- [\*Chapter 5 - Reflections on gold: colour and workshop practices in Egypt\*](#)
- [\*Chapter 6 - Analytical approaches to Egyptian goldwork\*](#)
- [\*Chapter 7 - The early jewellery\*](#)
- [\*Chapter 8 - Middle Kingdom jewellery\*](#)
- [\*Chapter 9 - Second Intermediate Period jewellery\*](#)
- [\*Chapter 10 - New Kingdom jewellery\*](#)
- [\*Chapter 11 - Towards a conclusion: Qurna in context\*](#)
- [\*Appendices\*](#)

Please visit the site: <https://www.repository.cam.ac.uk/collections/3f392197-3e0f-48db-a1b6-1788668f463c> [Go there for linx]

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## **DOWN TO EARTH ARCHAEOLOGY,** **BY WILLIAM Y. ADAMS**

Sudan Archaeological Research Society Publication 25

Hardback £59.00 (Includes PDF)

Down to Earth Archaeology collects sixteen archaeological papers by Professor William Y. Adams chosen by the author, who added introductory commentary to each. These articles were written at various times during his lengthy and productive academic career for different purposes and for different audiences. Most of those selected had been previously published only in a limited way, either as conference proceedings or contributions to various Festschriften, and as such he wanted to enable them to reach a wider readership than they had originally. He described this collection as his ‘dernières pensées’.

The essays encompass a wide range of topics, from reflections upon the successes, failures and lessons learned from the UNESCO International Campaign to Save the Monuments of Nubia in the 1960s, in which Bill was very much a leading figure and which he was uniquely positioned to critique, to discussions and criticisms of the theoretical framework of ‘New’ or ‘Processual Archaeology’ and its application of ‘scientific’ methods. Other papers included here are seminal works discussing the ideological concepts of typology and classification and their practical application to archaeological excavations, notably his own major excavations conducted at the large Nubian cityscapes of Meinarti, Kulubnarti and Qasr Ibrim, and the ceramic kilns at Faras.

### Contents

About the Author

Acknowledgements ;

Editor’s Preface – Julie R. Anderson ;

Preface – Genesis of a Maverick ;

### PERSPECTIVES ;

1. Three Questions for the Archaeologist (1992) ; 2. Science and Ethics in Rescue Archaeology (1984) ; 3. Three Perspectives on the Past: The Historian, The Art Historian, and The Prehistorian (1987) ;

### STRATEGY ;

4. Strategy of Salvage Archaeology (1973) ; 5. Organizational Problems in International Salvage Archaeology (1968) ; 6. Ends and Means in Large-Scale Excavations: Meinarti, Kulubnarti, and Qasr Ibrim (1995) ;

### CLASSIFICATION ;

7. Principles and Pragmatics of Pottery Classification: Some Lessons from Nubia (1975) ; 8. Archaeological Classification: Theory Versus Practice (1988) ; 9. Purpose and Scientific Concept Formation (1987) ;

### DATING ;

10. From Pottery to History: The Dating of Archaeological Deposits by Ceramic Statistics (1989) ; 11. Times, Types, and Sites: The Interrelationship of Ceramic Chronology and Typology (1987) ;

CERAMICS ;

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**THE PURPLED WORLD: MARKETING  
HAUTE COUTURE IN THE AEGEAN BRONZE  
AGE, BY MORRIS SILVER**

Published by Center for Hellenic Studies and is available from Harvard University Press.

The book has is now freely available online at <https://chs.harvard.edu/book/the-purpled-world-marketing-haute-couture-in-the-aegean-bronze-age/>

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## **ROMAN LANDSCAPES: VISIONS OF NATURE AND MYTH FROM ROME AND POMPEII, BY JESSICA POWERS**

San Antonio: San Antonio Museum of Art, 2023. Pp. 208. ISBN 9781883502256

Review by Eric M. Moormann, Radboud Universiteit; Justus-Liebig Universität.  
[eric.moormann@ru.nl](mailto:eric.moormann@ru.nl) [Authors and titles are listed at the end of the review]

This book accompanies an exhibition in San Antonio, curated by Jessica Powers; it however offers much more, since the contributions written by experts in the field are useful for interested general readers and researchers on one of the most appealing genres of iconographic themes, landscape. The material discussed and on display in the exhibition (catalog) covers 150 years, between 50/40 BC and the late first century AD. Powers has brought together an exquisite team of experts, which guarantees a fine read.

There is a long tradition of studies on painted landscape in the ancient world and most former studies are listed in the bibliography. After a brief presentation by Powers, who unfortunately does not define the term ‘landscape’ as used in this volume, Bettina Bergmann introduces the ‘art’ of landscape representation, in which, as we know, there were no renderings of real environments made en plein air, but rather fantasies containing stock as well as specific elements. No landscape depiction is ever copied, so each representation is unique. Immediately the definition of ‘landscape’ comes to the fore: do depictions of harbors, villas, and cities (cf. Vitruvius’ list of topia in De architectura 7.5.2) belong to this genre? Or should we consider real landscapes only? The definitions are not as clear in the Roman past as they are nowadays. Bergmann starts from Vitruvius’ list and includes all his subcategories. Maybe deservedly so, since all these different genres contain human-made elements and are no paysages purs. What is more, the painted landscapes form part of wall systems and should be seen as components of the motif repertoire of the painters. Bergmann stresses the presence of ‘numinous forces’ (p. 31) and refers to the auguria to explain the bird’s eye panoramic views of many specimens. Among the conspicuous inhabitants are nature divinities like Diana, but also Hecate, Priapus, and Dionysus. A large category, well represented in villas, is the seashore occupied by villas, fascinating ‘fake’ representations of the real situation that enhance the otium atmosphere of the real thing. Admittedly, the pictorial quality in several cases, e.g., at Stabiae, is at odds with the quality of the villa’s architecture and furniture, a puzzling point not addressed by Bergmann or her colleagues.

Verity Platt discusses the components of the landscape paintings. She foregrounds the ‘flow’, or the agency landscapes had within their context and in dialogue with the beholders. Water is seen as a focus in this narrative (cf. the seashore paintings discussed by Bergmann). The presence of personifications like a Source or an Akte underpins this active interference, especially in mythical scenes. We should not forget the human factor as the predominant element, at the expense of the landscape proper. Platt observes that the materiality of the paintings ties in with the materiality that nature itself has, according to the articulation Pliny the Elder made in his *Naturalis Historia*. Platt elaborates her ideas in an analysis of the landscape paintings in the House of the Centenary in Pompeii,

beginning with the famous depiction of Vesuvius and Dionysus in the shape of the grape bunch from the house's large lararium. The dialog between scenery, religion, and the house itself is a major agent in its interpretation and in that of the *Dionysiaca*.<sup>[1]</sup> Furthermore, there are large-scale landscapes as well as scenes with animals in other important rooms, all displaying other approaches to the theme of landscape. A similar exercise is conducted by Lynley J. McAlpine on the relation between villas and 'landscapes of luxury'. Her point of departure that "Many of the landscape scenes that appear in this exhibition were created for the private enjoyment and contemplation of wealthy Romans" (p. 55) can be questioned: many of them are simple and small sketches, located in average houses. But, despite the risk of overestimating landscape paintings, McAlpine has a strong point by connecting the content with the *rêverie* of villa owners, enjoying pastime in a luxurious environment at a safe distance from daily turmoil. She addresses other means to evoke the realm of domesticated and dominated nature like imagery on precious glass and silver table ware, reliefs, and sculptures, of which examples graced the exhibition and feature in the catalog.

Timothy M. O'Sullivan's paper illuminates myths represented in landscape settings, which as far as we know starts with the *Odyssey* Landscapes from the Esquiline, dated to the third quarter of the first century BC. Whereas here the figures are 'dwarfed' (p. 69) within the natural scenery, they get larger in Augustan panels occupying the central part of the wall systems. In the case of the double presence of the protagonist (e.g. Perseus in Boscotrecase and the House of Cornelius Tegeus in Pompeii and Polyphemus in Boscotrecase) the natural features serve as structuring parts, or even as stage drops in a performance. O'Sullivan makes clear that this combination of *narratio continua* and landscape was at its best when people were familiar with the stories told. He makes a fine comparison with the marble ensemble from the grotto at Sperlonga, which—O'Sullivan does not enter this debate—might date between the *Odyssey* landscapes and the Third-Style large depictions and be from the same time as Virgil's *Eclogae*. With O'Sullivan, we start to see a tight web of landscape elements in many forms of contemporary art and culture.

The last paper is Thomas Fröhlich's discussion of painted landscapes in funerary contexts. He has worked extensively on Roman columbaria of the Augustan age. Landscapes and gardens (both real ones surrounding the tomb and painted ones) served as references to the Elysian Fields, the *locus amoenus* where the deceased hoped to find their eternal rest.<sup>[2]</sup> Fröhlich lucidly explains the introduction and diffusion of columbaria as worthy resting places for middle-class people living and working in early imperial Rome. The horizontal friezes between the tiers of niches contained fixed sets of small, modestly painted scenes, including hazy landscapes and water scenes with ducks. Importantly, the scenes do not differ from contemporary landscape paintings and reliefs (here cat. 54-61). Fröhlich finishes his analysis with comparisons to epigrams and literary texts and concludes that the genre continued for two more centuries.<sup>[3]</sup>

The Catalog (pp. 91-187) is a true museum in book form, displaying 68 objects, mostly paintings, but also marble statues, cinerary urns and reliefs, glass, silver, and one mosaic. Various marble objects belong to garden furniture (e.g., cat. 21-27). McAlpine and Powers have compiled these texts, furnished with extensive references. There are subcategories like "Coastal views and cultivated landscapes" and 'garden landscapes'. They correspond with the chapters of the first part.

Among the landscape paintings, there are many monochromes in yellow, red, and bluish greenish (cat. 30-31, 37-38, 45). Discussing an example from the Villa of the Papyri (here cat. 30) I have suggested some decades ago that they suggest imitations or evocations of precious reliefs (in giallo antico, porphyry, and other types of marble) or stucco.[4] Or was it, in case of blue monochromes, cameo glass as discussed by McAlpine (p. 60, fig. 37; cat. 39-40)? Powers briefly mentions this suggestion in her entry for cat. 30.

I cannot but congratulate Powers and her team for this splendid book, which forms an excellent testimony of the San Antonio exhibition and constitutes a fine contribution to the beloved genre of landscape depictions in Roman art.

### Authors and Titles

Introduction: Landscapes of the Roman Imagination (Jessica Powers) The Roman Art of Landscape (Bettina Bergmann) Art, Nature and the Material Divine in Roman Landscape Painting (Verity Platt) Roman Villas and Landscapes of Luxury (Lynley J. McAlpine) Mythological Landscapes in Roman Painting (Timothy M. O’Sullivan) Locus amoenus or Elysium? The Landscape in the Tomb (Thomas Fröhlich) Catalogue (Lynley J. McAlpine & Jessica Powers)

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### Notes

[1] To the rich set of references we may add to those on lararia a newly edited set of papers: A. Dardenay, L. Bricault (eds), Gods in the House. Anthropology of Roman Housing – II, Turnhout 2023 (Antiquité et Sciences Humaines 9). As to Dionysus in Pompeii, see also I. Kuivalainen, The Portrayal of Pompeian Bacchus, Helsinki 2021 (Societas Scientiarum Fennica; Commentationes Humanarum Litterarum 140).

[2] One misses in his notes references to a fine volume edited by Nicole Blanc, quoted in the bibliography: Au royaume des ombres. La peinture funéraire antique, Paris 1998.

[3] See cat. 68, a representation of the Elysian Fields, now in the Museo Nazionale Romano (on which see also my paper Symbolic Meaning of Roman Funerary Art in Late Antiquity, in S.L. de Blaauw, E.M. Moormann, D. Sloopjes (eds), The Recruiting Power of Christianity. The rise of a religion in the material culture of fourth-century Rome and its echo in history, Rome 2021 (Papers of the Royal Institute in Rome), 49-66, esp. p. 50-51, fig. 1).

[4] Le pitture della Villa dei papyri ad Ercolano, in M. Gigante (ed.), Atti del XVII Congresso internazionale di papirologia, Napoli 1984, 637-674.

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Please visit the site: <https://bmcr.brynmawr.edu/2023/2023.07.09/>

# **CONCISE MANUAL FOR CERAMIC STUDIES** **FROM THE NILE VALLEY TO THE MIDDLE** **EAST, BY ROMAIN DAVID (DIR.)**

Africae Studies

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Nombre de pages: 167 p.

This manual is intended to accompany the training of future ceramic specialists in the Arab world. Resulting from the collaboration of four major institutions of French archaeology abroad: the Section française de la direction des Antiquités du Soudan (Sfdas), the Institut français d'Archéologie orientale (Ifao), the Institut français du Proche-Orient (Ifpo) and the Centre français de recherche de la péninsule arabique (Cefrepa), it draws on the recent work of specialists from the Nile Valley, the Near East and the Arabian Peninsula to shed light on the theoretical reflections that have enriched ceramic studies in recent decades. Providing a genuine field tool, this volume is nonetheless a skilfully illustrated collection of the contribution of ceramic studies to the understanding of human history.

This is the English version of the manual. The bilingual version (English / Arabic) is available here: <https://page.hn/yq8gch>.

This book has benefited from the financial support of the Section française de la direction des Antiquités du Soudan (Sfdas) which funded the editing and the printing of the volume.

The Institut français d'archéologie orientale (Ifao), the Institut français du Proche-Orient (Ifpo) and the Centre français de recherche de la péninsule Arabique (Cefrepa) funded the Arabic translation.

## **Open Data Linked to the Publication**

“Concise Manual for Ceramic Studies: Documents.”

<https://nakala.fr/collection/10.34847/nkl.9ba2byj4>

This collection contains the original forms presented in this book, which can be freely used and reproduced for ceramic studies.

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**SENSING THE FUNDAMENTALS: AN  
EXAMINATION OF SCENT AS INTEGRAL TO  
ANCIENT EGYPTIAN SOCIETY,  
BY ROBYN SOPHIA**

UCLA dissertation in Archaeology 2022 Price  
Advisor(s): Wendrich, Willemina Z; Cooney, Kathlyn M (chair)

Despite the senses being foundational to how we interact with our environments, archaeologists rarely consider the significance of the senses to past lives. Thus, I examine in this dissertation the extent to which a culture's understanding of the human body experience (i.e., the senses) affects their society. I argue that sensory experience permeates every aspect of our lives (i.e., the ideological, the social, the economic, and the political), and, by focusing on sensory experience in humanistic studies, we might eliminate false dichotomies (e.g., religious/secular) and discrete categories (e.g., economic/political).

Ancient Egypt serves as a case study for how the senses are central to the ways we organize our lives. Specifically, I investigate the values attributed scent and smelling in New Kingdom Egypt (1550 BCE–1050 BCE)—considering how scented products figured in economic negotiations and across socio-political and religious spheres. After examining the visual, written, and material evidence of scent from New Kingdom Egypt, I argue that the ancient Egyptians employed scent as an organizing feature in their society, from dictating proper etiquette for celebrating holidays and expressing endearment, to praising the gods, healing bodies, and purifying spaces. Pleasant fragrances communicated one's identity and presence, and also functioned as the manifestation of life itself. To smell was more than a physiological reaction to environmental stimuli but was a physical presence that exerted influence over individuals.

This study, furthermore, demonstrates the dangers of ignoring the senses in humanistic studies. Sensory experiences can be manipulated to control and order populations. In the ancient Egyptian context, the high ideological and social values attributed pleasant scents resulted in a foundational need among the populace for access to sweet-smelling air. In valuing the experience of pleasant scents across social contexts, the demand for these products increased beyond their earlier limited uses. High prices and an emphasis on foreign scents, however, restricted general access to the most desirable aromas. Ultimately, social hierarchies were established and maintained based on access to these products and an industry was developed to support these relationships.

**Please visit the site:**

<https://escholarship.org/content/qt2534b3wm/qt2534b3wm.pdf?t=rmd3t>

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# **AN INTERDISCIPLINARY APPROACH TO IRON AGE MEDITERRANEAN CHRONOLOGY THROUGH COMBINED ARCHAEOLOGICAL AND <sup>14</sup>C- RADIOMETRIC EVIDENCE FROM SIDON, LEBANON**

Doumet-Serhal C, Gimatzidis S, Weninger B, von Rűden C, Kopetzky K (2023).  
PLoS ONE 18(3): e0274979.  
<https://doi.org/10.1371/journal.pone.0274979>

The construction of the Iron Age Mediterranean chronology began in the Levant based on historical evidence and has been additionally supported in recent decades by means of radiocarbon analysis, although with variable precision and ratification. It is only in recent years that new evidence in the Aegean and the western Mediterranean has opened discussion towards its further acceptance as an authoritative i.e. highly reliable, and widely applicable historiographic network. Altogether, the Mediterranean Iron Age chronology has only undergone minor changes during the last hundred years. The Phoenician metropolis of Sidon in southern Lebanon now provides a new, large and robust dataset obtained through a combination of archaeological and <sup>14</sup>C-radiometric analysis of materials from stratified contexts that allow their statistical assessment. The appearance of substantial amounts of pottery of Greek, Cypriot and Egyptian origin together with Phoenician local wares in a long stratigraphy is a benefit for the synchronisation of regional pottery styles and allows wider geographic correlation of relative chronological systems. The close association of the archaeological data with a long series of AMS-<sup>14</sup>C-dates on short-lived samples provides new evidence for the absolute dating of many of the regional pottery styles that are represented in the stratigraphy of Sidon, and contributes towards a considerable improvement of the Mediterranean chronology.

**Please visit the site:**

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0274979> [Go there for full download]

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# **A SURVEY OF PUBLICATIONS ON SUMERO- AKKADIAN MATHEMATICS, METROLOGY AND RELATED MATTERS, BY JÖRAN FRIBERG AND JENS HØYRUP**

Ugarit-Verlag – Buch- und Medienhandel, Germany, has the pleasure to announce the publication of:

<https://ugarit-verlag.com/ga22w>

Series: AOAT 462

Editor of the series: Manfred Dietrich, Thomas Kämmerer

Author: Jöran Friberg / Jens Høyrup

Title: A Survey of Publications on Sumero-Akkadian Mathematics, Metrology and Related Matters (1854–1982).

Volume: xii + 159 pp.

Price: 127,00 € / 143,00 \$

Language: English

ISBN: 978-3-86835-360-0

Binding: hard cover

On the preceding pages, I have tried to write a brief historical survey of what has been published during the last 125 years, or so, in various books and journals, on the subject of “Sumero-Akkadian mathematics, metrology and related matters”. As should be clear from my division of the survey into subsections, my intention has been to consider the following main topics:

1–3. The initial struggle, lasting half a century or more, to understand the nature of the many diverse systems of expressing numbers and measures, used in the cuneiform texts of the Sumerians and their successors during two and a half millennium.

4–5. The efforts to understand the method of construction and the purpose of certain unusually complicated or enigmatic table texts (combined multiplication tables, reciprocal tables, ...) or algorithm texts (computations of sequences of pairs of reciprocals, or of Pythagorean triples, etc., square root extraction through factorization, ...).

6–8. The difficult work with the interpretation of OB and Seleucid mathematical problem texts, culminating in the volumes of mathematical cuneiform texts MKT 1–3, TMB, MCT (and TMS).

9–13. The escape from the limitations of the previous studies, as new mathematical texts started coming in from controlled excavations, not only in Mesopotamia but also in the neighboring countries, Iran (Susa, ...), Syria (Ebla, Ugarit ), etc., and as more and more texts of mathematical interest were identified belonging to various pre-Babylonian periods (Ur III, Sargonic, Fara, proto-literate). Thus, as a result of the most recent developments, it now seems that a fairly complete picture is emerging of the evolution of mathematical and metrological ideas and practices in the Middle East, from the pre-

literate record keeping by use of clay tokens and all the way to the very sophisticated Seleucid mathematical tables and problem texts.

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## **EΙΔΗΣΕΙΣ - NEWS RELEASE**

# **ROYAL TOMBS FOUND IN CYPRUS FULL OF PRECIOUS ARTEFACTS**

Archaeologists from the University of Gothenburg have uncovered royal tombs near the Bronze Age city of Dromolaxia Vizatzia, located at Hala Sultan Tekke on the south eastern coast of Cyprus.

The tombs date from the around 1500 to 1300 BC during a period when the city was a centre for the copper trade, which according to the researchers are among the “richest” tombs ever discovered in the Mediterranean region.

Professor Peter Fishcher from the University of Gothenburg said: “It is a reasonable assumption that these were royal tombs, even though we do not know much about the form of government practiced in the city at the time.”

The site was discovered using magnetometers, a device used for measuring the Earth’s magnetic field in geophysical surveys to detect magnetic anomalies of various types, and to determine the dipole moment of magnetic materials.

“We compared the site where broken pottery had been ploughed during farming with the magnetometer map, which showed large cavities one to two metres below the surface. This led us to continue investigating the area and to discover the tombs,” said Professor Fischer.

The tombs consist of underground chambers each measuring up to 4 x 5 metres, which are accessed via a narrow passageway from the surface. Inside two of the chambers the team found over 500 complete artefacts, consisting of precious metals, gems, bronze weapons, ivory, high-status ceramics, and a gold-framed seal made of haematite.

Around half of the tomb contents were imported from neighbouring cultures and civilisations. Gold and ivory came from Egypt, precious stones were imported from Afghanistan, India and Sinai, while amber objects came from the Baltic region.

Excavations also revealed several well-preserved skeletons, including a burial containing a woman who was found surrounded by dozens of ceramic vessels, jewellery and a round bronze mirror.

Professor Fishcher, said: “Several individuals, both men and women, wore diadems, and some had necklaces with pendants of the highest quality, probably made in Egypt during the 18th dynasty at the time of such pharaohs as Thutmos III, and Amenophis IV (Akhenaten) and his wife Nefertiti.”

Please visit the site: <https://www.heritagedaily.com/2023/07/royal-tombs-found-in-cyprus-full-of-precious-artefacts/147962> [Go there for pix]

## **SKULL-FILLED CAVE NEAR JERUSALEM WAS USED FOR NECROMANCY – STUDY, BY ARIELLA MARSDEN**

Archaeologists found skulls, lamps and spearheads, all of which were commonly used for necromancy in the Twins Cave.

Skulls and lamps found in the Twins Cave in the Jerusalem Hills indicate that the cave was used for necromancy rituals, according to a study that was published last week.

Necromancy is the practice of speaking to or reviving the dead.

The study, which was published in the peer-reviewed Harvard Theological Review, detailed and analyzed the archaeological finds of about 120 well-preserved lamps and a collection of coins dating to the Late Roman and Early Byzantine eras (second to fourth centuries CE).

Alongside the lamps and coins, the archaeologists also found two Bronze Age spearheads and a Bronze Age juglet.

The various items, spanning three different eras, were found embedded in crevices in the cave, leading archaeologists to believe that the earlier objects had been removed and put back over time with the newer ones.

Three skulls were also found in the cave placed together with the lamps, but no other bones were found. Initially, the archaeologists believed the skulls had been brought over by rats, but the specificity of their placement convinced them that they were intentionally put with the other items.

An analysis of the objects together with the skulls led the archaeologists to theorize that the cave had been used as a spot for necromancy. The analysis had to rely on the items and their location because necromancy was generally frowned upon by ancient Greek and Roman establishments, so no typographic evidence would have been present to identify the spot as a site of necromancy.

The study goes on to explain that necromancy rites were generally conducted in caves and tombs with water sources that were believed to be portals to the underworld. Such locations were generally located near almost every city in the Greco-Roman world.

### **Various cultures have record of skulls used in necromancy**

Various textual sources chronicle the use of necromancy in the Greek and Roman worlds as well as the Levant and ancient East. These rites are also mentioned throughout Jewish texts like the Bible and the Talmud, indicating that at the time, it was a practice held by or known to all sectors and religions of the area.

The power the head was believed to hold is prevalent throughout mythology in stories of people getting prophecies from Orpheus' head and Perseus beheading Medusa.

In light of the skulls and the lamps and spearheads, which were also common elements of necromancy rituals, the study concludes that the site was very likely to have been used as a location for necromancy rituals but says that even though the cave was near a Jewish community, it probably wasn't used by them but only by non-Jewish residents.

Please visit the site: <https://www.jpost.com/archaeology/article-749758> [Go there for pix]

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## **AN ANCIENT LANGUAGE WITH NEARLY A MILLION UNDECIPHERED TEXTS JUST GOT A TRANSLATOR THAT DOES THE JOB IN SECONDS: A.I., BY RACHEL SHIN**

Dead languages are famously hard to decipher. It took 23 years to crack the Egyptian hieroglyphics on the Rosetta Stone. It took nearly two centuries to understand Mayan glyphs. And it took over 3,000 years to reveal Linear B, the earliest form of Greek. When techno-optimists talk about the game-changing potential of A.I., they cite difficult problems like this, and even for languages that have already been translated, challenges remain. Consider Akkadian cuneiform, one of the world's oldest written languages. There are so few people who can read the extinct language that nearly a million Akkadian texts still haven't been translated to date—but now an A.I. tool can decode them within seconds [.....]

Please visit the site: <https://fortune.com/2023/07/05/google-translate-ai-akkadian-ancient-worlds-oldest-language-iraq-assyrian/> [Full article behind a firewall]

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## **ARCHAEOLOGISTS ON QUEST TO FIND 1071 BATTLEFIELD OF MANZIKERT**

Researchers working at the believed site of the Battle of Manzikert (Malazgirt) in 1071 in which Turks defeated the Byzantine Empire and entered Anatolia, have begun the fourth year of archaeological excavations and are working at what is considered to be the "Seljuk Cemetery" or "Seljuk Headquarters."

Excavations continue within the scope of the "Detection of the Battlefield of Malazgirt, Historical and Archaeological Survey" project, which was implemented in 2020 with the cooperation of the General Directorate of Cultural Heritage and Museums, Ahlat Museum, Muş Alparslan University and Muğla Sıtkı Koçman University, supported by the Ministry of Culture and Tourism.

In the district of Malazgirt, 40 academics from 12 universities are working on the area they have determined this year to locate the area where the war took place in 1071.

Academics unearthed five graves in Afşin Village, which is considered to be the "Seljuk Cemetery" or "Seljuk Headquarters."

Adnan Çevik lecturer at the Department of History of Muğla Sıtkı Koçman University, who was the scientific advisor to the excavation told Anadolu Agency (AA) that the excavations were in their fourth year.

"Excavations have started in Afşin village. Afşin village is important. It is at an altitude of about 1,600 meters (5,250 feet). It is in the middle of the area we consider as the battlefield. This is an area that may have been the headquarters of the Seljuks. What brought us here is the geostrategic location of the war," Çevik said.

"The bone analyzes and carbon-14 results we obtained from the excavation here during a low elevation survey two years ago, gave the date of the 11th century. We carried out a more comprehensive and more systematic study here last year."

Çevik stated that they were intensifying their work in the excavation area in Afşin village on the possibility that it may be the Seljuk headquarters during the Battle of Manzikert.

"We will continue this work until September. There are many finds that we think belong to the war. These (finds) now have reached 400... Four of the five graves here date directly to the 11th century."

**Please visit the site: <https://www.dailysabah.com/life/history/archaeologists-on-quest-to-find-1071-battlefield-of-manzikert>**

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## **A NOT-SO-BRIEF HISTORY OF THE COLOSSEUM FOR CONFUSED VANDALS, BY ANDREA SALCEDO**

Long before modern-day tourists carved their initials and love notes on the walls of the Colosseum, spectators of what was once the largest amphitheater of the Roman Empire also etched their names on the monument's surfaces.

The graffiti of 1st-century Roman visitors has been found during restorations of the Colosseum, but they were hardly the last defacers of this ancient marvel. Among the later vandals was French Romanticist painter Hubert Robert, who sometime in 1767 carved his name into the walls of the amphitheater's ruins while completing a residence at the French Academy in Rome.

Robert's signature did not draw the ire of Italians like the man recently captured on video carving the name of his girlfriend on the almost 2,000-year-old structure. In a letter addressed to city officials, Ivan Danailov Dimitrov, 27, apologized for vandalizing the UNESCO World Heritage site and acting with "frivolousness, flippancy and incivility, to the detriment of other visitors."

"I have no excuses," he wrote in Italian in the letter, which was translated by The Washington Post.

The Colosseum, which was financed by three emperors from the Flavian dynasty, opened its doors in 80 A.D. It could seat up to 50,000 spectators gathered to watch gladiators fighting for glory, humans hunting exotic animals like panthers and plays reenacting historical battles. The massive arena had three tiers of elevated seats granting everyone a clear view of the spectacles.

"This was like Broadway," Jorge Otero-Pailos, a professor and director of historic preservation at Columbia University, told The Post.

The Roman emperor was the main organizer of the spectacles, which were designed to entertain the crowds, but perhaps most importantly, keep them placated so they would not rebel against the ruler.

The Colosseum also served to buttress the emperor's political machinations. The names of senior senators were carved into stones marking their reserved seats on the first level. The second and third levels were designated for knights and Roman citizens, respectively. Noncitizens sat at the top, reflecting the strict social hierarchy of the empire. At the center of the arena was the emperor, seated prominently so everyone could see him and cheer upon his entrance.

Once the Roman Empire collapsed, the stadium that once hosted lavish spectacles fell into a decrepit state and scavengers took materials like marble, stones and iron clamps for new construction projects elsewhere. Later, during the Middle Ages, the aristocratic Frangipani family turned the Colosseum into their private palace and fortress.

“The family in a way helped to preserve the place,” Otero-Pailos said.

With the Renaissance, Pope Martin V moved the papal seat back to Rome in an attempt to make the city the capital of Christendom. In the 15th century, the papal court issued preservation ordinances to remove the noble family from the Colosseum and divided it into two areas: the Compagnia del Salvatore, a religious fraternity, and the Civic Magistrates of Rome, which controlled two-thirds of the Colosseum.

These ordinances were essentially excavation licenses for the Colosseum, moves that left the monument further stripped of its material.

“It is really because of those excavation licenses that we lost most of what is missing today,” Otero-Pailos said. “There was really no enforcement. People would go in there and steal materials all the time.”

At one point, a famous civil magistrate by the name of Lorenzo Caffarelli took it upon himself to protect the Colosseum, patrolling the site with his sword and attacking people who attempted to steal building materials, Otero-Pailos said.

By the 18th century, the Enlightenment period was drawing artists into the structure. The French offered the “Rome Prize” to artists who traveled to the city to learn about the ancient past and draw its buildings. Most of them, including Robert, the French painter, focused on the Colosseum.

Robert became fascinated with the Colosseum, spending 11 years in Rome using the monument to draw a vast catalogue of fantasy and real architecture. One of his most famous paintings of the monument is an oil canvas titled “Washerwomen in the Ruins of the Colosseum.”

Robert’s signature in the Colosseum wall has endured, proudly framed and displayed along with his story for the some 6 million visitors who enter the structure each year. Otero-Pailos himself photographed Robert’s markings in 2022 when he studied the Colosseum’s restoration.

“He graffitied the Colosseum essentially,” Otero-Pailos said. “[But] if everybody etched their name on the Colosseum, soon enough we wouldn’t have a Colosseum left to look at.”

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Andrea Salcedo is a general assignment reporter for The Washington Post. She joined The Post in 2020 as an overnight reporter on the Morning Mix team. Previously, she covered breaking news and features for the New York Times metro desk  
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**Please visit the site: <https://www.washingtonpost.com/history/2023/07/08/colosseum-tourist-vandalized-graffiti/> [Go there for pix]**

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## **2,500-YEAR-OLD PHOENICIAN SHIPWRECK** **BEING RESCUED BY SPANISH** **ARCHAEOLOGISTS**

A 2,500-year-old Phoenician shipwreck has been found underwater in the southeastern Spanish region of Murcia.

An extraordinary Phoenician shipwreck dating back 2,500 years has become the focal point of an ambitious rescue mission after being submerged in sediment for over two millennia. Spanish archaeologists are now working hard to recover the ancient shipwreck from the sea before a storm destroys it forever.

Named Mazarron II after the region where it was found, this remarkable archaeological discovery is considered a unique piece of ancient maritime engineering.

A team of nine skilled Spanish archaeologists from the University of Valencia has meticulously charted a detailed diagram of the ship to implement a comprehensive plan to salvage this ancient relic eventually.

The team from the University of Valencia, equipped with scuba diving gear, has spent over 560 hours documenting every crack and fissure in the eight-meter-long Mazarron II.

These experts have set a deadline to complete their expedition after countless hours of diving deep into the sea. They aim to retrieve the shipwreck this upcoming summer before it is further destroyed by storms.

Their extensive underwater surveys, which took place over two weeks in June, provided critical information about the shipwreck's condition. This meticulous documentation will be critical in developing a strategy for retrieval and preservation.

Divers from the University of Valencia map and assess the condition of a 2,500-year-old Phoenician vessel submerged 60 meters off the beach in Mazarrón, Spain, on June 20, 2023. Photo: Jose A Moya/Murcia Regional Government

The wreck is “nothing short of exquisite,” Deborah Carlson, a professor of nautical archaeology at Texas A&M University, told McClatchy News.

“On the one hand, it occupies a very important place in history — both chronologically and geographically, because it exhibits construction techniques that are associated with the Levant, where the Phoenicians originated.”

In addition to its historical significance, the wreck, named Mazarron II, is also “in superb condition,” Carlson said.

However, the remarkably preserved ship may soon face destruction if left exposed to powerful underwater currents, Carlos De Juan, an archaeologist at the University of Valencia, told McClatchy News.

“It’s in a complicated area where the currents are affecting the seabed, taking away the sand, so we had to make a decision,” he said.

The decision: haul the entire 25-foot-long ship to the surface. The ambitious project will likely take over a year and require significant preparation, De Juan said.

The Mazarron II, estimated to have been constructed around 580 BC, offers a unique opportunity to gain further insights into the Phoenicians’ trading practices.

**Please visit the site: <https://arkeonews.net/2500-year-old-phoenician-shipwreck-being-rescued-by-spanish-archaeologists/> [Go there for pix]**

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## **ASSYRIAN RELICS RESURRECTED AT NIMRUD, DEFYING TERRORIST DESTRUCTION, BY NATHAN FALDE**

During recent excavations in the ancient Assyrian city of Nimrud in Iraq, a team of archaeologists from the University of Pennsylvania Museum of Archaeology and Anthropology uncovered an exciting bounty of artifacts and ruins. Every new discovery that emerges at the one-time capital city of the legendary Assyrian Empire is now considered a major triumph for history, as researchers and cultural authorities in Iraq continue to resurrect a revered archaeological site that was badly damaged by terrorists from the notorious Islamic State in 2015 and 2016.

Assisted by Iraqi colleagues, the Penn Museum researchers found a variety of stone monuments inside the ruins of two grand structures built by the ancient Assyrians, who ruled the region from the 14th through the seventh centuries BC. The structures excavated were a 2,800-year-old palace constructed during the reign of the Assyrian king Adad-Nirari III , and a temple dedicated to the goddess Ishtar that was almost totally destroyed when the city of Nimrud was attacked by an invading army in 612 BC.

### **The Assyrian Goddess Ishtar, Revealed**

The recently completed excavation season is the second to take place at the recently reopened site of Nimrud, which was known as Kalhu to the Assyrians and called Calah in the Bible. During the first season the same team of Penn Museum and Iraqi archaeologists discovered the partially shattered stone remains of the palace of Adad-Nirari III , who ruled the Assyrian Empire from the capital city of Nimrud from 810 to 783 BC.

Exploration of the palace and its ruins continued this year. But the Penn Museum researchers were anxious to expand their work to encompass the obliterated grounds of Nimrud's Temple of Ishtar, which was located adjacent to the palace. And it was here that they discovered something remarkable.

Working under the direction of Dr. Michael Danti, the director of the Iraqi Heritage Stabilization Program, the archaeologists discovered multiple fragments of a broken stone monument. On one of these pieces there was an actual carving of the goddess Ishtar, which is the first such image to be found anywhere in Nimrud.

"Our greatest find this season was a spectacular fragment from the stone stele that shows the goddess Ishtar inside a star symbol," Dr. Danti stated, in a Penn Museum press release . "This is the first unequivocal depiction of the goddess as Ishtar Sharrat-niphi, a divine aspect of the goddess associated with the rising of the planet Venus, the 'morning star,' to be found in this temple dedicated to her."

Dr. Danti has been leading excavation and heritage rescue programs in Iraq, Iran and Syria since the 1980s. Given his vast experience in the region, his reference to this discovery as 'spectacular' highlights its special and unique nature.

Ishtar, who was known as Inanna in some cultures, was the Mesopotamian goddess of love and fertility. She was also associated with political authority and success in war. She emerged as the most widely revered deity in the Assyrian pantheon of gods, and it would have been impossible to visit an important city in the Assyrian Empire without finding a magnificent temple dedicated to Ishtar constructed at a prominent public location.

The fragment with the depiction of Ishtar was a standout find. But it was only one of the noteworthy relics and monuments recovered in Nimrud this year.

### **Revealing Assyrian History**

The Penn Museum team also found several stone slabs in the palace that revealed the genealogy of Assyrian kings, leading up to Adad-Nirari III (he was descended from some of the most acclaimed Assyrian sovereigns). The ancient slabs featured the distinctive wedge-shaped cuneiform script used by the Assyrians, which shows the genealogy was indeed written nearly three thousand years ago.

Elsewhere on palace grounds, the researchers found two huge carved stone bases that would have supported soaring columns that once held up the palace's roof. They also discovered fragments of ivory and ostrich eggshells, each of which can be connected to ancient Assyrian elite culture. Searching further inside the ruined palace, the team found a large stone basin in a throne room. Nearby were a pair of elevated stone tracks, which were built to move a portable heater that would have kept the room's occupants comfortable on cold nights.

Near the location of what was once a 10-foot (three-meter) wide gateway leading in and out of the Temple of Ishtar, the archaeologists found a collection of brass door bands, still filled with the nails that were once used to attach them to the gateway's wooden doors. On these bands were engravings of soldiers, horses and people carrying gifts, the first two likely designed to celebrate Assyrian military success and the latter showing worshippers paying their respects to the goddess.

The gateway itself was a significant discovery. It would have directly connected the Temple of Ishtar with another temple devoted to Ninurta, the Assyrian god of war (which explains the presence of military imagery on the brass bands). The gateway's existence was long suspected, but never proven until now.

### **The Regeneration and Reemergence of Nimrud, a Mesopotamian Mecca**

Nimrud was once the world's most populated city. In 800 BC, when the Assyrian Empire was at the height of its power, more than 75,000 people called this renowned capital their home.

The Assyrian Empire, and Nimrud, were both destroyed by a coalition of former subject peoples in the late seventh century BC (the Assyrians were brutal and despised conquerors). But during the fabled city's glory years huge, monumental structures dedicated to its leaders and gods were erected everywhere, which in modern times turned Nimrud into an archaeological mecca. The first excavations there took place in 1845, and the city's site in northern Iraq was visited continuously by archaeologists and historical

researchers from that point on, until the region degenerated into chaos during the war between Iraq and its allies and the Islamic State, which lasted from 2013 to 2017.

Fortunately, the city was retaken from the Islamic State a few years ago and is now guarded round-the-clock by the Iraqi Army. But tragically, the brutal occupiers destroyed approximately 90 percent of the structures that had been excavated by archaeologists in the past, using bombs and bulldozers. The Iraqi government is currently working to clear out all the rubble and reconstruct what was destroyed, while archaeologists from around the world continue to search for new ruins and artifacts in a sprawling ancient city that once covered a territory of 890 acres (360 hectares).

In the upcoming excavation season, the joint Iraqi and Penn Museum team of archaeologists will be concentrating on the area around the newly discovered gateway in the Temple of Ishtar. They will then venture into the space once occupied by the temple dedicated to Ninurta, a hero-god with roots in the famed Sumerian civilization that is recognized as Mesopotamia's first great culture. Meanwhile the cleanup of the site as a whole will continue, as archaeologists and Iraqi authorities coordinate their efforts to restore Nimrud site to its former awe-inspiring state.

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Nathan Falde graduated from in 2010 with a Bachelors Degree in History, and has a long-standing fascination with ancient history, historical mysteries, mythology, astronomy and esoteric topics of all types

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Please visit the site: <https://www.ancient-origins.net/news-history-archaeology/ishtar-temple-nimrud-0018784> [Go there for pix]

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## **DIGITIZING MANUSCRIPTS FROM SOUTHWEST ASIA: ACCESS, ETHICS, AND SUSTAINABILITY, BY RAHA RAFII**

The expansion of digital humanities in the last decade has led to a widespread increase in manuscript digitization projects by libraries, universities, and other organizations. Lauded as a valuable process that democratizes access to manuscripts and even preserves endangered ones, digitization will undoubtedly receive more funding and support. However, the positive support for digital humanities projects necessitates a critical eye to their role in academic research as well as their impact on origin communities whose materials are digitized. Do digitized manuscripts actually increase access for all potential users? Does digital access ignore questions about the politics behind access to the manuscripts in the first place? More broadly, is digitization as permanent and sustainable as people assume?

Single leaf from the Arabic version of Dioscorides' *De materia medica*, copied in 621 AH / 1224 CE in Baghdad and removed from the original manuscript – Aya Sofya 3703 – probably in the late 19th or early 20th century. Around 30 illustrations were removed from this manuscript that are now in public and private collections. Walters Art Museum.

To answer these questions, I will draw on examples from the projects I am most familiar with: digitization of premodern Arabic-language manuscripts led by researchers within university-based infrastructure, which also tend to overlap with “heritage preservation” goals. The focus of these projects not only affects the process of digitization itself (as determined by academic research priorities and funding) but also the dynamics between outsider researchers and the origin communities who claim and take care of the manuscripts, including in war and conflict areas where looting and other forms of destruction are ongoing.

The discussion of origin communities and their role in digitization projects necessitates an understanding of the wider contexts of questions of “guardianship” and calls for repatriation within museum spaces. Such discussions include questions of consent by the origin community on two levels: 1) if the institution has ownership of the object to be digitized, did it have consent to own the object in the first place? And 2) whether an institution owns an object or not, does it have consent to digitize the object for a much wider, public audience? While these two issues may appear to overlap, they are actually two separate ethical concerns.

The second question refers to the role of digitization as a transformation of an object that shifts the significance of, access to, and audience for the object, which should acknowledge the role of origin communities. An example of this approach is the acknowledgment of manuscripts as objects rather than merely as texts to be read (the philological approach). Approaching manuscripts as objects creates awareness of not only the physical parts of the manuscript that digitization projects tend to neglect, but also the relationship of the manuscripts to objects found in, on, or near the manuscripts. Such objects are crucial to understanding provenance, networks, and community uses, as evidenced by the insightful series of video lectures by The University of Toronto Textile



Workshop. More importantly, approaching manuscripts as objects is more cognizant and respectful of community use. Philological approaches to digitizing manuscripts tend to disaggregate library, archive, communal, or personal collections as digitized objects as well as in cataloging, so physical forms of grouping or using manuscripts together get lost in the digitization process.

### **Textiles in Manuscripts Project hosted by the University of Toronto.**

In addition to consent to digitization from origin communities, there are other ethical issues regarding digital access, such as whether the origin communities themselves have access to the digitized objects. Here we get into the uneven political dynamics between militarily powerful and economically privileged states and under-resourced countries, often contrasted as the “Global North” and the “Global South.” One example is U.S. military trafficking of documents from post-2003 invasion Iraq to the U.S., which resulted in the removal of physical access for Iraqi researchers, scholars, and other groups, and thus their rights to use the documents to tell their own history and narrative. In that instance, the U.S. military not only selectively digitized the documents to create its own war narrative, but restricted access to the website repositories hosting them. Furthermore, some U.S. government agencies then deliberately removed or passively cut off access to the websites as a result of a lack of funding, thus wiping out any access—physical or digital—for Iraqis.

### **The Yemeni Manuscripts Digitization Initiative Search**

A further issue is whether digitized manuscripts can be equitably catalogued so that origin communities can search for their digitized forms online. A good example is the Yemeni Manuscript Digitization Initiative, which is a cultural preservation heritage project based at the University of Oregon that works closely with the Zaydi community in Yemen. The main issues here are 1) the assumption that cataloguing expertise flows in one direction: “Global North” to “Global South,” and 2) the current limits of Arabic Unicode & non-Arabic legacy cataloging and transliteration that assumes Yemeni scholarly familiarity with Orientalist scholarship. The idea of unidirectional training assumes that specialists from origin communities primarily receive training instead of actively shaping the ways that digitized objects are organized and catalogued, which is the main reason that access to these objects for origin communities become so practically restricted in the first place. These issues exist in addition to the question of how accessible these digitized objects are to Yemenis in Yemen who are dealing with the destruction of infrastructure through war, famine, political instability, and economic deprivation.

In considering ethical issues of access, we must also consider the fundamental intersection of politics and digitization. For example, while the National Library of Israel (NLI) has been involved in several projects to digitize and make open access both Islamic and Jewish manuscripts, the NLI’s selective mode of digitization intersects with state control over narrative of the country’s history. As a result, intelligence on Palestinian villages in British Mandate Palestine is purposely not digitized. The NLI’s seeming commitment to open-access digitization whitewashes not only its selective digitization of documents relating to its own history and that of Palestinians, but also the fact that Palestinian scholars and researchers are barred from accessing certain physical documents that are technically public, and that travel from the Palestinian Territories is

so militarized it bars access to Jerusalem & the NLI itself. While Palestinian institutions have the expertise and will to undertake their own digitization initiatives, they are at a financial and administrative disadvantage since actively denying resources to Palestinians has been a matter of state policy. As a result, digitization initiatives in Palestinian institutions end up having to rely heavily on overseas funding instead, thus subjecting them to the funding priorities and agendas of their overseas funding partners.

It is important to note that the three examples of Iraqis, Yemenis, & Palestinians being prevented from accessing their own digital and physical documents involve severe restrictions of travel mobility that researchers from North America and Europe enjoy. Such limitations include the difficulty and expense of obtaining visas to travel to where objects belonging to the origin community are being held and digitized in the Global North. Even the most technical restrictions are all part of the same international system that fuels war, conflict, and occupation in Southwest Asia and the need for cultural heritage preservation in the first place.

Finally, we come to the issue of sustainability. The current discourse around digitization as a form of preservation assumes digital space as a permanent and stable repository. This assumption overlooks the inherent fragility of the internet, which we tend to forget is made up of physical infrastructure that is vulnerable to climate change, technological obsolescence, and general wear and tear (not to mention cable-chewing sharks). Maintaining websites, updating software and hardware also require a constant stream of funding, which if cut off will literally cutoff access. In the age of climate emergencies, can electricity be prioritized or even available for digitization in the next few decades?

A news article in Wired from 2022 about the risks to undersea cables and thus connectivity.

It has long been clear that, in addition to war, violence, pandemics, and severe forms of economic deprivation, the biggest threat to the preservation of manuscripts, manuscript traditions, and the safety of communities is climate change. Although countries that are generally grouped as the “Global South” will be the most vulnerable to climate change thanks to the very international political and economic systems that make them ripe for extractive projects from the Global North in the first place, no country can remain untouched from the most massive global weather shifts, ecological disruptions, and mass extinctions to occur in human history. Our notions of culture and preservation cannot exist outside of stable systems and sufficient resources for origin communities, nor can calls for digitization continue with the assumption that our access to electricity as well as levels of energy usage will remain the same or be prioritized in the same way in the decades to come. We thus need to expand our notions of technology beyond machinery and even digital space in order to redefine preservation for future generations.

Raha Rafii is an Honorary Research Fellow at the Institute of Arab and Islamic Studies at the University of Exeter. Her article “Digitizing manuscripts and the politics of extraction” recently appeared in the open-access volume *Variant Scholarship: Ancient Texts in Modern Contexts*, published by Sidestone Press.

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**Please visit the site: <https://www.asor.org/onetoday/2023/07/digitizing-manuscripts-southwest-asia> [Go there for pix & format]**

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## **NEWLY DISCOVERED STONE TOOLS DRAG DAWN OF GREEK ARCHAEOLOGY BACK BY A QUARTER-MILLION YEARS, BY NICHOLAS PAPHITIS**

Deep in an open coal mine in southern Greece, researchers have discovered the antiquities-rich country's oldest archaeological site, which dates to 700,000 years ago and is associated with modern humans' hominin ancestors.

The find announced Thursday would drag the dawn of Greek archaeology back by as much as a quarter of a million years, although older hominin sites have been discovered elsewhere in Europe. The oldest, in Spain, dates to more than a million years ago.

The Greek site was one of five investigated in the Megalopolis area during a five-year project involving an international team of experts, a Culture Ministry statement said.

It was found to contain rough stone tools from the Lower Palaeolithic period – about 3.3 million to 300,000 years ago – and the remains of an extinct species of giant deer, elephants, hippopotamus, rhinoceros and a macaque monkey.

The project was directed by Panagiotis Karkanis of the American School of Classical Studies at Athens, Eleni Panagopoulou from the Greek Culture Ministry and Katerina Harvati, a professor of paleoanthropology at the University of Tübingen in Germany.

The artifacts are “simple tools, like sharp stone flakes, belonging to the Lower Paleolithic stone tool industry,” the co-directors said in comments e-mailed to The Associated Press. They said it's possible the items were produced by Homo antecessor, the hominin species dating from that period in other parts of Europe. Homo antecessor is believed to have been the last common ancestor of modern humans and their extinct Neanderthal cousins, who diverged about 800,000 years ago.

“However, we will not be able to be sure until hominin fossil remains are recovered,” the project directorss said. “[The site] is the oldest currently known hominin presence in Greece, and it pushes back the known archaeological record in the country by up to 250,000 years.”

The tools, which were likely used for butchering animals and processing wood or other plant matter, were made about 700,000 years ago, though the researchers said they were awaiting further analyses to refine the dating.

“We are very excited to be able to report this finding, which demonstrates the great importance of our region for understanding hominin migrations to Europe and for human evolution in general,” the three co-directors said.

Another of the sites investigated in the Megalopolis area of the southern Peloponnese peninsula – home of the enormously later sites of Mycenae, Olympia and Pylos –

contained the oldest Middle Palaeolithic remains found in Greece, dating to roughly 280,000 years ago.

“[It’s] one of the oldest sites in Europe that have tools characteristic of the so called Middle Palaeolithic tool industry, suggesting that Greece may have played a significant role in (stone) industry developments in Europe,” the researchers said.

The Megalopolis plain has for decades been mined for coal to supply a local power plant. It has long been known as a source of fossils, and in ancient times huge prehistoric bones dug up there were linked with the Greek myths of a long-vanished race of giants that fought the gods of Olympus. Some ancient writers cited Megalopolis as the site of a major battle in that supernatural war.

**Please visit the site: <https://www.ekathimerini.com/culture/1212427/newly-discovered-stone-tools-drag-dawn-of-greek-archaeology-back-by-a-quarter-million-years/> [Go there for needed pix]**

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# **BYZANTINE TIME TRAVEL: ANCIENT BIRD MOSAIC AND GREEK SIGMA-SHAPED TREASURE UNEARTHED, BY NATALIE MARTIN**

Caesarea, a coastal city in Israel, is known for its rich historical and archaeological significance. In 1950, a remarkable discovery took place in a residential area of Caesarea, revealing a stunning mosaic depicting birds and animals. This archaeological treasure, referred to as the Bird Mosaic, belonged to a magnificent Byzantine-period palace or mansion. After being carefully excavated, protected, and re-uncovered several times, it continues to captivate visitors today. Additionally, the excavation unearthed a one-of-a-kind sigma-shaped glass-gold table, shedding light on the opulent lifestyle of Byzantine Caesarea.

## **The Resurrection of the Bird Mosaic**

The Bird Mosaic's story began in 1950 when it was fortuitously discovered during military training activities in Caesarea. It was immediately buried under sand to safeguard its preservation. In 1955, under the guidance of archaeologist Prof. Shmuel Yeivin, the mosaic was meticulously excavated. However, to ensure its long-term protection, it was once again covered. Fifty years later, in 2004, the Israel Antiquities Authority Caesarea Conservation Unit, led by Conservator Amir Genach, unveiled the mosaic to the world once more. The mosaic's true beauty and historical significance had resurfaced.

## **The Magnificent Bird Mosaic**

The Bird Mosaic, resembling a rectangular carpet, measures an impressive 14.5 × 16.0 meters and belonged to a magnificent Byzantine-period palace or mansion. Dating back to the sixth century CE, this Byzantine-period palace covered an estimated area of around 3,000 square meters, with only a fraction having been excavated. The palace featured a grand hall, an upper story supported by majestic columns, and a luxurious courtyard adorned with vibrant mosaics. Surrounding the mosaic are depictions of fruit trees and a collection of wild animals, including lions, leopards, bears, wild boars, gazelles, dogs, elephants, deer, and oxen. Furthermore, 120 circular medallions depict an array of different bird species, adding an exquisite touch to the artwork.

Highlighting the significance of the Bird Mosaic and its connection to the elite of Byzantine society, IAA retired archaeologist Dr. Yosef Porath said, "The exquisite remains testify that the residential complex was owned by one of the most important figures in Byzantine Caesarea."

Sole of it's Kind in the World: The Sigma Shaped Glass-Gold Table During the excavation, Dr. Porath made another remarkable discovery—an exceptionally rare horse-shoe shaped - also designated 'sigma-shaped' after the Greek letter Σ - table. What sets this table apart is its construction using the 'glass-gold' technique, a unique method not found anywhere else in the world.

Dr. Porath explained, "after creating the 'glass-gold' square tiles, decorations of flowers and crosses were embedded in each tile."

He further elaborated, "Some of the tiles were made using the 'glass-gold' technique, while others were made of greenish glass with various coloured spots, resembling a colourful mosaic. The tiles made with both techniques were laid in a checkerboard pattern, creating a stunning colourful design."

The extraordinary discovery offers a glimpse into the opulence and artistic prowess of the time.

### **Preserving History**

The sigma shaped Glass-Gold Table has found its rightful place of honour in the Glass Pavilion at the Eretz Israel Museum in Tel Aviv, where visitors can marvel at its exquisite craftsmanship. Dr. Porath's statement regarding the table's unique construction technique reflects its importance: "This was a unique find, as to date, no other sigma-shaped table in the world has been discovered utilising this technique."

As for the Bird Mosaic, it remains at its original site in Caesarea, allowing the public to appreciate its grandeur free of charge. These archaeological treasures serve as a testament to the rich cultural heritage and artistic achievements of Byzantine Caesarea.

The rediscovery of the Bird Mosaic and the sigma-shaped glass-gold table in Caesarea has unveiled a captivating glimpse into the opulent lifestyle of Byzantine Caesarea's elite, with the mosaic's intricate design, showcasing a myriad of birds and animals, testament to the artistic and cultural prowess of the time. Meanwhile, the glass-gold table's unique construction technique and colourful pattern, particularly its sigma-shaped form, offer an unparalleled view into the craftsmanship of the era. These ancient treasures continue to amaze admirers, inviting them to step back in time and appreciate the rich history of Caesarea's Byzantine period.

**Please visit the site: <https://greekcitytimes.com/2023/06/30/byzantine-time-travel-ancient-bird-mosaic-and-greek-sigma-shaped-treasure-unearthed/> [Go there for needed pix]**

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## **RESEARCH GROUP DECIPHERS** **ENIGMATIC ANCIENT 'UNKNOWN KUSHAN** **SCRIPT', BY UNIVERSITY OF COLOGNE**

The Kushan Empire in Central Asia was one of the most influential states of the ancient world. A research team at the University of Cologne's Department of Linguistics has now deciphered a writing system that sheds new light on its history.

A team of early career researchers at the University of Cologne has succeeded in decoding a script that has been puzzling scholars for more than 70 years: the so-called "unknown Kushan script." Over a period of several years, Svenja Bonmann, Jakob Halfmann and Natalie Korobzow examined photographs of inscriptions found in caves as well as characters on bowls and clay pots from various Central Asian countries in order to put the pieces of the puzzle together.

On 1 March 2023, they first announced their partial decipherment of the unknown Kushan script at an online conference of the Academy of Sciences of the Republic of Tajikistan. Currently, about 60% of the characters can be read, and the group is working to decipher the remaining characters. A detailed description of the decipherment has now been published in the journal *Transactions of the Philological Society* under the title "A Partial Decipherment of the Unknown Kushan Script."

### **New discovery led to breakthrough**

The unknown Kushan script is a writing system that was in use in parts of Central Asia between about 200 BCE and 700 CE. It can be associated with both the early nomadic peoples of the Eurasian steppe, such as the Yuèzhī, and the ruling dynasty of the Kushans. The Kushans founded an empire which, among other things, was responsible for the spread of Buddhism to East Asia. They also created monumental architecture and artworks.

So far, several dozen mostly short inscriptions are known, most of them originating from the territory of the present-day states of Tajikistan, Afghanistan and Uzbekistan. There is also a longer trilingual that was found by French archaeologists in the 1960s at Dašt-i Nāwūr in Afghanistan: on a boulder at 4,320 m altitude on Mount Qarabayu, approximately 100 km southwest of Kabul.

The writing system has been known since the 1950s, but had never been successfully deciphered. In 2022, a short bilingual was found carved into a rock face in the Almosi Gorge in northwestern Tajikistan, approximately 30 km from the capital Dushanbe. In addition to the unknown Kushan script, it also contains a section in the already known Bactrian language.

This discovery led to renewed attempts by several researchers to decode the script— independently of one another. In the end, the linguists at the University of Cologne succeeded in partially deciphering the writing system in collaboration with the Tajik



archaeologist Dr. Bobomullo Bobomulloev, who was instrumental in the discovery and documentation of the bilingual.

### **Success 200 years after the deciphering of the Egyptian hieroglyphs**

The team applied a methodology based on the way unknown scripts have been deciphered in the past, i.e., the Egyptian hieroglyphs using the Rosetta Stone, ancient Persian cuneiform script or Greek Linear B script: Thanks to the known content of the bilingual inscription found in Tajikistan (Bactrian and unknown Kushan script) and the trilingual inscription from Afghanistan (Gandhari or Middle Indo-Aryan, Bactrian and unknown Kushan script), Bonmann, Halfmann and Korobzow were able to gradually draw conclusions about the type of writing and language.

The breakthrough was finally made possible by the royal name Vema Takhtu, which appeared in both Bactrian parallel texts, and the title "King of Kings," which could be identified in the corresponding sections in the unknown Kushan script. The title especially proved to be a good indicator of the underlying language. Step by step, using the Bactrian parallel text, the linguists were able to analyze further character sequences and determine the phonetic values of individual characters.

### **Key to a better understanding of Kushan culture**

According to the research group, the Kushan script recorded a completely unknown Middle Iranian language, which is neither identical to Bactrian nor to the language known as Khotanese Saka, which was once spoken in western China. The language probably occupies a middle position in the development between these languages. It could be either the language of the settled population of northern Bactria (on a part of the territory of today's Tajikistan) or the language of certain nomadic peoples of Inner Asia (the Yuèzhī), who originally lived in northwestern China.

For a certain period of time, it apparently served as one of the official languages of the Kushan Empire alongside Bactrian, Gandhari/Middle Indo-Aryan and Sanskrit. As a preliminary name, the researchers propose the term "Eteo-Tocharian" to describe the newly identified Iranian language.

The group is planning future research trips to Central Asia in close cooperation with Tajik archaeologists, as new finds of further inscriptions are to be expected and promising potential sites have already been located. First author Svenja Bonmann remarked, "Our decipherment of this script can help enhance our understanding of the language and cultural history of Central Asia and the Kushan Empire, similar to the deciphering of the Egyptian hieroglyphs or Mayan glyphs for our understanding of ancient Egypt or Mayan civilization."

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More information: Svenja Bonmann et al, A Partial Decipherment of the Unknown Kushan Script, Transactions of the Philological Society (2023). DOI: 10.1111/1467-968X.12269

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Please visit the site: <https://phys.org/news/2023-07-group-deciphers-enigmatic-ancient-unknown.html> [Go there for pix]

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## **HIDDEN DETAILS OF EGYPTIAN PAINTINGS REVEALED BY CHEMICAL IMAGING**

Portable chemical imaging technology can reveal hidden details in ancient Egyptian paintings, according to a study published July 12, 2023 in the open-access journal PLOS ONE by Philippe Martinez of Sorbonne University, France in collaboration with colleagues at the University of Liège, Belgium.

Ancient Egyptian paintings are commonly thought to be the result of highly formalized workflows that produced skilled works of art. However, most studies of these paintings and the process that created them take place in museums or laboratories.

In this study, Martinez and colleagues use portable devices to perform chemical imaging on paintings in their original context, allowing for analysis of paint composition and layering and for the identification of alterations made to ancient paintings.

Two paintings were analyzed in detail, both located in tomb chapels in the Theban Necropolis near the River Nile, dating to the Ramesside Period. On the first painting, researchers were able to identify alterations made to the position of a figure's arm, though the reason for this relatively small change is uncertain.

On the second painting, analysis uncovered numerous adjustments to the crown and other royal items depicted on a portrait of Ramesses II, a series of changes that most likely relate to some change in symbolic meaning over time.

Such alterations to paintings are thought to be rare among such art, but the researchers suggest that these discoveries call for further investigation. Many uncertainties remain about the reasoning and the timing behind the alterations observed, some of which might be resolved by future analysis. This study also serves to prove the utility of portable chemical imaging technology for studying ancient paintings in-situ.

The authors add, "These discoveries clearly call for a systematized and closer inspection of paintings in Egypt using physicochemical characterization."

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More information: Philippe Martinez et al, Hidden mysteries in ancient Egyptian paintings from the Theban Necropolis observed by in-situ XRF mapping, PLOS ONE (2023).  
DOI: 10.1371/journal.pone.0287647

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Please visit the site: <https://phys.org/news/2023-07-hidden-egyptian-revealed-chemical-imaging.html>

## **NEW FINDS SHOW CAVE NEAR BEIT SHEMESH MAY HAVE BEEN SEEN AS A DOOR TO THE UNDERWORLD, BY MELANIE LIDMAN**

Oil lamps and fragments of human skull lead archaeologists to believe Teomim Cave was used for necromancy, or communication with dead, some 1,700 years ago

A large cave near Beit Shemesh may have once been seen as a portal to the underworld and used for ritual magic some 1,700 years ago, according to an article published this week in the Harvard Theological Review.

British explorers first mapped the Teomim Cave, a large karst cave in the Jerusalem hills, in 1873. But it wasn't until the past decade, when archaeologists and cave experts started exploring more of the cave's inner chambers, that they discovered a number of curious items, like pieces of three human skulls, 120 oil lamps, ancient pottery and weapons from the Bronze Age dating some 2,000 years before the oil lamps, carefully arranged together and hidden deep in the rocks' crevices.

Necromancy refers to the practice of communicating with the dead, and ancient texts from this time mention using human skulls as part of the rituals. Experts who studied the Teomim Cave and the objects hidden in the depths believe that this may have been a spot where necromancy was practiced during the Late Roman period, around 300 CE.

“This whole area underwent a radical transformation following the crash of the Bar Kokhba Revolt,” explained Professor Boaz Zissu, an archaeologist at Bar Ilan University who has been studying the cave since 2009. Zissu is the main author of the study, along with Dr. Eitan Klein of the Israel Antiquities Authority.

“Previously, this was a Jewish area, then following the vacuum created in this region, Roman pagan elements entered, and these might be new rituals performed by new Roman pagan settlers.”

### **A cave with healing properties**

British explorers spelunked their way through the karst cave that locals called “Mūghâret Umm et Tûeimîn” or “the cave of the mother of twins,” on October 17, 1873, as part of their “Survey of Western Palestine,” noting that locals attributed healing properties to the spring water that flowed in the cave. “The Mother of the Twins” refers to local lore of a woman who struggled with infertility, then gave birth to twins after drinking water from the cave's natural spring.

Other adventurers ventured into the depths in the 1920s and 1970s, but there was no extensive survey carried out until 2009, when the cave was reexamined and surveyed by a combined team of researchers from the Martin (Szusz) Department of Land of Israel Studies and Archeology at Bar-Ilan University, the Israel Cave Research Center, Hebrew

University, the Israeli Antiquities Authority, and the Nature and Parks Authority, led by Zissu and Prof. Amos Frumkin.

When Zissu and other explorers entered some of the inner chambers of the cave, they found hoards of silver and gold coins, which had been left by refugees fleeing the Bar Kokhba revolt, and constituted some of the largest discoveries of coin hoards by academics. They published their findings about the coin hoards a number of years ago.

As the teams pressed deeper into the cave, they made more strange discoveries, including oil lamps wedged into crevices in the rock, which they fished out using a long metal hook.

“At some point, we understood the logic of the ancient people and where they put the lamps, and we started to fish for the oil lamps. They were just waiting there to be collected,” said Zissu. “The people who hid these oil lamps also added some other artifacts that are much earlier, such as weapons from the Bronze Age, axe heads and spear heads.”

It was clear from the way the objects were found that they had been carefully placed, likely some 1,700 years ago, based on the dating of the oil lamps. About 120 well-preserved oil lamps dating to the Late Roman and Early Byzantine periods (late second to fourth centuries CE) were collected from cavities and crevices in the cave.

Shrines or oracles to the dead were sometimes called nekyomanteion (or nekromanteion). They were generally located in caves that had a number of specific characteristics, including a natural water sources inside the cave, and a deep shaft.

Believers thought that this shaft led to the underworld, and the dead could use it to rise to the surface and communicate. According to some sources, there was a local oracle of the dead near almost every city in the Greco-Roman world.

Teomim Caves has a spring inside the cave, which was at one point collected into a pool hewn from the rock, a naturally occurring 21-meter (69-foot) shaft, and a cultural history that attributes powers of healing and fertility to the cave.

“The archaeological record from the Roman Empire of human skulls deposited in possible portals to the underworld—caves, shafts, and water sources—is not extensive,” the authors note. However, they state, “the Te’omim Cave in the Jerusalem hills has all the cultic and physical elements necessary to serve as a possible portal to the underworld.”

### **Uncovering magic in archaeology**

It was clear from the early days of the exploration that the cave had some kind of religious or magical significance, Zissu said. “We regarded it as as part of a shrine or connected to some kind of ritual to to harness the underworld,” he said. Perhaps it was related to the story of Persephone, queen of the Underworld in Greek and Roman mythology, who is often worshiped in caves.

One of the challenges of identifying and understanding magical practices in archaeology is that often, the magic was practiced in secret and not recorded. People practiced these rituals on the fringes of society, sometimes at great risk if those practices were outlawed.

“In some periods the custom was declared illegal. In any case, the authorities took a negative view of it,” said Klein, of the Israel Antiquities Authority.

There are a few textual references to necromancy, including in Jewish texts, such as the story of Saul having the prophet Samuel conjured up at Ein Dor (1 Samuel 28:7–24). The act was not viewed favorably, and necromancy was punishable by death.

Cuneiform tablets from Mesopotamia dating to the first millennium BCE contain cultic texts describing various rituals for consulting with spirits using human skulls. In Homer’s *Odyssey*, the witch Circe uses necromancy to help Odysseus consult with the prophet Teiresias. In the Roman period, necromancy became intertwined with the idea of human sacrifice, leading to laws against witchcraft and divination. Although necromancy was marginalized, it was still practiced, including by emperors Nero and Hadrian, the authors state.

There’s also evidence that ancient Jews practiced necromancy, including a skull the collector Shlomo Moussaieff purchased on the antiquities market inscribed with a Jewish oath written in Aramaic, likely an incantation against a demon. Rabbis in the Jerusalem and Babylonian Talmud condemn the use of “conjur[ing] up the dead by means of soothsaying and one who consults a skull” (Sanhedrin 65b).

The widespread presence of oil lamps is likely part of the practice of lychnomancy or lampadomancy, the use of oil lamps for divination, according to the article. Magicians or prophets would watch and interpret shapes created by the flame, which was believed to be a spirit, god, or demon.

Zissu said one of the things that was so strange about excavating the archaeological discoveries from the cave was that there was so little digging. Instead, it was more like fishing the finds out of cracks in the rocks. The digging happened later, during the research phase, as the archaeologists sifted through research about ancient rituals and religions.

“Only later we became aware of other possibilities, that these could be the remains of necromancy rituals,” said Zissu. “We put our finds together with archaeological data from other digs and made this suggestion.”

The discovery of the skulls was a major shift in thinking toward necromancy, and later they discovered texts that mentioned the use of metal weapons during ceremonies to ward off demons.

Still, Zissu said, they’ll never know for sure. “It’s just an idea, it’s a suggestion,” he said. “We don’t have final proof that this is the situation.”

**Don’t try this at home**

Parts of Teomim Cave are open to the public, and the cool cave is a welcome respite for summer hikers. The areas of the cave where Zissu and others have made the discoveries require advanced spelunking techniques, including ropes to navigate the deep shafts, and are not open to the public due to the possibility of serious injury or death.

Zissu stressed the importance for visitors to respect posted signs and areas that are fenced off to safely experience the cave.

The cave is open to the public from the Passover holiday in April to the Sukkot holiday in the fall, to protect hibernating bats in the winter.

Zissu has explored a number of other caves in the area, including researching a Byzantine monastery and crazy tales of medieval blood revenge at the nearby Shimshon cave. But, he said, despite his proximity to a purported portal to the underworld, he hasn't felt any strong sense that the team was dealing closely with the world of the dead.

“I’m an archaeologist. I’m dealing with data, facts, and artifacts,” he said. “I personally haven’t any special feelings, I’m just trying to do my best to record the data and make sure my team returns safely home.”

Please visit the site: <https://www.timesofisrael.com/possible-portal-to-underworld-discovered-near-beit-shemesh/> [Go there for pix]

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## **KITCHEN SHRINE SERPENTS AND MORE** **FASCINATING NEW POMPEII** **DISCOVERIES, BY JONATHAN AMOS**

### **Pompeii, southern Italy**

A kitchen shrine adorned with serpents, a bakery, human skeletons, exquisite frescos, and yes, a picture of something that looks very much like pizza. These are among the new finds being turned up at the Pompeii Archaeological Park.

Dig anywhere in the ancient city destroyed by Mount Vesuvius in AD79 and you will unearth a treasure - a snapshot of a lost Roman world.

It's extraordinary to think that one-third of the city buried under pumice and ash has yet to be excavated.

"Much of that will be for future generations," says Alessandro Russo, the co-lead archaeologist on the new dig.

"We have a problem to conserve what we've already found. Future generations may have new ideas, new techniques."

The latest work returns to a sector in the park last explored in the late 19<sup>th</sup> Century.

Back then, archaeologists had opened up the frontage of houses on Via Di Nola, one of Pompeii's main thoroughfares, but hadn't delved far behind.

They had identified a laundry but that was about it.

Now, the diggers are progressively pulling away the volcanic ash and pea-sized stones, known as lapilli, that smothered Pompeii during the two catastrophic days of the Vesuvian eruption.

The dig site is, in effect, a whole city block. It is known as an insula and is some 3,000 sq m (32,000 sq ft) in size.

BBC News has been given exclusive access to the investigation with Lion TV, which is making a three-part series to be aired early next year on the BBC.

### **The oven**

The giant oven could have baked 100 loaves of bread daily "Every room in every house has its own micro-story in the grander story of Pompeii. I want to uncover those micro-stories," said Gennaro Iovino.

The other co-lead archaeologist wants you to imagine that you are entering a delightful atrium - an entrance hall - with a hole in the roof where lion figureheads direct rainwater down onto a fountain, next to a statue.



The builders were clearly doing some repairs at the time of the eruption because the roof tiles are neatly stacked in two piles. But this is not a magnificent villa, like some of the imposing homes found elsewhere in Pompeii.

This building would have been part-commercial because, on turning right, you are confronted by a giant oven, big enough to be producing 100 loaves a day.

Roughly 50 bakeries have already been found in Pompeii. This, however, can't have been a shop because there is no shop front.

It's more likely to have been a wholesaler, distributing bread across town, perhaps to the many fast-food joints for which Pompeii was so famous.

### **That 'pizza'**

The discovery of a fresco depicting a piece of round flatbread on a silver tray, surrounded by pomegranate, dates, nuts and arbutus fruits, caused a sensation when it was announced to the world in June.

It's not a pizza, though. Tomatoes and mozzarella, two ingredients in the classic Neapolitan recipe, were not available in Italy in the first century AD.

Perhaps it's a piece of focaccia? The pizza thing started as a bit of a joke, says Gennaro. "I emailed a picture to my boss, saying 'first the oven, now the pizza.'"

With Naples - the home of pizza - a short distance away, the discovery naturally caused a sensation. The world just went crazy after that. A cover will be built over the fresco to try to protect it from the elements. It will also be treated with a special sealant.

The 20,000 visitors who come to Pompeii every day will demand to see the "ancestor to the pizza", as some are now describing the fresco subject.

### **The skeletons**

It's easy to forget that Pompeii was a human tragedy. We have little idea how many died. You have to believe most residents left when they saw the horror unfolding at the top of Vesuvius.

Skeletons have been recovered, perhaps 1,300 to 1,500 in total, and the new dig has its own examples: two women and a child of unknown sex.

Looking at the position where the victims were found, it's obvious that they were trying to take cover, hoping that by hiding under a staircase, they would be safe.

What they hadn't counted on was the roof collapsing from the weight of all the lapilli and ash. The heavy stonework smashed their bodies.

### **The burnt bed**

The drama of those momentous days in October AD79 are also revealed on the other side of the atrium in what was once a bedroom.

The bed itself is a charred mass - caused by a fire. It is barely recognisable apart from its broad outline seared into the walls and floor.

If you look closely at the debris, you can see blackened fragments of the textile bedclothes and even the filling from the mattress.

Archaeologists can tell from the position of these carbonised remains that the fire occurred relatively early in the eruption. They speculate that a lamp might have been knocked over in the panic to get out.

"It would be interesting to understand who were the people that didn't make it," wonders park director Gabriel Zuchtriegel.

Wall paintings that look like modern-day wallpaper - "We're always looking for a surprise," says Gabriel Zuchtriegel "Were they the poor? More women than men? Or maybe people who had property and tried to stay to protect what they had, while others who had nothing just took off and ran."

### **The shrine**

Towards the back of the area so far excavated there is a wall that encloses three rooms. It's here that the removal of lapilli and ash has exposed more astonishing artwork.

In the middle room, covered by a tarpaulin, is yet another elegant fresco. It shows the episode in the myth of Achilles where the legendary hero soldier - with his unfortunate Achilles heel - tried to hide dressed as a woman to avoid fighting in the Trojan War.

In the third room, I pull back another tarp to reveal a magnificent shrine. Two yellow serpents in relief slither up a burgundy background. "These are good demons," says Alessandro. He points to a fresco further down the wall just above an opening to a box of some kind.

"This room is actually a kitchen. They would have made offerings here to their gods. Foods like fish or fruits. The snake is a connection between the gods and the humans."

As the insula is further revealed, scaffolding is being put up around what remains of the buildings to make protective roofing. In the future, the park hopes to erect a high walkway so tourists can see the new treasures that are emerging.

"People sometimes ask [us], 'What would you like to find? What are you looking for?'" explains Gabriel. He says such questions are misleading.

"What we're really looking for is what we don't know. We're always looking for a surprise. It's all emerging evidence, leading us somewhere, but we don't know where that journey goes."

Please visit the site: <https://www.bbc.com/news/science-environment-66226417> [Go there for pix, figs, and maps]

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## **ROMAN RUINS REVEAL HOW EMPERORS USED WINEMAKING IN A LAVISH POWER PLAY, BY CHARLOTTE LYTTON**

The Villa of the Quintilii is only the second site in the world known to use wine in this way

ROME — Fights involving exotic cats, chariot races, gladiatorial battles: At the banquets of ancient Rome, there was no skimping on dinnertime entertainment. And, according to a recent study, sport for elite guests included something rarer, too: winemaking as a form of theater.

The findings, published in the journal *Antiquity*, describe how the Villa of the Quintilii used alcohol production for show in what is now believed to be the among the most lavish wineries in the ancient world. This makes the 2nd-century villa only the second known to have used wine in this way, said lead study author Emlyn Dodd, a lecturer in classical studies at the University of London.

The villa has “this amazing level of decoration and luxurious appointments in it that we never see in ancient wineries,” Dodd said.

The discovery highlights the use of wine as a form of power for the privileged in one of the ancient world’s bloodiest empires.

“The lives of the bad emperors are full of what had always seemed completely unrealistic” behaviors, said Nicholas Purcell, Camden Professor of Ancient History at the University of Oxford, who was not involved in the study. “And then something like [the winery at the Quintilii] turns up, and it actually turns out that it’s all true; that they really were doing this kind of thing, and building special places in order to do it.”

### **Winemaking as theatre**

A pair of wealthy brothers built the Villa of the Quintilii in the 2nd century A.D. on land that sits about eight miles from Rome’s modern-day city center.

The site was so desirable that around 182 A.D., then-Emperor Commodus killed its owners to claim it for himself, kicking off a long period of imperial ownership. Many emperors used the villa over the years, with some making renovations and adding to its opulence. The name Gordianus is stamped into the lead pipes at the facility, which suggests that Emperor Gordian III, who ruled from 238 to 244 A.D., built the winery or at least renovated it.

Formal excavations of the villa ruins have been going on since the late 18th century, but the first evidence of the winery did not emerge until 2017. Archaeologists were originally looking for the entrance to the roughly 60-acre site when they found an “unexpected surprise,” said Dodd, who wrote the paper while working at the British School at Rome.

Unlike the other winemaking facilities that would have been common in the empire, the Quintilii winery was extravagantly decorated with some of the finest materials. The floors were not waterproof concrete but were made of imported red marble. Juice from pressed grapes would have spurted from channels in a marble-lined façade, creating a purely entertaining fountain effect. And the winery is surrounded by dining rooms, once richly appointed, that seem to have nothing to do with the production process.

On the basis of these clues, archaeologists think the Quintilii served as a kind of “imperial toy,” said Alice Poletto, a Rome fellow at the British School at Rome who was not involved in the research.

The experts think enslaved people would have pounded grapes in the winery’s treading area, most likely slipping about on the luxurious red marble while doing so, to the gruesome delight of sloshed guests. Attendees from the era’s highest social circles would look on as the roughage of crushed grapes, or must, made its way down to mechanical presses, which would send juice gushing through fountains set in the courtyard wall and pouring from open channels into dolia, or ceramic storage jars, in the ground to collect the spoils.

By Poletto’s estimations, the dining complex could seat 25 to 27 guests, with the winemaking spectacle taking place perhaps twice a year as “a unique opportunity and an absolutely high honor that served not only as a reward to the invitees, but also, in my opinion, a way for the emperor to highlight [and] reinforce his power.”

### **Playing at agriculture**

Banquets at the Quintilii might have been organized ahead of political elections, Poletto thinks; a way to manipulate results behind the most regal of doors. For many emperors, extending invitations to such events was “a privilege and a warning,” she said, a way for them to communicate that “your life is in my own hands ... be aware that if I decided that you’re going to die tomorrow, you are going to die tomorrow.”

Such was the state of play in ancient Rome, where death could be employed to expand the empire and for post-feast japes alike. Poletto says that Rome’s latter Imperial period included “banquets of the dead,” where actors would dress as demons or afterworld deities and pretend to murder guests for the grim entertainment of others.

In addition, “drinking wine was a very important symbol of status and prestige” for the ancient Romans, said Paulina Komar, an assistant professor at the Institute of Archaeology at the University of Warsaw who has written extensively on wine’s role in ancient empires.

Oxford University’s Purcell said that “the gathering of grapes and the making of wine [was] of course the centerpiece of Greek and Roman upper class,” and that he would be “quite surprised” if the more humdrum olive or grain harvests attracted similar attention.

Wine grapes were first domesticated 11,000 years ago, gene study says Still, history is replete with examples of the wealthy toying with the idea of a bucolic lifestyle for sport, Purcell added. In the late 18th century, Marie Antoinette installed a dairy at her castle in Rambouillet that has stunningly ornate décor, designed for its form rather than function.

The winery at the Quintilii is a similar example of “the super-rich play[ing] with the fantasy that they might be participating in the romantic life of agricultural production,” he said.

It is possible that more examples of winemaking as sport will emerge from Roman ruins. The discovery at the Quintilii follows that in 2016 of a similar facility at Villa Magna, a site in central Italy dated to about 100 years earlier. These “thick and fast” findings, as Purcell describes them, offer hope about what might be unearthed next.

“It does make you wonder about other periods of the Roman Empire, perhaps even earlier in the republic,” Dodd said. “Was it a common phenomenon, or are we just seeing a handful of incredibly rare examples that particular emperors or super-elite people built?”

Purcell’s money is on Hadrian’s Villa in Tivoli, 20 miles from Rome, as the spot next likely to reveal such riches. “It wouldn’t astonish me at all,” he said, to find “sumptuous public rooms ... [at] the biggest and best Roman Imperial villa that was ever built.”

And back at the Quintilii, there are more discoveries to be made. One dining area has been excavated, but two spots around the wine cellar have yet to be unearthed, as well as a number of spaces attached to the presses and production areas. Finding what lies beneath these is the next step, Dodd said, “to tease apart chronologies and purposes and see where it takes us.”

**Please visit the site: <https://www.washingtonpost.com/science/2023/07/21/ancient-roman-winery-villa-quintilii/> [Go there for pix]**

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## **DNA ANALYSIS REVEALS MINOAN AND MYCENAEAN GENETIC ORIGINS, BY TASOS KOKKINIDIS**

For the first time, scientists have recently obtained genetic material and analyzed genome sequences from the ancient Minoans and Mycenaeans, who lived three to five thousand years ago.

The new analysis suggests that the Minoans and Mycenaeans shared a great deal of their genetic heritage.

Dr Iosif Lazaridis from Harvard Medical School in Massachusetts and colleagues focused on burials from the Minoan civilization, which flourished on the island of Crete from 2,600 to 1,100 BC, and the Mycenaean culture, which existed across Greece from 1,600 to 1,100 BC.

Dr Lazaridis explained that most of the people who created these civilizations appear to be local, deriving between 62 percent and 86 percent of their ancestry from people who introduced agriculture to Europe from Anatolia (modern Turkey) in Neolithic times beginning about seven thousand years ago.

### **Genetic differences and similarities between Minoans and Mycenaeans**

But the Bronze Age Mycenaean and Minoan skeletons revealed ancestry from populations originating in either the Caucasus mountains or Iran. Between 9 percent and 17 percent of their genetic make-up came from this source.

In addition, the team's paper in the journal, Nature, reports, the Mycenaeans—but not the Minoans—show evidence of genetic input from people who lived further north on the flat grasslands that stretch from eastern Europe to Central Asia. Between four percent and sixteen percent of their ancestry came from this northern source.

While the Mycenaeans are known to have spoken an early form of Greek, the earliest recorded language spoken by the Minoan people on Crete, known as Linear A, can be read but not translated, implying that it belongs to a distinct but unknown group of languages.

### **Modern Greeks descendants of Mycenaeans**

After genetic analysis, the Mycenaeans have also been linked to modern Greek people.

New emerging DNA evidence suggests that living Greeks are indeed descendants of the ancient Mycenaeans, who ruled mainland Greece and the Aegean Sea from 1,600 BC to 1,200 BC.

The evidence comes from a study in which scientists analyzed the genes from the teeth of nineteen people across various archaeological sites within mainland Greece and

Mycenae. A total of 1.2 million letters of genetic code were compared to those of 334 people across the world.

Genetic information was also compiled from a group of thirty modern Greek individuals in order to compare it to the ancient genomes. This allowed researchers to effectively plot how individuals were related to one another.

After comparing the DNA of modern Greeks to ancient Mycenaeans, a genetic overlap was discovered that suggests that these ancient Bronze Age civilizations laid the genetic groundwork for the contemporary Greek people.

Mycenae, the kingdom of the mythical king Agamemnon, is the most important and richest palatial center of the Late Bronze Age in Greece.

Myths related to its history have inspired poets and writers over many centuries since the Homeric epics and the great tragedies of the Classical period.

**Please visit the site: <https://greekreporter.com/2023/07/21/minoan-mycenaean-dna/>**  
**[Go there for pix]**

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## **EMPEROR NERO'S LOST THEATRE FOUND** **UNDER SITE OF HOTEL IN ROME**

Archaeologists hail 'exceptional finds' at venue whose existence was previously known only from mentions in ancient texts

The ruins of Nero's Theatre, an imperial theatre referred to in ancient Roman texts but never found, have been discovered under the garden of a future Four Seasons hotel, steps away from the Vatican.

Archaeologists in Rome have excavated deep under the walled garden of the Palazzo della Rovere since 2020 as part of planned renovations on the frescoed Renaissance building. The palazzo, which takes up a city block along the broad Via della Conciliazione leading to Saint Peter's Square, is home to an ancient Vatican chivalric order that leases the space to a hotel to raise money for Christians in the Holy Land.

The governor general of the Order of the Holy Sepulchre of Jerusalem, Leonardo Visconti di Modrone, confirmed during a news conference announcing the discovery that the hotel chain due to occupy the site was the Four Seasons. News reports have said the hotel is expected to be open in time for the Vatican's 2025 jubilee, when an estimated 30 million visitors and pilgrims are expected to visit Rome.

Officials said the findings were "exceptional" because they provided a rare look at a period of Roman history from the empire through to the 15th century. Among the discoveries have been 10th-century coloured glass goblets and pottery pieces that are unusual because so little is known about this period in Rome.

Marzia Di Mento, the site's chief archaeologist, said that previously only seven glass chalices of the era had been found, and that the excavations of this site had turned up seven more.

Archaeologists found marble columns and plaster decorated with gold leaf, leading them to conclude that the Nero's Theatre referred to in texts by Pliny the Elder, the ancient Roman author and philosopher, was indeed located at the site, just off the Tiber River.

Officials said the movable antiquities would be taken to a museum, while the ruins of the theatre structure itself would be covered again after all studies were completed.

**Please visit the site: <https://amp.theguardian.com/science/2023/jul/27/emperor-neros-lost-theatre-found-under-site-of-hotel-in-rome> [Go there for pix]**

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## **A CLIMATE WARNING FROM THE CRADLE OF CIVILIZATION, BY ALISSA J. RUBIN ALISSA J. RUBIN AND BRYAN DENTON**

A climate warning from the cradle of civilization by Alissa J. Rubin Alissa J. Rubin and Bryan Denton spent months reporting from nearly two dozen cities, towns and villages across Iraq.

The word itself, Mesopotamia, means the land between rivers. It is where the wheel was invented, irrigation flourished and the earliest known system of writing emerged. The rivers here, some scholars say, fed the fabled Hanging Gardens of Babylon and converged at the place described in the Bible as the Garden of Eden.

Now, so little water remains in some villages near the Euphrates River that families are dismantling their homes, brick by brick, piling them into pickup trucks — window frames, doors and all — and driving away.

“You would not believe it if I say it now, but this was a watery place,” said Sheikh Adnan al Sahlani, a science teacher here in southern Iraq near Naseriyah, a few miles from the Old Testament city of Ur, which the Bible describes as the hometown of the Prophet Abraham.

These days, “nowhere has water,” he said. Everyone who is left is “suffering a slow death.”

You don’t have to go back to biblical times to find a more verdant Iraq. Well into the 20th century, the southern city of Basra was known as the “Venice of the East” for its canals, plied by gondola-like boats that threaded through residential neighborhoods.

Indeed, for much of its history, the Fertile Crescent — often defined as including swaths of modern-day Iraq, Israel, Lebanon, Syria, Turkey, Iran, the West Bank and Gaza — did not lack for water, inspiring centuries of artists and writers who depicted the region as a lush ancient land. Spring floods were common, and rice, one of the most water-intensive crops in the world, was grown for more than 2,000 years.

But now nearly 40 percent of Iraq, an area roughly the size of Florida, has been overtaken by blowing desert sands that claim tens of thousands of acres of arable land every year.

Climate change and desertification are to blame, scientists say. So are weak governance and the continued reliance on wasteful irrigation techniques that date back millennia to Sumerian times.

A tug of war over water — similar to the struggles over the Colorado River in the United States, the Mekong in Southeast Asia and the Nile in northern Africa — has also intensified water shortages for tens of millions of people across the region.

Another culprit is common to large swaths of the world: a growing population whose water demands continue to rise, both because of sheer numbers and, in many places, higher living standards, increasing individual consumption.

Here in Iraq, the fallout is everywhere, fraying society, spurring deadly clashes between villages, displacing thousands of people every year, emboldening extremists and leaving ever more land looking like a barren moonscape.

Depleted, dirty rivers and groundwater are causing typhoid, hepatitis A and outbreaks of cholera, like this one.

The creeping desert sands are swallowing farmland, forcing people to crowd into cities.

Rivers and canals have dipped so low that Islamic State militants cross them easily to attack villages and security outposts.

Fish farmers have threatened government regulators who have tried to close them down for violating water restrictions.

The country is even changing underground.

In many areas, water pumped from below the surface is too salty to drink, the result of dwindling water, agricultural runoff and untreated waste. “Even my cows won’t drink it,” one farmer said.

Even in the north, where fresh water has historically been available, well diggers in Erbil, the capital of Iraqi Kurdistan, bore down 580 feet last summer — and still found only salty water.

Iraq is now the fifth most vulnerable country to extreme temperatures, water scarcity and food shortages, the United Nations says. Next door in Iran, a province of two million people could run out of water by mid-September, Iranian lawmakers said, leaving few options beyond mass exodus.

And for the rest of the Middle East and some other areas of the world — including parts of Mexico, Pakistan, India and the Mediterranean — Iraq and its neighbors offer an unmistakable warning.

“Because of this region’s vulnerabilities, one of the most vulnerable on the planet, it is one of the first places that is going to show some kind of extreme succumbing, literally, to climate change,” said Charles Iceland, the director of water security for the World Resource Institute, a research organization.

But, he added, “no countries, even the rich countries, are adapting to climate change to the degree they need to.”

## **PART 2**

### **HOTTER, DRIER, FASTER**

Many people in the villages near the Euphrates River remember how, 20 years ago, the date palm trees grew so thick and close together that their leaves blocked the sunlight. The splashing of children in the irrigation canals and the sloshing of water jugs being carted home provided the backbeat of summer life.

Now, the irrigation canals are so dry in summer that the small bridges spanning them are barely necessary and the sounds of daily life signal water's scarcity: the crackle of brown grasses and the rustle of dried out palm leaves. Some palms have no leaves at all, their bare trunks standing like the columns of ancient ruins.

Water comes from the government in red plastic barrels, in rations of about 160 gallons a month per family. Even when used sparingly, it barely lasts a week in the heat, said Mr. Sahlani, the sheikh and science teacher, who lives in the village of Abu Jumaa. Graffiti scrawled in Arabic on a half-destroyed concrete wall expressed the frustration: "Where is the state?" it read.

As recently as the 1970s and 1980s, Iraq's water ministry built artificial lakes and dams to hold the immense annual overflow from winter rains and gushing snow melt from the Taurus Mountains, the headwaters of the Tigris and Euphrates.

Even today, traces of Iraq's greener past can be seen every spring. In the Anbar desert, a brief winter rain can turn the shallow valleys green and speckle them with flowers. Along the Tigris and Euphrates Rivers, the water still nourishes trees beside the narrow banks, with bands of green fields on either side.

But even those bands have shrunk in recent decades.

The region is getting hotter — faster — than many parts of the world. By some estimates, the Middle East and eastern Mediterranean could warm by 5 degrees Celsius (9 degrees Fahrenheit) or even more during this century. In the worst months of summer, some places are already nearly unlivable.

Precipitation, already low, is expected to wane across the Middle East. The drought gripping Iraq is now in its fourth year, and the country is particularly vulnerable because most of its water comes from rivers that originate outside the country, holding it hostage to the decisions of its neighbors, Turkey and Iran.

### **PART 3**

#### **WATER WARS**

The chokehold on Iraq's rivers has been tightening for decades.

Since 1974, Turkey has built 22 dams, hydroelectric plants and irrigation projects on the Tigris and Euphrates Rivers, modeled in part on the Tennessee Valley Authority in the United States.

Then, in the early 2000s, Iran started building more than a dozen smaller dams and tunnels on tributaries to the Tigris, devastating Iraqi provinces like Diyala, which was known just 10 years ago for its peaches, apricots, oranges and dates. The tributaries from Iran are the only source of water in the province, other than the dwindling rainfall.

The impact has been drastic: The water flowing into Iraq has dropped almost 50 percent on the Euphrates and by about a third on the Tigris since major dam building began in the 1970s, according to statistics from Iraq's water ministry.

### The Tigris Has Less Water

Aggressive dam-building has reduced the water available to Iraq even as its population has grown rapidly.

Hashem al-Kinani and his family have felt the changes firsthand. For generations, they farmed 20 acres east of Baghdad, on the Diyala border, facing one trial after another.

First, the American invasion and the ouster of Saddam Hussein bit into the state's support of farmers. Then in 2006, Al Qaeda moved in and killed many local men, leaving their headless bodies in ditches. Hashem lost an uncle, and the family house was bombed by Al Qaeda. Making matters worse, rainfall has become more erratic and gradually diminished. As the Iranian dams came on line, river water became too scarce to grow fruit.

The fig and pomegranate trees have died. His family sold off their 1,500 head of cattle and their sheep, because it was impossible to feed them. He's not sure how much longer he can hang on.

"Farming is over here," he said. "I cannot stay, but what can I do?"

Most of Iraq's drinking and irrigation water comes from rivers that originate outside the country, holding it hostage to the decisions of neighboring Turkey and Iran.

History is replete with water wars, and one of the earliest recorded conflicts took place here in the Fertile Crescent, where scribes documented a fight over water between Sumerian city states more than 4,000 years ago in what is now Iraq.

Many modern nations have gone on the offensive to ensure that their people have enough water. Ethiopia has spent years building a colossal dam on the Nile, inciting fear and anger from Egypt downstream. China has done the same with the Mekong. Central Asian nations have had a long-running feud over the Amu Darya and Syr Darya Rivers, which have been drained to such an extent that by the time they reach the inland Aral Sea, there is little water left.

Worldwide, countries share nearly 900 rivers, lakes and aquifers, according to the United Nations, and though a treaty exists to govern their use, fewer than half of all countries have ratified it. Notably absent from the list are upstream nations like Turkey, Iran and China.

In 2021, Iraq's water ministry threatened to drag Iran to the International Court of Justice for taking its water. But Iraq's Shiite-dominated government, which is close to Tehran's rulers, dropped the issue.

Now the water flowing into eastern Iraq has been cut so much that floodplains have become parched fields.

Iraq's own growth has added to the strain: As its water dwindled, its population soared.

While Turkey and Iran dammed rivers, Iraq's population almost quadrupled — from about 11.6 million in 1975 to more than 44 million today.

With all that growth, Iraq's water consumption has become unsustainable.

In some areas, Iraq's rivers and irrigation canals are so feeble that they barely dilute the wastewater running into them.

The Kinani family, whose farm withered as Iran built dams, still grows a little wheat, mostly for its own consumption. But the once clear irrigation canal the farm uses now has nearly stagnant, viscous water with a brownish-green color and a nauseating smell.

“We are irrigating with sewage water,” Mr. Kinani said.

#### **PART 4**

#### **ISIS RETURNS**

Drought brings other, less obvious dangers, too.

In parts of Iraq, rivers and irrigation canals once provided strategic barriers — their waters too wide, fast or deep for extremist fighters to traverse.

Today, if those waters are running at all, they are often low enough to walk across.

Militants who had been pushed back in recent years are taking advantage of the drying landscape to come back and attack with ease, according to Sheikh Muhammed Dhaifan, who has been fighting to keep his tribe northeast of Baghdad from leaving the 44 villages where they have worked the land for generations.

When Al Qaeda seized the tribe's land in 2005, it used stones to block the irrigation canals fed by the Adaim River and forced many farmers to flee.

After Al Qaeda's defeat, Sheikh Muhammed persuaded most of his clan to return. But then in 2012, as the Islamic State began to emerge, his tribe was forced to leave again.

Finally, after almost five years, ISIS was vanquished and the villagers began to come back.

Now the chief enemy is drought, stealing not just their livelihoods, but also their sense of safety. In some places, the water hardly covers the pebbles lining the riverbed. ISIS barely has to slow down to get across.

“We used to be protected by the river,” said Sheikh Muhammed. “Now, sometimes they walk, sometimes they drive their motorbikes, the water is so low.”

Last year, Islamic State fighters crossed on foot at night and killed 11 soldiers, many as they slept, at an Iraqi army outpost on the river's banks.

This year, the fighters have moved farther east, attacking villages on the Diyala River, which is also low because of drought and Iran's dams. More than 50 civilians were killed in the province in the first five months of 2023, most by fighters aligned with ISIS.

In the past, the snowmelt and rains sometimes swelled the region's rivers, prompting Turkey and Iran to share more water with Iraq. But the future looks unlikely to offer much respite.

The current trend of a hotter, drier Iraq — and a hotter Middle East — is expected to last for decades, making the once fertile crescent less and less livable.

Already, Iraq does not have enough water to meet its needs, the World Bank says. But by 2035 its water deficit could widen significantly, cutting into the country's homegrown food supply and the economy as a whole.

Pleas to Turkey to share more water have largely gone unheeded.

In the summer of 2022, at the height of last year's drought, Turkey's ambassador to Iraq responded to Iraq's requests for more water by complaining that Iraqis were "squandering" it, calling on the Iraqi government to enact "immediate measures to reduce the waste." This year, when a similar request came, Turkey shared more water for a month before cutting back again.

Turkey's complaints about Iraq are not unfounded. Iraq's irrigation efforts lose large quantities to evaporation and runoff. Water soaks into earthen canals, leaks from rusted pipes and runs off after being used in flood irrigation — the 6,000-year-old method of saturating fields.

The fertilizer in the runoff makes the groundwater saltier. Studies in southern Iraq show large areas with salt levels so high that the water cannot be used for drinking, irrigation or even washing clothes.

Iraq's population makes the forecast even more dire: It is one of the fastest-growing in the region.

Mr. Sahlani, the science teacher near Naseriyah, recalled how much of life in rural southern Iraq life was lived on the water just 20 years ago. Locals started their days in small boats, pushing off at first light to fish before returning after sunrise to tend the fields. While some still do, the river fish are often too small, their flesh too inundated with pollutants, to make it worthwhile these days.

The changes are especially evident in the vast marshes of southern Iraq. Some 60 years ago, they were the largest wetlands in western Eurasia. People have lived there for thousands of years.

Saddam Hussein drained the marshes of about 90 percent of their water to deprive his enemies of a place to hide in their thick reeds and small islands. In doing so, he stifled

“the lungs of Iraq,” said Azzam Alwash, the Iraqi-American engineer who helped re-flood the wetlands after the United States invasion.

Surprisingly quickly, marine life rebounded, migratory birds returned and so did the people who had left. Once again, the mashouf — the long, narrow boats used by the Sumerians — glided through the waterways. Herds of water buffalo flourished.

But years of drought, along with the chokehold on river water from Turkey and Iran, have devastated the marshes again.

Vast wetlands have shrunk to thin channels of salty water.

Families, like this one, are packing up to leave again, unable to survive.

Islands that once held dozens of families are deserted, while others are encircled by a searing expanse of dried grasses and reeds.

Some families cling to life in the marshes, building homes from reeds.

But in large stretches of marshland, the water is gone, leaving cracked earth and dying livestock.

“The marshes are drying,” Mohammed Raed, 19, said as he left them behind, walking his family’s emaciated buffalo toward a neighboring province, where there was still the hope of feeding them.

Mr. Sahlani, the science teacher, said people now eyed their upstream neighbors with suspicion, accusing them of taking more water from the irrigation canals than they’re due and then shutting the sluice gates, leaving too little for residents downstream to grow crops.

Without realizing it, he was describing — on a much smaller scale — Iraq’s standoff with Turkey and Iran, which control much of the Euphrates and the Tigris.

“I understand the problem,” said Ghazwan Abdul Amir, the Iraqi water ministry’s director in Naseriyah, adding that the government was hoping to bring more water to residents in the area.

But water is scarce and money is tight, he said: “Maybe next year.”

Fixing Iraq’s outdated farming techniques, which waste as much as 70 percent of the water used for irrigation, according to a study done for Iraq’s water ministry, is paramount. But persuading farmers to change has been slow going. There were just 120 drip irrigation systems allotted to farmers in Mr. Sahlani’s province last year to save water — and the farmers had to pay for them.

Past the urban sprawl of northern Naseriyah, with its small auto repair shops and vegetable stands, the land empties out. Storm clouds gather in the late afternoon but then disperse without shedding a drop. Tufts of grasses, yellow and brown by late June, offer signs that crops grew here not so long ago.



The wind starts early each morning, blowing ceaselessly until dusk. It strips the topsoil, drying the land until all that is left is an earthen dust that piles on the quickly mounting dunes.

A short drive off the highway, deeper into the desert, lies Al Najim, a village being blown off the map. Thirty years ago, it had 5,000 people. Today there are just 80 left. The temperature hovered at 122 degrees.

Qahatan Almihana, an agricultural engineer, pointed at the town's landmarks: buildings half-covered in sand, doors buried too deep to open. Sand piled halfway up the walls, poured in the windows and weighed down the roofs.

“That was the school,” he said. The teachers stopped coming in early 2022.

Sheikh Muhammad Ajil Falghus, the head of the Najim tribe, was born in the village. “The land was good, the soil was good,” he explained. Until the early 2000s, he said, “we grew wheat and barley, corn and clover.”

Now, all that grows are small groups of tamarisk trees planted as a bulwark against the sands.

“We are living now on the verge of life,” the sheikh said. “There is no agriculture, no planting possible anymore. This is the end of the line, the end of life. We wait for a solution from God, or from the good people.”

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Alissa J. Rubin is a former Kabul Bureau Chief who spent more than seven years in Afghanistan and is a Pulitzer Prize winner for her work there. More about Alissa J. Rubin

A version of this article appears in print on July 30, 2023, Section A, Page 1 of the New York edition with the headline: Mesopotamia, Once Verdant, Is Running Dry. Order Reprints | Today's Paper | Subscribe

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## **EGYPTIAN ARCHAEOLOGY: FEATS OF TECHNOLOGY (PART II)**

Alongside new discoveries, technological innovation allows for the revisiting of older excavations and provide detailed analysis without damaging the artifacts Maya Garabedian

Some of this year’s fascinating archaeological discoveries in Egypt have not been entirely new, never-before-seen art and artifacts. While some certainly are, others are actually new revelations about previously found pieces. As time passes and sample sizes grow, more recent archaeological findings can be compared to the pieces found before it, and vice versa. Even more useful, however, are the technological advancements of the 21st century, which makes revisiting artifacts an interesting and important task. One example comes from 2019, when archaeologists were excavating areas of Qubbet al-Hawa, or “Dome of the Wind,” a necropolis on the western bank of the Nile River, opposite Aswan, and found an undisturbed tomb. Inside were ten crocodile mummies, five well-preserved heads and five bodies. While this is not particularly unusual, as preserved animals can be an offering that serves a purpose in the afterlife, be it food for the deceased or a symbol honoring specific deities, their condition was striking. After a long investigation followed by thorough analysis, a study was published this year explaining the significance of the crocodiles.

With the help of radiography and CT-scan technology, researchers were able to examine the crocodile skulls and skeletons without having to compromise their structural integrity. The specimens ranged from 1.8 to 3.5 meters long, or 5.9 to 11.5 feet, and based on the morphology, were comprised of two distinct species: West African and Nile crocodiles. The most notable revelation was that the mummies were not preserved in a typical fashion when compared to other crocodile mummies found over the years – with many layers of resin and wrapping. Instead, these crocodiles were found unwrapped, with only traces of flax, palm fronds, and rope, indicating that they only had a light wrapping which was then eaten by insects. The crocodiles were so well-preserved in their original form, externally – even with such minor wrapping – and internally, that the crocodiles could not have been caught in the standard way of nets and were never cut open. This suggests that they were buried elsewhere first, possibly in sand pits, where they would dry out naturally, be exhumed, wrapped, and transferred to the tomb at Qubbet al-Hawa in the 5th century BCE. While crocodile remains have been found before, the technology that exists today allowed researchers to keep the mummies intact, which in turn, confirmed that ancient Egyptians had ritualistically sacrificed animals for the sole purpose of making a respectful offering to the gods.

Another important scan revealed this year was that of the “Golden Boy,” a fully wrapped mummy that was found in 1916 and had sat in the basement of the Egyptian Museum ever since. The mummified teenager came from a Late Ptolemaic cemetery, 332-30 BCE, in Edfu, on the western bank of the Nile between the cities Esna and Aswan. Using CT scanning as a means of non-invasive digital unwrapping, the mummy was recently examined for the first time. The images determined his biological sex and his age, roughly 14 or 15, that his brain was removed through his nose and the components of his

abdomen were removed, and both cavities were filled with resin and linen, while his heart was left as a spiritual symbol. Externally, he wears a gilded face mask, a pectoral cartonnage, and sandals. Both inside the mummy and outside between the wrappings lie 49 amulets of 21 different shapes – Udjat, or Eye of Horus, Djed-pillar, Tyet, or Knot of Isis, double-plume, scarabs, and more – the majority of which are made of gold, with a lesser number made of faience, stones, and fired clay. The embalmers placed each amulet symbolically, for example, a gold tongue amulet was placed inside his mouth to ensure he could speak in the afterlife. A 3D-printed version of “Golden Boy” is on display at the Egyptian Museum, as it offers unique insight into the funerary rituals of children who passed at a young age, likely before their parents, while being respectful by leaving them intact.

While more recent innovations have offered new ways of seeing older findings, some technologies, like ground penetrating magnetic and radar scans, have remained a staple of archaeological digs. Not long after the revelations related to the crocodiles and “Golden Boy,” in March of this year, Egyptian archaeologists uncovered a small sphinx statue at the Dendera Temple complex, the famed historical landmark oriented towards the Nile, built on the western bank across from Qena. The sphinx is believed to represent the Roman Emperor Claudius, which would date the work back to the Roman era of the Qena Governorate, between 41 and 54 CE. What supported this hypothesis was the simultaneous discovery of a Roman-era stela made of limestone with demotic and hieroglyphic inscriptions. Both were found at the bottom of a two-layer shrine which featured a mud-brick water basin with characteristics that may correspond with the Byzantine era, opening the possibility of multi-generation use. Archaeologists are conducting more studies on the sphinx and its markings in the hopes of uncovering more about its identity and purpose. Their mission continues on as researchers aim to reveal a road that connects the Temple of Horus, east of the Temple of Dendera, and in front of the Isis Gate, all important places within the temple complex.

Needless to say, technology has greatly changed the way we can uncover the secrets held within the antiquities of the past, whether that means revisiting pieces from previous discoveries or discovering altogether new pieces. Egypt has long been an example, if not the example, of archaeological greatness, and this year the country continues to remind us of that.

Please visit the site: <https://www.mutualart.com/Article/Egyptian-Archaeology--Feats-of-Technolog/C727F1F05176B629> [Go there for pix]

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