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Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

- Αύγουστος 2016 -

**Hateful to me as the gates of Hades is that man who hides
one thing in his heart and speaks another. (Homer)**

Newsletter of the Hellenic Society of Archaeometry

- August 2016 -

Nr. 185

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ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS

2ND INTERNATIONAL CONFERENCE ON ART & ARCHAEOLOGY 2016, ART AND ARCHAEOLOGY STRENGTHENED BY MEASUREMENT TECHNIQUES, DECEMBER 11-14, 2016, JERUSALEM, ISRAEL

IMPORTANT: NEW Abstract submission deadline 30 August 2016

We are happy to invite you to actively participate in Art&Archaeology2016, the International Conference to be held in Jerusalem, December 2016. It follows our successful Jerusalem Conference ART2008.

The main objective of Art&Archaeology2016 is to advance the frontiers of scientific knowledge connected with human cultural heritage. Heritage is our legacy from the past. It is our source for understanding the human mind, its capabilities and potential. Knowledge of the past influences our present day life and what we pass on to future generations.

Art&Archaeology2016 aims to bring together a range of scholars, specialists and experts in the fields of archaeology, art, history, preservation, restoration and reconstruction of museum or archaeological objects, cultural heritage, researchers of ancient structures and measurement scientists and technologists. Cultural heritage is characterized by time-spatial scales and a wide range of technologies are applied to understand and preserve our archaeological, historic and artistic patrimony.

The Art&Archaeology2016 conference seeks to encourage communication between these disciplines, to provide a survey of present work in the field, and to stimulate discussions.

We believe that synergy between the experts will yield further developments, adaption and adoption of measurement methods to deal with challenges of culture heritage research. The knowledge to be gained will provide understanding in more depth and dimensions of the human genius.

We look forward to your participation in Art&Archaeology2016, enlightening us with your paper or poster presentation and enjoying the entertaining social and cultural events in Jerusalem and in Israel.

Jerusalem, the holy site of three great monotheistic religions, provides a unique atmosphere of a modern vibrant society living alongside the archaeology and historical sites since the time of King David. It guarantees to provide you with an unforgettable experience.

With best regards,

Prof. Amos Netea

Conference Chair

**FOURTH PLENARY CONFERENCE AND FIELD
TRIPS OF IGCP 610 PROJECT "FROM THE
CASPIAN TO MEDITERRANEAN:
ENVIRONMENTAL CHANGE AND HUMAN
RESPONSE DURING THE QUATERNARY" (2013-
2017), GEORGIA, GEORGIAN NATIONAL
ACADEMY OF SCIENCES, ILIA STATE
UNIVERSITY, FACULTY OF NATURAL SCIENCES
AND ENGINEERING, AND AVALON INSTITUTE
OF APPLIED SCIENCE, CANADA, 2-9 OCTOBER
2016**

Dear Colleague,

This is kindly to remind you that the Fourth Plenary Conference and Field Trips of IGCP 610 project "From the Caspian to Mediterranean: Environmental Change and Human Response during the Quaternary" (2013-2017) will be held in Georgia under the auspices of the Georgian National Academy of Sciences, Ilia State University, Faculty of Natural Sciences and Engineering, and Avalon Institute of Applied Science, Canada, on **2-9 October 2016**.

The deadline for abstract submission is 15 August 2016.

The conference and field trip will focus on the pre-Pleistocene and Pleistocene geological history of the Eastern Paratethys remnants within Eastern Georgia. This subject is very important in shedding light and achieving a better understanding of a possible mechanism of separation of the Eastern Paratethys into the individual seas leading to formation of the Black and Caspian Seas.

The meeting will cover eight days. Two days (3-4 October) will be spent in plenary session, and four days (5-8 October) will be dedicated to the field trips.

SCHEDULE

2 October: Arrival and Registration (accommodation in Tbilisi).

3-4 October: Plenary Sessions (accommodation in Tbilisi).

5 October: Field Trip 1: Tbilisi – Grakalianis hill - Upliscixe – Mtskheta – Tbilisi. Conference Diner (accommodation in Tbilisi).

6 October: Field Trip 2. Tbilisi – Ujarma – Gombori pass – Alaverdi – Tsinandali – hotel "Kachreti-Ambassador". Wine-test in the historic wine cellar in Tsinandali (accommodation in the hotel «Kachreti-Ambassador»).

7 October: Field Trip 3. Hotel "Kachreti-Ambassador" – Shiraki plain – Vashlovani National Park - hotel «Kachreti-Ambassador» (accommodation in the hotel «Kachreti-Ambassador»).

8 October: Field Trip 3. Hotel "Kachreti-Ambassador"; IV – Hotel "Kachreti-Ambassador" – David Gareji half-desert – Tbilisi (accommodation in Tbilisi).

9 October: Departure from Tbilisi.

The First Circular of the Conference, the Abstract Template and the Registration Form are available on the main website of IGCP 610 Project http://avalon-institute.org/IGCP610/meeting_next.php

Looking forward seeing in you in Tbilisi, Georgia, in fall 2016.

Sincerely yours,

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**4TH INTERNATIONAL LANDSCAPE
ARCHAEOLOGY CONFERENCE “CROSS-
DISCIPLINARY AND INTEGRATIVE
APPROACHES TO HUMAN ENVIRONMENT
INTERACTIONS IN MEDITERRANEAN
LANDSCAPE ARCHAEOLOGY”,
DEPARTMENT OF ARCHAEOLOGY AND
ANCIENT HISTORY, UPPSALA UNIVERSITY,
23-25 OF AUGUST, 2016**

The 4th International Landscape Archaeology Conference will be hosted by the Department of Archaeology and Ancient History. It will be held at Uppsala University, the oldest university in Scandinavia - founded in 1477 - on 23-25 of August, 2016.

Cross-disciplinary and integrative approaches to human environment interactions in Mediterranean landscape archaeology

Organisers

Anton Bonnier, Martin Finné and Erika Weiberg.

One of the most fundamental developments within Mediterranean landscape archaeology since the mid-20th century has been the increasing application of field survey to Mediterranean (micro-) regions. The attempt to combine data from different regions to produce broader landscape, narratives brought scholars together at a workshop in 2002 that resulted in the publication *Side-by-Side Survey: Comparative Regional Surveys in the Mediterranean World* (S.E. Alcock and J.F. Cherry, eds., 2004). These discussions remain deeply embedded within the disciplinary discourse of Mediterranean landscape archaeology. Yet, the idea of broader landscape narratives involves today even wider and more cross-disciplinary datasets, including palaeoclimate and palaeoenvironmental archives. Combining a variety of records we are, more often than not, dealing with regional perspectives that are in fact inter-regional seen from a field archaeological perspective, which in turn places new emphasis on the questions explored in 2002. The session seeks to explore how comparative approaches within Mediterranean landscape archaeology can be applied within modern cross-disciplinary research on human-environment interaction. How do we bridge disciplinary and methodological gaps in order to produce mixed but coherent regional datasets and integrated narratives on human-environment interaction?

We invite papers that consider the great variety of complex issues such projects are likely to explore: including the integration of multiproxy datasets; up-scaling as well as down-scaling of data; visualization of temporal and geographical variation; as well as the application of any results in relation to the wider scholarly debate on societal resilience and sustainability.

Contact: Erika Weiberg mailto:erika.weiberg@antiken.uu.se

List of papers:

Maria Jesús Ortega (Catalan Institute of Classical Archaeology): The origin and development of a Mediterranean landscape: the integratio of field survey techniques with the long-term archaeomorphological analysis of Valencia Mediterranean alluvial plain.

Christian Heitz (University of Innsbruck, Department of Classical Archaeology): Silent rivers of grass – the detection of ancient drove-roads in southern Italy.

Arthur GLAIS (Geophen-LETG UMR 6554 CNRS, University of Caen Normandy): Contributions and limits of a multiscalar, geomorphological and palynological combined approach to human-environment relationships reconstruction, nearby the multiperiod tell of Dikili Tash (Northern Greece).

Pavlos Avramidis (Geology University of Patras): Reconstruction of Holocene coastal environmental changes the last 8500 years of Zakynthos Island, Ionian Sea: a history of a segregated Mediterranean Island.

James C Wright (American School of Classical Studies at Athens): The longue durée: The piedmont of the Corinthia and cycles of regional occupation

Michael Given (Archaeology, School of Humanities, University of Glasgow): Interdependent, interdisciplinary, integrated: conviviality theory and the life of the landscape.

Francesca Chelazzi (Archaeology, University of Glasgow): 'With great power, comes great responsibility'. Integrating heterogeneous legacies for the cross-disciplinary reconstruction of human-environment interactions in a Mediterranean landscape: Bronze Age Cyprus.

Will M. Kennedy (Humboldt-Universität zu Berlin; Exzellenzcluster TOPOI): Redefining Rural Petra: A Landscape Archaeological Characterization of the Petraean Hinterland in Nabataean-Roman Times.

Bernhard Lucke (FAU Erlangen-Nürnberg, Institute of Geography): Reconstructing past land use in the context of soil properties along a precipitation transect in northern Jordan.

Dan Lawrence (Durham University): Big Data, Long-term Histories and Survey Datasets in Northern Mesopotamia: Lessons from the Fragile Crescent Project.

List of posters:

Spyros Vasiliou (Hellenic ministry of culture and sports, Ephorate of antiquities of Chalcidice and Mount Athos): Portraying the Iron Age Settlements in Central Macedonia: The case studies of the Thermaic Gulf, the prefectures of Kilkis and Chalkidike.

Sebastiano Muratore (Institut für Klassische Archäologie, "Eberhard Karls" Universität, Tübingen): Archaeology and spatial analysis: the case-study of Rocchicella Mineo

(Catania-Italy).

Torsten Klein (Freie Universität Berlin): Human-environment interactions at the Phoenician site of Ayamonte (Huelva/Spain): – Insights from terrestrial borehole data

Marlen Schlöffel, Steffen Schneider (Osnabrück University, Lower Saxony Institute for Historical Coastal Research): Results of a minimal invasive prospection of a Prehistoric settlement hill in the Bak?rçay valley, Western Turkey

Mateo González Vázquez (Universitat de Barcelona): The Impact of the Roman Military on the Rural Landscape: the view from North-East Iberia.

Alessandri L.*, Attema P.A.J.*, Doorenbosch M.**, Field M.H.**, Sevink J.*, Van Gorp W.*, Van Leusen P.M.>(* University of Groningen Institute of Archaeology, ** Leiden University Faculty of Archaeology): The Avellino Event. Distal impacts of the great Bronze Age eruption of Mt. Vesuvius.

Mariya Avramova, M.A. (The Antiquity of Southeastern Europe Research Center, University of Warsaw): Healing nature. The Environment of Healing Spas in Roman Thrace

Please visit the site: http://www.arkeologi.uu.se/LAC_2016+/Sessions/cross-disciplinary/

**14TH EUROPEAN MEETING ON ANCIENT
CERAMICS (EMAC), 6-9 OF SEPTEMBER
2017, BORDEAUX MONTAIGNE
UNIVERSITY, BORDEAUX, FRANCE**

Dear colleagues,

We are pleased to announce that the next European Meeting on Ancient Ceramics will be held in Bordeaux, from the 6th to the 9th of September 2017. The 14th EMAC will be organized by Bordeaux Montaigne University.

Further information regarding submission of abstracts and venue will be provided in September. The conference website will open in the coming weeks, at <http://emac2017.sciencesconf.org>.

Looking forward to seeing you all in Bordeaux

The local committee (emac2017@sciencconf.org)

Rémy CHAPOULIE, Nicolas FREREBEAU, Ayed BEN AMARA, Nadia CANTIN,
Sophie PHILIPPOT, Pierre MACHUT, Brice LEBRUN

2ND INTERNATIONAL MEETING
POSTPONED FOR THE 14TH -15TH OF
OCTOBER 2016

Taking into consideration the recent events at Ataturk airport, the Organizing Committee, the President of the TEI of Ionian Islands Prof. Ioannis Dragonas and the Metropolitan of Bursa and Abbot of the Theological School of Halki Prof. Elpidophoros Lambriniadis decide to postpone the 2nd International Meeting for the 14th -15th of October 2016.

For further information please see the web site of the meeting: <http://imcdea20165.webnode.gr>,
Fb: <https://www.facebook.com/groups/imcdea2016/>
or email the Organizing Committee: imcdea2016@gmail.com

The Organizing Committee.

ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ –
JOB VACANCIES/FELLOWSHIPS

SCIENTIFIC MANAGER OF AN
ACCELERATOR MASS SPECTROMETRY
LABORATORY

Code: 66/G/Geo-tt

Faculty: Science

Job type: Full time

Location: Bremerhaven

The Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research (AWI) is a member of the Helmholtz Association (HGF) and funded by federal and state government. AWI focuses on polar and marine research in a variety of disciplines such as biology, oceanography, geology and geophysics thus allowing multidisciplinary approaches to scientific goals.

Within the project of installing an AMS radiocarbon dating facility at AWI, the section Marine Geochemistry invites applications for the position as

Scientific manager of an accelerator mass spectrometry laboratory

Background and Tasks:

AWI is establishing a new laboratory for radiocarbon analysis with a small accelerator mass spectrometer (MICADAS system), equipped with a gas accepting hybrid ion source and a gas inlet system. Radiocarbon analyses are used for a broad range of scientific purposes at AWI, including age dating of polar marine sediments, terrestrial deposits and ice cores, determination of ocean ventilation rates on millennial to annual timescales, and carbon cycle studies. Materials to be dated include marine carbonates, bulk organic matter, dissolved organic matter, purified organic compounds, and gases. Equipment available for sample preparation includes automated systems for carbonate sample handling, sample combustion and graphitization, as well as a manual vacuum line. As scientific manager of the AMS laboratory you will be responsible for the routine operation and maintenance of the AMS system and periphery instrumentation and for quality control of the analytical results. Furthermore, you will lead the development of new or adapted sample preparation protocols for samples with special requirements (e.g., gases at natural atmospheric concentration levels). Your participation in the instrument's installation in November 2016 is expected.

Requirements:

You should have a background in physics, analytical chemistry, or a related field and be experienced in the operation and maintenance of isotope ratio monitoring mass spectrometers; prior experience with AMS 14C analysis would be highly appreciated. An interest in innovative isotope analytical techniques as well as the ability for developing creative solutions adapted for special scientific problems is anticipated. You are expected

to participate in the institute's research program, and the development of own projects with relation to the institute's research program would be encouraged. A PhD and a track record of scientific publications in international peer reviewed journals are beneficial. Excellent communication skills in English and preferably also in German are essential, as well as the ability to work in interdisciplinary teams.

The position can start as soon as the candidate is available, ideally by September 1st, 2016. It is initially limited to 2 years. Depending on the project's success, there will be an option of tenure. The salary will be paid in accordance with the German wage agreement for public service employees - Tarifvertrag des öffentlichen Dienstes (TVöD Bund). The place of employment will be **Bremerhaven**.

Questions regarding the position should be directed to **Prof. Dr. Gesine Mollenhauer** (gesine.mollenhauer@awi.de).

We offer you a multi-disciplinary, international, and fascinating professional environment with flexible working hours, state-of-the-art research equipment, and a first-rate infrastructure.

AWI aims to increase the number of women in the scientific staff. Female candidates are therefore especially asked to apply. Disabled applicants will be given preference when equal qualifications are present. The AWI fosters the compatibility of work and family through various means. Because of our engagement in the area of work-life compatibility we have been awarded the certificate "Career and Family".

Please forward your applications with the standard documentation (CV, a list of publications, a statement describing previous experience and the analytical background) by **July 31st, 2016** referencing code **66/G/Geo-tt** to: Alfred-Wegener-Institut für Polar- und Meeresforschung, Personalabteilung (human resources), Postfach 12 01 61, 27515 Bremerhaven / Germany or by e-mail (all documents merged into one PDF file) to: personal@awi.de.

ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS
MSc CULTURAL HERITAGE MATERIALS
AND TECHNOLOGIES

Dear Colleagues,

This is a friendly reminder that the application deadline for the MSc in Cultural Heritage Materials and Technologies (academic year 2016-2017) is 16 September 2016.

The CultTech MSc programme is organized by the Laboratory of Archaeometry of the University of the Peloponnese, Kalamata, Greece. The language of the programme is English and the duration is one full year. Students from the fields of archaeology, cultural heritage management, conservation, materials science and engineering are welcomed to apply. Courses for the new academic year will start on Monday 3 October 2016.

For further information please visit our website (culttech.uop.gr) and our facebook group (CultTech-MSc in Cultural Heritage Materials, UOP) or contact us at culttech@uop.gr and (0030) 27210 65145.

A NEW ¹⁴C DATABASE

Dear colleagues,

Our new ¹⁴C website www.14SEA.org is now online. It is an updated and enlarged version of CANeW, with which some of you might have been familiar. The aim of 14SEA is to make radiocarbon dates from Anatolia, the Aegean and southeast Europe available in downloadable excel-files and, additionally, to present short analyses according to geographically defined regions and subregions.

We are looking very much forward to your comments,

Agathe Reingruber and Laurens Thissen

14c@14sea.org

EΙΔΗΣΕΙΣ - NEWS RELEASE

STUDY INCLUDES DNA SAMPLE DRAWN FROM 10,000 YEAR-OLD SPECIMEN FROM THE PENN MUSEUM - ANCIENT DNA REVEALS COMPLEX GENETIC HISTORY OF NEAR EAST AT DAWN OF AGRICULTURE

The first large-scale, genome-wide analyses of ancient human remains from the Near East have illuminated the genetic identities and population dynamics of the world's first farmers.

The study, published today in *Nature*, reveals three genetically distinct farming populations living in the Near East at the dawn of agriculture 12,000 to 8,000 years ago: two newly described groups in Iran and the Levant and a previously reported group in Anatolia, in what is now Turkey.

Together, the results suggested that agriculture spread in the Near East at least in part because existing groups invented or adopted farming technologies, rather than through population replacement.

“Some of the earliest farming was practiced in the Levant, including Israel and Jordan, and in the Zagros mountains of Iran—two edges of the Fertile Crescent,” said Ron Pinhasi, associate professor of archaeology at University College Dublin and co-senior author of the study. “We wanted to find out whether these early farmers were genetically similar to one another or to the hunter-gatherers who lived there before so we could learn more about how the world's first agricultural transition occurred.”

The team's analyses alter what is known about the genetic heritage of present-day people in western Eurasia. They now appear to have descended from four major groups: hunter-gatherers in what is now western Europe, hunter-gatherers in eastern Europe and the Russian steppe, the Iran farming group and the Levant farming group.

“We found that the relatively homogeneous population seen across western Eurasia today, including Europe and the Near East, used to be a highly substructured collection of people who were as different from one another as present-day Europeans are from East Asians,” said David Reich, professor of genetics at Harvard Medical School and co-senior author of the study.

“Near East populations mixed with one another over time and migrated into surrounding regions to mix with the people living there until those initially quite diverse groups became genetically very similar,” added Iosif Lazaridis, HMS research fellow in genetics and first author of the study.

Early adopters

Even as advances in ancient-DNA technology have made it possible to probe population mixing and large-scale migrations that occurred thousands of years ago, researchers have had trouble studying the genetic history of the Near East because the region's warm climate has degraded much of the DNA in unearthed bones.

An international team led by Pinhasi and Reich overcame the problem of poor-quality DNA in part by extracting genetic material from ear bones that can yield up to 100 times more DNA than other bones in the body. The team also used a technique called in-solution hybridization to enrich for human DNA and filter out contaminant DNA from microbes.

The combined techniques allowed the researchers to gather high-quality genomic information from 44 ancient Near Easterners who lived between 14,000 and 3,400 years ago: hunter-gatherers from before the invention of farming, the first farmers themselves and their successors. The Penn Museum originally contributed the earliest of the Iranian samples—from three individuals, from hunter-gatherer populations in the region—excavated from Hotu Cave in the 1950s. Of the three, DNA was successfully extracted from an ear bone of one individual, dated to about 10,000 years ago.

By comparing the genomes to one another as well as to those of nearly 240 previously studied ancient people from nearby regions and about 2,600 present-day people, the researchers learned that the first farming cultures in the Levant, Iran and Anatolia were all genetically distinct. Farmers in the Levant and Iran were genetically similar, however, to earlier hunter-gatherers who had lived in the same areas.

“Maybe one group domesticated goats and another began growing wheat, and the practices were shared in some way,” said Lazaridis. “These different populations all invented or adopted some facets of the farming revolution, and they all flourished.”

“The findings tell a different story from what researchers believe happened later in Europe, when the first farmers moved in from Anatolia and largely replaced the hunter-gatherer populations who’d been living there.

Janet Monge, Curator and Keeper of the Penn Museum’s Physical Anthropology collection and a co-contributor to the research, noted: “The integration of ancient DNA samples from archaeological skeletal samples allows us to redefine the parameters of population history at the origin of agriculture. Clearly the transition from hunter-gatherer communities to agricultural ones is not a singular invention and spread, but the result of a series of innovations, aggregations and disseminations on both the cultural and biological sides of human history. This study energizes the decades-long debates on the origin of agriculture.”

Mix and match

Over the following 5,000 years, the Near East farming groups mixed with one another and with hunter-gatherers in Europe.

“All this extraordinary diversity collapsed,” said Reich. “By the Bronze Age, populations had ancestry from many sources and broadly resembled present-day ones.”

The researchers also learned how descendants of each early farming group, even as they began to intermingle, contributed to the genetic ancestry of people in different parts of the world: Farmers related to the Anatolian group spread west into Europe, people related to the Levant group moved south into East Africa, people related to those in Iran or the Caucasus went north into the Russian steppe, and people related to both the farmers in Iran and hunter-gatherers from the steppe spread into South Asia.

“The Near East was the missing link to understanding many human migrations,” said Pinhasi.

Finally, the study provides a few more clues about a hypothetical, even more ancient population called the Basal Eurasians, an early diverging branch of the family tree of humans living outside Africa, whose existence Lazaridis has inferred from DNA analyses but whose physical remains have not yet been found.

“Every single group from the ancient Near East appears to have Basal Eurasian ancestry—up to around fifty percent in the earliest groups,” said Lazaridis.

To the researchers’ surprise, statistical analyses suggested that the Basal Eurasians may have had no Neanderthal DNA. Other non-African groups have at least 2 percent Neanderthal DNA.

The team believes this finding could help explain why West Eurasians have less Neanderthal DNA than East Asians, even though Neanderthals are known to have lived in west Eurasia.

“Admixture with Basal Eurasians may have diluted the Neanderthal ancestry in West Eurasians who have ancient Near Eastern farmer ancestry,” said Reich. “Basal Eurasians may have lived in parts of the Near East that did not come into contact with the Neanderthals.”

Going forward, said Pinhasi, “We’re eager to study remains from the world’s first civilizations, who succeeded the samples analyzed in the study. The people everyone reads about in history books are now within the reach of our genetic technology.”

Primary funding for this research was provided by the National Institutes of Health (grant GM100233), a National Science Foundation Hominid grant (BCS-1032255) and a European Research Council starting grant ADNABIOARC (263441). Reich is a Howard Hughes Medical Institute investigator.

Source: Adapted from a Harvard Medical School story by Stephanie Dutchen, Science Writer/Editor for the University of Pennsylvania Museum of Archaeology and Anthropology.

*“Controlled fire use in early humans might have triggered the evolutionary emergence of tuberculosis,” by Rebecca H. Chisholm, James M. Trauer, Darren Curnoe, and Mark M. Tanaka, Proceedings of the National Academy of Sciences.

Please visit the site: <http://popular-archaeology.com/issue/summer-2016/article/ancient-dna-reveals-complex-genetic-history-of-near-east-at-dawn-of-agriculture>

UNDERWATER BASILICA IN İZNIK TO SHED LIGHT ON ROMAN ERA

An underwater Roman era basilica found only 20 meters off the shore of Lake İznik in the northwestern province of Bursa will be revived for tourism, as an "underwater museum" project at the site is underway, according to local authorities.

"We used to say that 'the history of the basilica goes back 1,500 years but we retrieved coins that date back 1,800 years. Accordingly, we can say that the basilica is approximately 1800-1900 years old. The basilica that the Christian council gathered in is three meters below the water because of earthquakes," Bursa Mayor Recep Altepe said during an inspection at the site with İznik Mayor Osman Sargin.

Altepe said the underwater archeological excavations have been ongoing around the site for nearly a year, noting the remnants of the sunken basilica from the Roman period were open to visit and they were planning to develop "the best underwater museum practice in the world."

The project will be a valuable addition to both the district and the country in terms of tourism, he said.

İznik has been a capital of civilizations and it has great importance because of its rich history, he added.

Altepe said once the Bursa Metropolitan Municipality received a permit from the Culture and Tourism Ministry, he and the Archeology Department in Uludağ University (UÜ) promptly started their work at the site, which has been continuing for the past year.

Sand, soil and other materials found at the site can be carried to the shore with the newly built systems, he said.

Altepe highlighted that there were various cemeteries at the site where coins, tiles and mosaics could be found, adding: "The traces of the region are truly being resurfaced for the first time."

"We will do what is necessary for this historical site dating back 2,000 years to be visited. The basilica remnants, which are of great importance to Christendom and İznik, will be available for visitors to explore. The process is continuing at full speed. We want to build the world's most beautiful underwater museum practice here. We are diligently working for this project that will add great importance to İznik and Turkey in terms of tourism."

**Please visit the site: <http://www.hurriyetdailynews.com/underwater-basilica-in-iznik-to-shed-light-on-roman-era.aspx?pageID=517&nID=101921&NewsCatID=375>
[Go there for pix]**

MIGHTY FORTIFICATIONS FOUND BY ARCHAEOLOGISTS SHOW KINGDOM OF GESHUR MORE POWERFUL THAN THOUGHT, BY PHILIPPE BOHSTROM

Vast 6-meter thick fortress walls and huge towers uncovered at Bethsaida, Galilee show the might of the Geshurite kingdom around 2700 years ago. Massive fortifications surrounding Bethsaida, the capital city of Geshur, indicate that the biblical-era kingdom had been a lot more powerful than assumed, archaeologists say. That conclusion is bolstered by the discovery of numerous monumental towers guarding the road to Bethsaida.

The ruins of Bethsaida sit on a basalt outcrop descending from the Golan Heights, about a mile north from the Sea of Galilee. Among the most striking finds at the site is the massive city gate.

"The city gate [of Geshur] is the largest Iron Age gate complex in the entire country," Dr. Rami Arav of University of Nebraska, Omaha told Haaretz. "It represents the only preserved city-gate from a capital city in the region from that time."

The Kingdom of Geshur, located east of the Jordan River, coexisted with the kingdoms of Israel and Judah to its south, and with the kingdom of Aram to the north (in present-day Syria).

Scholars are confident Bethsaida was the capital of the biblical kingdom of Geshur. The real question remains who the Geshurites were: were they Aramean, Israelite or both.

Archaeologists note that information on what Aramean cities actually looked like is scanty because too little work on the topic had been done before the outbreak of civil war in Syria, and excavation there now isn't an option.

King David gets married

Who exactly were the Geshurites? We don't know. Some point out that a lot of seals found in Bethsaida are of Israelite origin. However, icons to the moon god point to an Aramean affiliation. Archaeological material such as pottery seems similar to that of other Israelite sites in the north, such as Tel Dan.

So the argument over whom the ancient Geshurites were affiliated with rages on - though the truth could be more prosaic, that they were affiliated with both, at different periods in time.

The bible relates that Geshur had been given to the part of the tribe of Manasseh which lived east of the Jordan River, and treats it as an early site of coexistence: "But the Israelites did not drive out the people of Geshur and Maakah, so they continue to live among the Israelites" (Joshua 13:13).

It was in Geshur that King David came to find a wife. He married the daughter of the King of Geshur, Maachah, who bore him Absalom and Tamar (2 Samuel 3:2,3).

The even older city beneath the old city

During the 30 years of digging, the archaeological team found an even more ancient city beneath Iron Age Geshur. The "modern" one dates to about the 8th century BCE and the even older city goes back over 3,000 years, to about the 10th-11th century BCE.

Most of the finds are fortifications and walls dating from the 8th century BCE.

Discerning the boundaries of the more ancient city has been challenging. However, the ruins of the older city started to emerge three meters below the level of the 8th century BCE capital with the discovery of a massive outer city-wall. That ancient wall had been built of massive boulder stones, says Dr. Kate Raphael said, adding, "We find lots of crushed mud-brick debris - evidence of destruction - so whoever rebuilt the city had to level out the destroyed city in order to build the 8th century city."

The "modern" city was built using repurposed stones from the older city, she explains.

Now, the archaeologists are searching for the 11th - 10th century city-gate. They haven't found it but have a good hunch where it might be. A drainage tunnel, pavement and a ramp from the 11th century BCE that have been discovered that probably connect to that older gate.

Monumental walls

Geshur had been surrounded by monumental walls studded by tall guard-towers at regular intervals, that, the archaeologists believe, based on structure and remains, were as much as three stories high.

"The city gate [of Geshur] is the largest Iron Age gate complex in the entire country," Dr. Rami Arav of University of Nebraska, Omaha told Haaretz. "It represents the only preserved city-gate from a capital city in the region from that time."

A "city gate" in biblical times wasn't a mere passage point. It was typically a massive, often complex structure, consisting of an outer gate and an inner one providing a second line of defense, with a space in between. That space in between could be used for commerce, meetings and not rarely - a place for the ruler to meet with the commoners.

In Geshur, the most staggering discovery so far is the spacious, well-preserved city gate. Its inner space was divided into four chambers. Three had been used to store grain and barley, the archaeologists deduce from the large amounts of seed remnants embedded in the floors.

Feeding the god of the gate

Within the gate's courtyard were two high places and five massive steles (standing stones), one decorated with a bull faced-warrior. (The original of that is on display at the

Israel Museum in Jerusalem; the site has a replica, which seems to get serially vandalized by visitors.

The altars found at Geshur seem similar to the "high places of the gates" referred to in 2 Kings 23:8. ("And he brought all the priests out of the cities of Judah, and defiled the high places where the priests had burned incense, from Geba to Beersheba, and brake down the high places of the gates that were in the entering in of the gate of Joshua the governor of the city, which were on a man's left hand at the gate of the city.")

Apparently sacrificing at the gates was a practice of offering. At the back of the gate was a sacrificial high place and a three-meter deep pit filled with bones of kosher animals, next to a horned altar.

Inside one of the chambers of the gate, a paleo-Hebrew (or possibly Aramaic) inscription was found on a pitcher, next to an assemblage of vessels. The words Lechem was followed by an ankh-like symbol rendering the meaning: "Dedicated to the god whose named [ankh symbol]", which is commonly identified as the moon-god.

"They had a domestic assemblage inside the chamber, like they were feeding the god of the gate. It was part of their ritual," Dr. Carl Savage of Drew University told Haaretz.

The origin of synagogue worship?

Benches discovered in the courtyard indicate that the local court was situated at the gate (De. 16:18;21-18-20;22:15.)

The Book of Nehemiah 8:1 implies that the gate was a place where the Law was read to the congregated people. Some believe that the very concept of the synagogue may have originated from reading the bible at the city gates.

In fact, the gates weren't only apparently a religious center. Much of the city's or kingdom's official business took place there, and transactions were recorded there.

The gates were in essence the center of public life. Travelers and merchants would necessarily have to pass that way. So would anybody who worked in the fields. The gates were where one would go to get the latest news.

On the defensive, maybe

In the 8th century BCE, massive six-meter wide walls protected the ancient city from intruders. The dimensions of the walls are unprecedented for the era, in the region.

Whom they might have needed to wall themselves off from remains a mystery.

"The feeling you get is that they are either terrified of something on the outside or they are protecting something really valuable on the inside," Raphael told Haaretz.

Theories range from the site being a huge granary coveted by surrounding states in times of famine, to an independent kingdom (i.e., not affiliated with the Arameans or the

Israelites) with few allies to rely on, resulting in the need to take matters in own hands and protect themselves.

Whatever the reason they were built, the monumental walls stand as a reminder of great military achievement, and a highly advanced and organized society with the resources to build on a grand scale.

Yet even these high walls could not prevent the Assyrian king Tiglath Pileser III from conquering the city in 732 BCE. Evidence of fiery destruction, arrow heads, spear points and sling shots bear silent witness to the fierce battle that took place when the city gates were breached and put to the torch. In scenes eerily reminiscent of ISIS today, the pagan steles were decapitated, pottery and other possessions were violently smashed, and the whole city was put under the torch.

Bethsaida would never again rise to prominence. By the Roman era, it had become a negligible fishing village. Yet even so, it would become an iconic site for Christians, being the hometown of Jesus disciples Philip, Andrew and Peter.

Please visit the site: <http://www.haaretz.com/jewish/archaeology/1.732284>

TWO SCIENTISTS, A PARTICLE ACCELERATOR, AND THE (ONCE) INDECIPHERABLE SCROLLS OF ANCIENT HERCULANEUM. READING THE UNREADABLE

It was about two thousand years ago when the eruption of southern Italy's Mount Vesuvius enveloped the ancient Roman cities of Pompei and Herculaneum in a fiery cataclysm, swathing them in a hot ash and mud cocoon that would actually end up 'freezing' their remains in what for history has been two of the best-preserved ancient urban centers. It became a gold mine for archaeological investigation in the late 19th century, and continues to reveal more to archaeologists today. In Herculaneum, one of the most significant finds was a library of 1,800 carbonized papyri found within the remains of a Roman villa, known today as the Villa of the Papyri. Because of the scrolls' charred state and fragility, however, they have been extremely difficult to decipher.

Until now.

Recent analysis of the papyrus scroll fragments using advanced techniques have revealed a number of findings, including the revelation that the ancient Romans used metallic ink in their literary inscriptions centuries earlier than previously thought.* Up to now, it was thought that ancient texts, particularly Greek and Latin literary manuscripts produced until the fourth century AD, were written primarily in carbon-based ink on papyri, the fibrous structure of which allowed the ancient scribes to forego the use of ruling lines. Now, Vito Mocella and colleagues have applied nondestructive synchrotron (particle accelerator) X-ray-based methods to chemically analyze hardly visible inscriptions on two nearly flat, multilayered charred papyrus fragments that were found at the Villa. While it was thought that the introduction of metal in writing materials was generally dated to the fourth-fifth century AD, the fragments of these scrolls showed high lead concentrations-around 84 µg/cm² and 16 µg/cm²-suggesting a purposeful use of lead-containing ink, several centuries before the use of metallic ink was introduced into literary inscription in the Greco-Roman period. Spots of concentrated lead were detected at the beginnings and ends of the scribes' pen strokes on the scrolls.

Now, Vito Mocella, who is an expert in condensed matter physics and electromagnetism, and Papyrologist Daniel Delattre, have joined forces to make the scrolls legible again. Using their expertise and the help of the synchrotron particle accelerator, they are slowly on their way to more easily deciphering the scrolls once and for all, using the noninvasive technique (see the video below). The ultimate results may shed much light on Greco-Roman society in the shadow of Vesuvius.

Please visit the site: <http://popular-archaeology.com/issue/summer-2016/article/reading-the-unreadable>

ARCHAEOLOGIST DISCOVERS LARGE EARLY CHRISTIAN BASILICA WITH UNUSUALLY TALL SYNTHRONON IN PALMATIS FORTRESS IN NORTHEAST BULGARIA, BY IVAN DIKOV

A 5th century AD Early Christian basilica has been discovered during the first ever archaeological excavations of the Late Antiquity and medieval fortress Palmatis near the town of Onogur, Tervel Municipality, in Northeast Bulgaria. The discovery is said to be remarkable not just because of the considerable size of the Early Byzantine basilica, which was 55 meters long and 30 meters wide, but also because it seems to have had an exceptionally tall synthronon - the bishop's throne and clergy stalls where meetings of clergymen were held.

The discovery has been presented to the media by lead archaeologist Kazimir Popkonstantinov, reports local news site Darik Dobrich.

The ruins of Palmatis are located on a plateau with natural defenses on the ancient road from Durostorum (Durustorum), today's Silistra on the Danube, to Marcianopolis (Marcianople), today's town of Devnya near the Black Sea city of Varna (ancient Odessos).

Palmatis was also a functioning fortress during the period of the First Bulgarian Empire (632/680-1018).

In the Late Antiquity (4th-6th century AD), near the Palmatis Fortress, in an area called Shan Kaya (not to be confused with the rock shrine of Shan Kaya in the Rhodope Mountains in Southern Bulgaria), there was a rock monastery which was connected with the rock monastery near the Bulgarian town of Balik, Krushari Municipality, Dobrich District (which is still known today by its derogatory and offensive Turkish name "Gaiour (Gavur) Evleri" meaning "Homes of the Infidels", as the original name of the holy place remains unknown).

The first ever archaeological excavations of Palmatis are being led by archaeologist Prof. Kazimir Popkonstantinov from the St. Cyril and St. Methodius University in Veliko Tarnovo who is best known for his 2010 discovery of relics of St. John the Baptist in an Early Christian monastery on the St. Ivan Island in the Black Sea off the coast of Sozopol. The digs near the town of Onogur have been initiated and organized jointly by Tervel Municipality and the Dobrich Regional Museum of History.

Please visit the site: <http://archaeologyinbulgaria.com/2016/07/16/archaeologist-discovers-large-early-christian-basilica-with-unusually-tall-synthronon-in-palmatis-fortress-in-northeast-bulgaria/>

GENOME OF 6,000-YEAR-OLD BARLEY GRAINS SEQUENCED FOR FIRST TIME

An international team of researchers has succeeded for the first time in sequencing the genome of Chalcolithic barley grains. This is the oldest plant genome to be reconstructed to date. The 6,000-year-old seeds were retrieved from Yoram Cave in the southern cliff of Masada fortress in the Judean Desert in Israel, close to the Dead Sea. Genetically, the prehistoric barley is very similar to present-day barley grown in the Southern Levant, supporting the existing hypothesis of barley domestication having occurred in the Upper Jordan Valley.

Members of the research team are from the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) in Gatersleben, Germany; Bar-Ilan University in Ramat Gan, Israel; Hebrew University, Jerusalem, Israel; the Max Planck Institute for the Science of Human History in Jena, Germany; and the University of Haifa, Israel; The James Hutton Institute, UK; University of California, Santa Cruz, USA; University of Minnesota St. Paul, USA; University of Tübingen, Germany.

The analyzed grains, together with tens of thousands of other plant remains, were retrieved during a systematic archaeological excavation headed by Uri Davidovich, from the Institute of Archaeology, The Hebrew University of Jerusalem, and Nimrod Marom, from Zinman Institute of Archaeology, University of Haifa, Israel. The archaeobotanical analysis was led by Ehud Weiss, of Bar-Ilan University. The cave is very difficult to access and was used only for a short time by humans, some 6,000 years ago, probably as ephemeral refuge.

Oldest plant genome reconstructed to date

Most examination of archaeobotanical findings has been limited to the comparison of ancient and present-day specimens based on their morphology. Up to now, only prehistoric corn has been genetically reconstructed. In this research, the team succeeded in sequencing the complete genome of the 6,000-year-old barley grains. The results are now published in the online version of the journal Nature Genetics.

"These archaeological remains provided a unique opportunity for us to finally sequence a Chalcolithic plant genome. The genetic material has been well-preserved for several millennia due to the extreme dryness of the region," explains Ehud Weiss, of Bar-Ilan University. In order to determine the age of the ancient seeds, the researchers split the grains and subjected half of them to radiocarbon dating while the other half was used to extract the ancient DNA. "For us, ancient DNA works like a time capsule that allows us to travel back in history and look into the domestication of crop plants at distinct time points in the past," explains Johannes Krause, Director of the Department of Archaeogenetics at the Max Planck Institute for the Science of Human History in Jena. The genome of Chalcolithic barley grains is the oldest plant genome to be reconstructed to date.

Domestication of barley completed very early

Wheat and barley were already grown 10,000 years ago in the Fertile Crescent, a sickle-shaped region stretching from present-day Iraq and Iran through Turkey and Syria into Lebanon, Jordan and Israel. Up to this day, the wild forms of these two crops persist in the region and are among the major model species studied at the Institute of Evolution in the University of Haifa. "It was from there that grain farming originated and later spread to Europe, Asia and North Africa," explains Tzion Fahima, of the University of Haifa.

"Our analyses show that the seeds cultivated 6,000 years ago greatly differ genetically from the wild forms we find today in the region. However, they show considerable genetic overlap with present-day domesticated lines from the region," explains Nils Stein, who directed the comparison of the ancient genome with modern genomes at the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Gatersleben, with the support of Robbie Waugh and colleagues at the James Hutton Institute, Dundee, Scotland, and Gary Muehlbauer, University of Minnesota, USA. "This demonstrates that the domestication of barley in the Fertile Crescent was already well advanced very early."

The comparison of the ancient seeds with wild forms from the region and with so-called 'landraces' (i.e., local barley lines grown by farmers in the Near East) enabled to geographically suggest, according to Tzion Fahima and his colleagues at the University of Haifa and Israel's Tel-Hai College, "the origin of the domestication of barley within the Upper Jordan Valley - a hypothesis that is also supported by two archaeological sites in the surrounding area where the hitherto earliest remains of barley cultivation have been found.

Immigrants "trust" in extant landraces

Also the genetic overlap with present-day domesticated lines from the region is revealing to the researchers. "This similarity is an amazing finding considering to what extent the climate, but also the local flora and fauna, as well as the agricultural methods, have changed over this long period of time," says Martin Mascher, from the Leibniz Institute of Plant Genetics and Crop Plant Research, the lead author of the study. The researchers therefore assume that conquerors and immigrants coming to the region did not bring their own crop seeds from their former homelands, but continued cultivating the locally adapted extant landraces.

New insights into the origins of our crop plants

Combining archaeology, archaeobotany, genetics and computational genomics in an interdisciplinary study has produced novel insights into the origins of our crop plants. "This is just the beginning of a new and exciting line of research," predicts Verena Schuenemann, from Tuebingen University, the second lead author of the study. "DNA-analysis of archaeological remains of prehistoric plants will provide us with novel insights into the origin, domestication and spread of crop plants."

Please visit the site: <http://phys.org/news/2016-07-genome-year-old-barley-grains-sequenced.html>

WORLD'S LARGEST NECROPOLIS IN TURKEY'S SOUTHEAST

A large number of expansive rock tombs which could constitute part of the world's largest necropolis have been discovered during work carried out by the Şanlıurfa Municipality around the historic Urfa Castle in southeastern Turkey.

Within the scope of the works carried out by archaeologists on the area of some 45,000 square meters, nearly 80 tombs have been restored so far, while roads have been built and environmental arrangements have been made in the area. These restorations were important steps to help turn the southeastern province into a center of attraction.

Among the newly found tombs, one was situated on the highest part of the castle's hill and was bigger than the other tombs. It was estimated to have belonged to the nobles of Edessa King Abgar's family. The tomb had rooms for 10 people. Also, floor mosaics were found in one of the tombs.

Syriac inscriptions and fine engravings can also be seen in another tomb in the area.

Officials said the area could be the world's largest necropolis when the other rock tombs in the skirts of the castle, in the Kızılkoyun and Dedeosman neighborhoods, were fully uncovered.

Please visit the site: <http://www.hurriyetdailynews.com/worlds-largest-necropolis-in-turkeys-southeast.aspx?pageID=238&nID=101419&NewsCatID=375>

NEW EVIDENCE FOR MIDDLE BRONZE AGE CHRONOLOGY AND SYNCHRONISMS IN THE LEVANT, BY FELIX HÖFLMAYER

A sound and secure chronological framework is the backbone of history. Only when we know when certain events took place, we can try to answer the questions how and why they happened. In times when historical information is scant, it can be challenging to resolve questions of absolute calendrical dates. For the Middle Bronze Age of the ancient Near East (c. 2000-1500 BC), a complicated network of data such as Egyptian texts, archaeological material (most notably pottery), and scientific dating methods such as radiocarbon dating, have resulted in a number of competing chronological frameworks. Recent work by Felix Höflmayer and several other colleagues has shed new light on this contested field of archaeological research.

For the past decades, absolute (calendrical) dates for the Middle Bronze Age of the southern and central Levant and its connections with Egypt were hotly debated among archaeologists, Egyptologists, and Biblical scholars. Some researchers, such as William Dever, argued for a high or traditional chronology, that connected the Middle Bronze I period with the 12th Dynasty, the Middle Bronze II with the 13th Dynasty, and the Middle Bronze III with the 15th(or Hyksos) Dynasty. According to this chronological framework, the Middle Bronze I/II transition would fall to c. 1775 BC.

The traditional (high) chronology has been challenged by Manfred Bietak who proposed significant lower calendrical dates for the Middle Bronze Age. Bietak directed the long-term excavations of the Austrian Archaeological Institute Cairo at Tell el-Dab'a, ancient Avaris, the capital of Egypt's Second Intermediate Period, when northern Egypt was ruled by the Hyksos Dynasty. His excavations revealed a substantial amount of artefacts of Near Eastern provenance and thus, Bietak used the Egyptian historical chronology and the archaeological stratigraphy of Tell el-Dab'a for dating the Middle Bronze Age phases of the southern Levant. According to his (low) chronology, the Middle Bronze I would last until the mid-13th Dynasty, the Middle Bronze II until the mid-15th(Hyksos) Dynasty, and the Middle Bronze III until the early New Kingdom. According to this chronological framework, the Middle Bronze I/II transition would fall to c. 1700 BC, some 75 years later than according to the high chronology.

In recent years, radiocarbon dating has increasingly been used to test the proposed chronologies of the ancient Near East. While scholars from the University of Oxford (Christopher Bronk Ramsey and colleagues) could show that absolute calendrical dates for the Egyptian historical chronology are approximately correct, new radiocarbon sequences from several sites in Egypt and the southern and central Levant now challenge the traditional as well as the low chronological framework.

In their current article, Felix Höflmayer and his colleagues present new radiocarbon dating evidence for the Middle Bronze Age site of Tell el-Burak (Lebanon), where a team from the University of Tübingen and the American University of Beirut excavated a monumental mud-brick structure that can be dated to the late Middle Bronze I period. The archaeologists discovered a distinct type of pottery in the layers of the mud-brick

building (so-called ridged-neck pithoi) that is also known from the excavations at Tell el-Dab'a and Ashkelon, and according to these excavations, suggested an absolute date in the second half of the 18th century BC.

However, radiocarbon dating of organic samples retrieved from the layers of the mud-brick building provide substantially higher calendrical dates and date the building to the 19th century BC, about 100 years earlier than what could have been expected according to the archaeological parallels at Tell el-Dab'a. But the high dates for Tell el-Burak are not an exception, on the contrary, significantly higher radiocarbon dates have also been produced for the Middle Bronze Age site of Tel Ifshar (modern Israel) and Tell el-Dab'a itself. In fact, all of these sites produced coherent radiocarbon results that challenge the c. 1775 BC or c. 1700 BC date for the transition from Middle Bronze I to Middle Bronze II and suggest a significant higher chronology, where this transition would fall into the 19th century BC.

The preliminary results presented in the study challenge the current picture of the Middle Bronze Age eastern Mediterranean and much more data is needed to corroborate the preliminary conclusions outlined in the article by Felix Höflmayer and his colleagues. Future studies will assemble more evidence on this crucial period and once a secure and transparent chronological framework has been achieved, archaeologists, Egyptologists, and Biblical specialists will be able to revise the current narrative of Middle Bronze Age eastern Mediterranean interconnections.

Please visit the site: <http://asorblog.org/2016/06/22/new-evidence-for-middle-bronze-age-chronology-and-synchronisms-in-the-levant/> [go there for map and images]

DISCOVERIES IN ROMANIA

A few days ago, the archaeologists discovered on north-eastern Romania, near the Ripiceni village on the Prut river, a megastructure of more than 1000 square meters, probably a huge temple dating 7000 years old. The structure is part of Cucuteni culture; is a building with many rooms. The excavations began 2 weeks ago.

This mega structure is unique in Romania, declared archaeologist Aurel Melniciuc, director of History Museum of Botosani county. The excavations are in progress (magnetometric researches as well), until now just around 100 square meters being uncovered.

The researches in area started, in fact, 5 years ago.

Archaeologists from Botosani, Iasi and Suceava counties consider the structure serving as a huge temple for people from several communities in the region or home of the tribe leader.

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email: archae7loggia@gmail.com

Please visit the site: <http://www.antena3.ro/actualitate/descoperire-majora-templu-urias-vechi-de-7-000-de-ani-descoperit-pe-malul-prutului-366543.html>

ARCHAEOLOGISTS DIG UP PHILISTINE ARTIFACTS WHERE GOLIATH MAY HAVE WALKED, BY MICHELE CHABIN

The Gath archaeological site in southern Israel is littered with distinctive 2,800-year-old pottery shards poking out of the ground - a strong indication, archaeologists and biblical scholars say, that the Philistines, the mighty warriors and arch enemies of the Israelites, once lived here.

The excavation, now in its 21st year, is one of a handful of digs in southern Israel producing everything from vessels to bones belonging to the people best known for their famous warrior Goliath, who fought the young David in the book of 1 Samuel. The Philistines lived in what is now southern Israel from around 1,200 B.C. until 604 B.C. when they were destroyed by King Nebuchadnezzar.

Last year the team at Gath/Tel Zafit (also known as Tell es-Safi) discovered a massive city gate reminiscent of the one where David took shelter when he fled from King Saul. Over the years a temple, fortification walls, an iron-making facility, an altar and inscriptions with a name similar to "Goliath" have been discovered at the site.

Then, on Sunday (July 10) a team excavating in nearby Ashkelon announced they had found the first Philistine cemetery ever discovered.

While archaeologists at both sites said such discoveries do not "prove" that biblical accounts are historical fact, "we have finally come face to face with the people themselves," Daniel M. Master, professor of archaeology at Wheaton College in Illinois and co-director of the Ashkelon dig, said of the 3,000-year-old cemetery.

"With this discovery we are close to unlocking the secrets" of the Philistines' origins," he added.

The Philistines were an Aegean people - more closely related to the Greeks and with no connection ethnically, linguistically or historically to modern-day Palestinians.

Ashkelon is one of the five Philistine cities mentioned in the Hebrew Bible and other ancient texts.

Scholars have long pondered the origin of the Philistines. Master said the artifacts, including jewelry, ceramics and weapons, show which objects the Philistines held most dear, and will hopefully help researchers connect the population to related groups across the Mediterranean.

Bone samples from the site are undergoing three types of testing: DNA, radiocarbon and biological distance studies to help ascertain the Philistines' origin.

Until now, Master said, "individual remains, believed to be Philistine, have been

discovered, but never a cemetery. This one has well over 100 graves of men, women and children, some containing groups of people, some individual. Some were cremated, some were pit internments, others were buried in multi-chambered tombs."

Archaeologists can now compare the Philistine's burial practices to those of others across the region, and, it is hoped, discover similarities.

On a stiflingly hot July day at Gath/Tel Zafit, the hometown of the biblical Goliath, dozens of mostly young volunteers erected a tent over what appears to be an ancient olive press. A hundred yards away another team was preparing to dig up a ceramic vessel whose round top was visible through the top soil.

The vessel might have held beer, a drink enjoyed by the Philistines, according to earlier findings.

Picking through a pile of newly excavated pottery shards, Aren Maeir, director of the Ackerman Family Bar-Ilan University Expedition to Gath, said it is possible to find Philistine ruins within an inch or two of the surface because no one has ever built atop some of the Philistine city's ruins.

Maeir said the volunteers, including many Americans, excavating the site aren't here to prove or disprove the Bible.

"But we do use what we find to enhance our understanding of the past," Maeir said. "The fact that we found a gate doesn't prove David came to this gate, but it adds color and context to the story and teaches us how people lived at that time."

From the artifacts discovered here and elsewhere, Maeir said it appears the ancient Israelites and Philistines were in contact.

"Although they sometimes fought each other they also traded with each other and in some cases intermarried."

Even so, Maeir said, the dig has revealed major differences between the Philistines and Israelites. Philistines ate pork, which Israelites did not. They cooked their food in hearths, while Israelites cooked in ovens, and they worshipped a female goddess.

David Kotter, dean of theology at Colorado Christian University, said having his students dig up artifacts at a site mentioned in the Bible has strengthened their faith.

"There are things you can't learn in the classroom. Being here makes the ancient texts come alive and gives students confidence in the historicity of the texts," he said.

Diona Southcott, a student at the University of Kansas, agreed.

Southcott spoke of the excitement of standing in the same riverbed where, according to the Bible, David picked up the stones he hurled at Goliath.

"We all know that the Twin Towers went down in New York but when you go there and

see the place, it's more impactful. You feel it really happened," Southcott said. "The same can be said of the Bible."

Please visit the site: <http://religionnews.com/2016/07/11/archaeologists-dig-up-philistine-artifacts-where-goliath-may-have-walked/> [Go there for pix]

STORY OF PHILISTINES COULD BE RESHAPED BY ANCIENT CEMETERY, BY NICHOLAS ST. FLEURJULY

Excavation of a possible Philistine cemetery in Israel by the Leon Levy Expedition to Ashkelon, one of the five ancient Philistine capitals. Credit Tsafir Abayov for the Leon Levy Expedition to Ashkelon.

After more than 30 years of excavating the remains of a Philistine city, a team of archaeologists says it believes it has found a cemetery belonging to the ancient people on the outskirts of Ashkelon in Israel.

The team has unearthed skeletons and artifacts that it suspects had rested for more than 3,000 years in the cemetery, potentially offering clues to the Philistines' lifestyle and perhaps providing some answers to the mysteries of where the Philistines came from. Much has remained unknown about their origins.

"When we found this cemetery right next to a Philistine city, we knew we had it," said Daniel Master, an archaeologist from Wheaton College in Illinois. "We have the first Philistine cemetery that's ever been discovered."

Dr. Master is a co-director of the Leon Levy Expedition to Ashkelon, which has excavated the site since 1985. Ashkelon, which archaeologists think the Philistines entered around 1150 B.C., is one of the five Philistine capitals along with Ashdod, Ekron, Gath and Gaza.

The cities and their people are mentioned in the ancient texts of the Babylonians, Egyptians and Assyrians. In the Hebrew Bible, they were the nemeses of the Israelites and sent Goliath to fight David. Many tales tell of the great battles the Philistines fought and lost until their utter destruction at the hands of King Nebuchadnezzar and his Babylonian army in 604 B.C.

"The victors write history," Dr. Master said. "We found these Philistines, and finally we get to hear their story told by them rather than by their enemies."

A skull from the excavation. Skeletons from the cemetery could help reveal the origin of the Philistines, a decades-long mystery. Credit Tsafir Abayov for the Leon Levy Expedition to Ashkelon.

By using radiocarbon dating and analyzing the pottery found in the graves, the researchers dated the cemetery to between the 10th century B.C. and ninth century B.C. The period, they said, supports the prevailing theory that the Philistines landed in ancient Israel after crossing the Aegean Sea around the 12th century B.C.

But the team still has to perform DNA, radiocarbon and genetic testing on the bone samples to prove that the remains belong to the western migrants. Archeologists call them members of the Sea People, who were described as attackers in ancient Egyptian

texts.

During the excavation, the team uncovered more than 200 men, women and children in the cemetery. Absent were newborns, which led the researchers to think the Philistines might have buried babies who died at birth either in their homes or elsewhere.

For Sherry C. Fox, a bioarchaeologist at Arizona State University and member of the team, what set this cemetery apart from other ancient graveyards was the assortment of burial practices found.

"There's so much variation in how they are positioned," she said, "between whether they are cremated or buried; whether they are within a tomb, or a chamber, or a cist or a pit grave; whether they are placed face down or face up."

The team plans to explore the variations for patterns that might reveal information about the individuals, such as social status or what family they belonged to.

Dr. Fox also said that unlike some of their neighbors and predecessors, such as the Canaanites, the Philistines did not practice secondary burial, which is the moving of skeletons to make room for another body in the tomb or grave. The bodies appeared to have been left alone after being laid to rest.

A student working to uncover a skeleton from the Philistine cemetery, part of the ruins that have been excavated by the Leon Levy Expedition to Ashkelon for 30 years. Credit Tsafir Abayov for the Leon Levy Expedition to Ashkelon Another distinct aspect of the Philistine graveyard, the researchers say, is the colorful pottery found throughout the sites and chambers. Many of the skeletons were found with small jugs of perfume placed right under the neck or right next to the nostril, as if to give the deceased something to smell for eternity, the researchers said. The jugs may have also been placed in the tombs to fight the reeking smell of decomposition.

Also found in many of the chambers were two large jugs, which the researchers think may have held wine or olive oil, either to be offered or used to prepare the corpse for burial.

"While so much is known about the material culture of the Philistines, including their diet, tools, cult, weapons, pottery, and economic and commercial activities, up until now their burial practices have been a mystery," Seymour Gitin, the emeritus Dorot director and professor of archaeology at the W. F. Albright Institute of Archaeological Research in Jerusalem, said in an email.

"Their analysis, especially of the bones in the Ashkelon cemetery, represents a potential revolution, which should provide critical answers to the origin of the Philistines, a major controversy for decades," Dr. Gitin, who was not involved in the excavation, said.

Lawrence Stager, the emeritus Dorot professor of the archaeology of Israel at Harvard and a co-director of the excavation, said the findings would compel other archaeologists to revisit burial sites that had previously been labeled Philistine.

"They published these as Philistine burials or tombs or graves, but most of them are

poppycock or balderdash," he said. "We now have a whole new way of evaluating what archaeologists and historians have been claiming - usually wrongly - is a Philistine burial."

Dr. Stager estimated that thousands of skeletons might be in the cemetery, and said that from the findings at Ashkelon, his team could narrow down the origins of the Philistine people.

"When we compare the living quarters with the dead Philistines, this will give us a picture that has never been seen before," Dr. Stager said. "The uniqueness of Ashkelon is that we now have both places where we can study the living and the dead."

Correction: July 10, 2016

Because of an editing error, an earlier version of this article misattributed the origin of the term "Sea People." It was coined by archaeologists, not by ancient Egyptians.

Please visit the site: <http://www.nytimes.com/2016/07/11/science/possible-philistine-cemetery-discovered.html>

NEW MOSAICS DISCOVERED IN SYNAGOGUE EXCAVATIONS IN GALILEE

UNC-Chapel Hill archaeologist and project leader says no other ancient synagogue contains such a rich collection of mosaics depicting biblical stories.

Excavations this summer in the Late Roman (fifth century) synagogue at Huqoq, an ancient Jewish village in Israel's Lower Galilee, have revealed stunning new mosaics that decorated the floor. The excavations are directed by Jodi Magness, a professor in the University of North Carolina at Chapel Hill College of Arts and Sciences, along with Assistant Director Shua Kisilevitz of the Israel Antiquities Authority.

The mosaic panels decorating the floor of the synagogue's nave (center of the hall) portray two biblical stories: Noah's Ark and the parting of the Red Sea. The panel with Noah's Ark depicts an ark and pairs of animals, including elephants, leopards, donkeys, snakes, bears, lions, ostriches, camels, sheep and goats. The scene of the parting of the Red Sea shows Pharaoh's soldiers being swallowed by large fish, surrounded by overturned chariots with horses and chariot drivers.

"These scenes are very rare in ancient synagogues," said Magness, Kenan Distinguished Professor. "The only other examples that have been found are at Gerasa/Jerash in Jordan and Mopsuestia/Misis in Turkey (Noah's Ark), and at Khirbet Wadi Hamam in Israel and Dura Europos in Syria (the parting of the Red Sea)."

Mosaics were first discovered at the site in 2012, and excavations have since continued each summer. In 2012, a mosaic depicting Samson and the foxes (as related in the Bible's Judges 15:4) was found in the synagogue's east aisle. The next summer, an adjacent mosaic was uncovered that shows Samson carrying the gate of Gaza on his shoulders (Judges 16:3). Another mosaic discovered and excavated in the synagogue's east aisle in 2013 and 2014 depicts the first non-biblical story ever found decorating an ancient synagogue - perhaps the legendary meeting between Alexander the Great and the Jewish high priest. A mosaic panel uncovered in 2015 next to this scene contains a Hebrew inscription surrounded by human figures, animals and mythological creatures including putti (cupids).

"This is by far the most extensive series of biblical stories ever found decorating the mosaic floor of an ancient synagogue," said Magness. "The arrangement of the mosaics in panels on the floor brings to mind the synagogue at Dura Europos in Syria, where an array of biblical stories is painted in panels on the walls."

The mosaics have been removed from the site for conservation, and the excavated areas have been backfilled. Excavations are scheduled to continue in summer 2017. For additional information and updates, visit the project's website: www.huqoq.org.

UNC-Chapel Hill, Baylor University, Brigham Young University and the University of Toronto are project sponsors. Students and staff from Carolina and the consortium schools participated in the dig. Financial support for the 2016 season was also provided

by the National Geographic Society, the Memorial Foundation for Jewish Culture and the Carolina Center for Jewish Studies.

Note: Magness can be reached via email at magness@email.unc.edu. She is reachable by phone in Israel until July 10 at 011-972-52-6611542 (when dialing from outside Israel) and 052-6611542 (from within Israel); or reachable by phone in the U.S. after July 10 at 919-967-6888.

Please visit the site: <http://uncnews.unc.edu/2016/07/05/new-mosaics-discovered-synagogue-excavations-galilee-2/> [Go there for pix]

THE WORLD'S OLDEST PAYCHECK WAS CASHED IN BEER. ONCE UPON A TIME WE ALL HAD ROUGHLY THE SAME DAILY CHORES. THEN EMPLOYMENT EMERGED. WHAT HAPPENED? BY ALISON GEORGE

Perhaps it's no surprise that one of the earliest known examples of writing features two basic human concerns: alcohol and work. About 5000 years ago, the people living in the city of Uruk, in modern day Iraq, wrote in a picture language called cuneiform. On one tablet excavated from the area we can see a human head eating from a bowl, meaning "ration", and a conical vessel, meaning "beer". Scattered around are scratches recording the amount of beer for a particular worker. It's the world's oldest known payslip, implying that the concept of worker and employer was familiar five millennia ago.

It was not ever thus. Çatalhöyük in what is now Turkey was one of the first towns. Houses and human remains dating from its foundation some 9000 years ago are all very similar, suggesting equality. "Everyone was involved in small-scale farming or hunting," says Ian Hodder, an anthropologist at Stanford University in California who has excavated at Çatalhöyük since 1993. No one owned the land, and produce was shared. The residents of this city are unlikely to have considered their daily chores "work", says Hodder. "My view is that they would see it as just part of their daily activities, along with cooking, rituals and feasts that were such an important part of their lives."

Change came a few thousand years later. The trigger seems to have been an agricultural revolution in which new methods of cultivation and animal domestication increased food production and allowed some individuals to build up wealth. The surplus food [...]

Please visit the site: <https://www.newscientist.com/article/2094658-the-worlds-oldest-paycheck-was-cashed-in-beer/>: [Go there for pix; full article available by subscription]

12,000-YEAR-OLD GRAVE OF SHAMAN WOMAN UNEARTHED IN GALILEE WELL-PRESERVED BURIAL SITE SHEDS NEW LIGHT ON THE PREVALENCE OF RITUAL PRACTICE IN PREHISTORIC HUMAN SOCIETY

Adorned with tortoise shells, gazelle horns and a human foot, the 12,000-year-old grave of a woman unearthed in northern Israel is shedding new light on the prevalence of ritual practice in prehistoric society.

Fragments of chalk and limestone along with a leopard's pelvis, a forearm of a wild boar and an eagle's wing were also among the unusual objects discovered surrounding the remains of the woman.

The team of archaeologists - led by Hebrew University's Prof. Leore Grosman and Prof. Natalie Munro of Connecticut University - were able to speculatively reenact the woman's funeral ceremony that took place as human societies began to shift from hunter gatherers to agriculture-based communities.

"One of the earliest funeral banquets ever to be discovered reveals a pre-planned, carefully constructed event that reflects social changes at the beginning of the transition to agriculture in the Natufian period," a statement from the Hebrew University this week said of the discovery.

The cave - home to at least 28 other graves - was first discovered in 2006, though Grosman and Munro were only recently able to sequence the order of the funeral ritual.

"We've assigned the event to stages based on field notes, digitized maps, stones, architecture and artifact frequency distributions and concentrations," Grosman said.

Grosman noted the wide range of activities required to preparation for the ritual, including the collection of various materials and animal slaughter.

"The significant pre-planning implies that there was a defined 'to do' list, and a working plan of ritual actions and their order," he said.

The statement said the discovery was unprecedented, since the study of ancient burial rituals has up until now only been possible after humans began to bury their dead in archaeologically visible locations.

The Natufian period (15,000-11,500 years ago) in the southern Levant marks an increase in the frequency and concentration of human burials.

"The remnants of a ritual event at this site provide a rare opportunity to reconstruct the

dynamics of ritual performance at a time when funerary ritual was becoming an increasingly important social mediator at a crucial juncture deep in human history," the researchers said.

According to Grosman and Munro, the unprecedented scale and extent of social change in the Natufian era make the period central to current debates regarding the origin and significance of social and ritual engagement in the prehistoric agricultural transition.

Please visit the site: <http://www.timesofisrael.com/12000-year-old-grave-of-shaman-woman-unearthed-in-galilee/>

1,600-YEAR-OLD CERAMICS FACTORY DISCOVERED IN WESTERN GALILEE

Roman-era pottery workshop, rare kiln unearthed over six-month excavation involving hundreds of local high school students who volunteered to assist. Kiln is unique in that it is the only one in Israel to have been hewn entirely out of bedrock, by Yori Yalon

Israeli archaeologists have uncovered a 1,600-year-old roman-era pottery workshop and a unique kiln in the Western Galilee town of Shlomi.

According to an Israel Antiquities Authority statement, the workshop and kiln were unearthed during the course of a six-month excavation, during which hundreds of youth from northern Israel volunteered to assist, including many students from Shchakim High School in Nahariya and ORT High School in Kiryat Bialik.

The main excavation took place at the Bat el-Jabal antiquities site, prior to the construction of a new neighborhood at the initiative of the Israel Lands Administration and the Shlomi Local Council.

The site is designed to be an archaeological park and will soon be open to the public.

According to IAA excavation director Joppe Gosker, the kiln is a rare find as it is the only one in Israel known to have been entirely carved out of bedrock.

"What makes the pottery workshop so special is its unique kiln, which was hewn in bedrock and is different from most of the kilns known to us that were built of stone, earth and mud," Gosker explained.

"The kiln was meticulously constructed, consisting of two chambers: A fire crate, in which branches of wood were inserted for burning, and a second chamber where the pottery vessels were placed to be fired in the heat that was generated," he said.

Anastasia Shapiro, an IAA geologist, explained that Shlomi's geological conditions were ideally suited for the ancient workshop.

"The quarrying of this rare kiln in this location can be explained by the special geological conditions that characterize the area of Shlomi; the chalk bedrock, which is soft and therefore easily gouged, but at the same time is sufficiently strong to endure the intense heat." Shapiro said.

Please visit the site:

http://www.israelhayom.com/site/newsletter_article.php?id=35291

DIGS UNCOVER BUILDINGS IN CYPRUS' **11,000-YEAR-OLD VILLAGE,** **BY MENELAOS HADJICOSTIS**

Recent archaeological digs have uncovered more than 20 round buildings in what is believed to be Cyprus' earliest known village, dating as far back as the 9th century B.C., the east Mediterranean island's Department of Antiquities said Tuesday.

The department said in a statement that excavations, which concluded last month in the Ayios Tychonas-Klimonas area near Cyprus' southern coast, also found domestic dogs and cats had already been introduced to Cyprus when the village was active 11,200 to 10,600 years ago. It said villagers hunted small wild boar and birds, but didn't produce pottery.

Excavations directed by Francois Briois from France's School for Advanced Studies in the Social Sciences and Jean-Denis Vigne from France's National Center for Scientific Research-National Museum of Natural History found most buildings had built-in fireplaces as well as a 30- to 50-kilogram (66- to 110-pound) millstone.

Large quantities of stone tools, stone vessels, stone and shell beads or pendants were also discovered.

The buildings, with a diameter of between three and six meters (10 and 20 feet), were built using earth and strengthened with wooden poles while their floors were often plastered.

The buildings are situated around a circular, 10-meter (33-foot) communal building that was unearthed during digs five years ago. Further surveys and digs carried out since show that the village would have covered an area of at least half a hectare (1¼ acres).

Traces of intensive sieving offer strong evidence for the cultivation of emmer wheat, a primitive cereal introduced from the continent.

The Department said the village's organization, architecture, stone tools and evidence of agriculture and hunting are elements that are very similar to those that have already been identified in the early Pre-Pottery Neolithic Levant between 11,500 and 10,500 years ago.

"Ayios Tychonas-Klimonas has demonstrated that, even though Cyprus was separated from the continent by more than 70 kilometers of sea, the island was part of broader Near Eastern Neolithic developments," the Department said.

Please visit the site: <http://phys.org/news/2016-07-uncover-cyprus-year-old-village.html>

RARE ROMAN MOSAIC UNCOVERED IN CYPRUS

A rare Roman mosaic has been uncovered in Cyprus during sewerage work on the eastern Mediterranean island, officials said today.

Only part of the mosaic, measuring 19 metres long and seven metres wide, has been excavated in the southern coastal city of Larnaca and officials believe that more is still buried.

"A preliminary estimation would suggest that scenes of the Labours of Hercules are depicted and that it is dated to the Roman Period," the antiquities department said in a statement.

It said this is evidence that Ancient Kition -- on which modern Larnaca was built -- played an important role in establishing Roman culture in Cyprus.

"However, up to this day Roman remains found in the city are very few. Therefore, the mosaic floor that came to light provides important evidence for the development of the city during the Roman Period."

Cyprus was under the control of the Roman Empire from 31 BC until the 4th century AD.

Transport Minister Marios Demetriades, who visited the site in Larnaca, told reporters that the department of antiquities, which falls under his ministry, planned to move the mosaic to a museum.

Demetriades, who is also minister of works and communications, said the mosaic was important because "nothing similar has been discovered so far".

"The intention is to transfer it to a museum, to build a specific room (where it will be displayed)... Because this is the best way to protect it," he said.

The eastern Mediterranean island is home to many antiquities and is rife with excavations, involving experts from several countries.

On Tuesday the antiquities department said a French-led team had uncovered near the city of Limassol buildings dating back more than 11,000 years in what is thought to be "the earliest manifestation of an agricultural and village way of life known to date, worldwide.

Please visit the site: http://www.business-standard.com/article/pti-stories/rare-roman-mosaic-uncovered-in-cyprus-116071401424_1.html

FIRST EVER? DISCOVERY OF PHILISTINE CEMETERY DRAWS CRITICISM, BY OWEN JARUS

A 3,000-year-old graveyard with the bones of about 200 individuals discovered in Ashkelon, Israel, is being hailed as the first (and only) Philistine cemetery ever found.

If valid, the finding would reveal more about a mysterious people known as the Philistines. Archaeological evidence suggests that the Philistines came from the Aegean Sea region, along with other groups of people, during the 12th century B.C, at a time when cities and civilizations in Greece and the Middle East were collapsing.

According to the Hebrew Bible the Philistines fought a series of battles against the Israelis. The conflict between the Philistine giant Goliath and Israel's King David (who was armed only with a slingshot) is the most famous encounter. Little is known about the burial practices of this culture, archaeologists said.

However, experts not affiliated with the excavations are not yet convinced of the claim, saying that the identity of the people buried at the Ashkelon cemetery is not clear-cut and the finding itself has not been published in a peer-reviewed scientific journal. Further muddying the waters, other burials found in known Philistine cities, though never confirmed, also have dibs on the title of "first-discovered Philistine cemetery." [See Photos of the Possible Philistine Cemetery and Artifacts]

Archaeologists are waiting to see what the scientific publication of the Ashkelon cemetery will show. "Though the Ashkelon Philistine cemetery received much media attention, the full professional archaeological picture still awaits further clarification," said Shlomo Bunimovitz, an archaeology professor at Tel Aviv University in Israel.

The excavators acknowledge that other burials identified as Philistine have been found before, but say that their finds will show that most of the past discoveries were incorrectly identified as "Philistine."

"Ninety-nine percent of the chapters and articles written about Philistine burial customs should be revised or ignored now that we have the first and only Philistine cemetery, found just outside the city walls of Tel Ashkelon, one of the five primary cities of the Philistines," expedition co-director Lawrence Stager, a professor at Harvard University in Massachusetts, said in the press release announcing the find.

Are these Philistine people?

Radiocarbon dating and analysis of the cemetery's pots indicate that the cemetery was in use between the late 11th century B.C. and the early eighth century B.C., said Daniel Master, a professor at Wheaton College in Illinois and a co-director of the excavations at Ashkelon.

During this time period, Ashkelon was a Philistine city, as were Ashdod, Ekron, Gath and Gaza, according to ancient texts, Master said. [The Holy Land: 7 Amazing Archaeological Finds]

"We have a high degree of confidence that Ashkelon was a major Philistine city in this period because of a convergence of earlier and later texts from Egypt, the Hebrew Bible, Assyria and Babylon," Master said. He also noted that the burial styles seen at the cemetery appear different than those of other groups who lived in the region, such as the Canaanites.

Amihai Mazar, an archaeology professor at the Hebrew University of Jerusalem, said he believes the answer is more complicated. Previous archaeological studies indicate that the Philistines arrived in Israel from the Aegean Sea region during the 12th century B.C., he told Live Science in an interview.

By the 10th century B.C., the Philistines were intermixing with the local Canaanite population and adopting local traditions as well as Canaanite artifacts and practices, Mazar said.

He said that while you "can call [the cemetery] Philistine," there may be differences between how people were buried in this 3,000-year-old cemetery and how they would have been buried 3,200 years ago, when the Philistines were newcomers to the region.

Images of the cemetery published in media outlets show numerous Phoenician pots and a structure with Phoenician architectural elements, Mazar said, adding that these features suggest that some of the people buried in the cemetery could be Phoenician merchants rather than Philistines.

Master agreed that not all the people buried in the cemetery were Philistine. "No one can be sure of the affiliation of every person in any ancient cemetery," he said.

Additionally, the people buried in the cemetery may not have thought of themselves as being Philistine and may have identified themselves more on the city they lived in or on their religious practices, said Raz Kletter, a professor of theology at the University of Helsinki in Finland.

Kletter doesn't dispute that the people buried at Ashkelon used a series of artifacts that modern-day archaeologists identify as belonging to the Philistines. However, that doesn't mean the people buried there thought of themselves as Philistine, he said.

"We do not know how they [the Philistines] viewed themselves, having few written sources that are mostly from outside Philistia," Kletter said. "People living in Iron Age Philistia could identify themselves by city or religion, and not necessarily by an ethnic group."

Is it the first Philistine cemetery ever discovered?

Neither Mazar nor Kletter agree with the assertion that the cemetery found at Ashkelon is the only known Philistine cemetery.

Kletter has been excavating an ancient city in Israel called Yavneh, which he says also contains artifacts that can be identified as "Philistine." Additionally, he and his colleagues found a cemetery there, which they described in the journal *Atiqot* in 2015. That cemetery also dates to a time when ancient texts say that Yavneh was a Philistine city. "I believe the people buried there [in Yavneh's cemetery] were Philistines," Kletter said.

Other sites with burials that could be considered "Philistine" have also been previously discovered both Kletter and Mazar said.

For instance, a Philistine cemetery at Azor, a site located near modern-day Tel Aviv, was excavated in the 1950s by the late archaeologist Moshe Dothan said Mazar. Additionally, some archaeologists consider burials dug up in southern Israel by British archaeologist Sir Flinders Petrie a century ago to be Philistine, Mazar added.

"Ashkelon is not a 'first,' but it is certainly an important find," Kletter said.

Identifying a burial as that of a Philistine is difficult because archaeologists have to use ancient records of the areas that the Philistines ruled and try to confirm, using the artifacts they find, that the people in a cemetery are Philistine and not from other groups. These findings are published in scientific journals and can be the subject of debates that can go on for many years.

Please visit the site: <http://www.livescience.com/55402-first-philistine-cemetery-draws-criticism.html>

23 MORE WRECKS FOUND AT GREEK HOTSPOT FOR SUNKEN SHIPS, BY MEGAN GANNON

A cluster of Greek islands in the Aegean Sea is giving up some of its deep secrets, as archaeologists have now found 45 shipwrecks there in less than a year's time.

Back in September 2015, a team of Greek and American divers located an astonishing 22 shipwrecks over the course of a 13-day survey around Fourni, which is composed of 13 small islands, some too tiny to show up on maps. The team went back to the eastern Aegean islands in June to expand the search. By the time the three-and-a-half-week survey was finished, the researchers bested their first effort: They documented another 23 shipwrecks, bringing the total to 45.

"Fourni is a constant surprise," said Peter Campbell, co-director of the project from the U.S.-based RPM Nautical Foundation.

Fortuitous Fourni

The archipelago might be a hotspot for finding shipwrecks today because it was such a popular destination for boats in the past, Campbell told Live Science.

"Fourni is actually a really safe place," Campbell said. "It's just the volume of traffic in every time period that causes the volume of wrecks."

Though Fourni didn't have any major cities in antiquity, it was known as a good anchorage and navigational point for Aegean crossing routes that went both east to west and north to south.

Ships would have anchored in spots that were protected from the usual northwest winds. But once in a while, these vessels could be caught off guard by a big southern storm. If the position of the anchor wasn't changed fast enough, these ships would be in trouble, Campbell noted. Those are the unlucky ships that Campbell and his colleagues have been finding along the coastlines of Fourni.

"The ships would just plow into the cliffs and then scatter down," Campbell said. "We find piles of amphoras [ancient Greek vases]. It looks like the scene of a giant car crash, with these ceramics cascading down."

More awaits discovery

The dates of the shipwrecks range from the late Greek Archaic period (525-480 B.C.) to the Early Modern period (A.D. 1750-1850). In addition to the amphoras, which served as the delivery containers of the ancient world, the divers discovered lamps, cooking pots and anchors. In some cases, a wreck's cargo had a clear origin, such as a set of amphoras from the Greek island of Kos dating back to the Hellenistic period (331-323 B.C.).

Campbell and his collaborators from the Greek Ephorate of Underwater Antiquities took representative samples of artifacts from each wreck, but for the most part, they left the underwater objects in place after documenting each site.

Fourni may have one of the world's largest concentrations of ancient shipwrecks. Many of the Mediterranean's larger islands contain only three or four wrecks, the researchers said, and in all of Greece's territorial waters, only about 180 ancient shipwrecks had been well documented (not including the discoveries at Fourni).

There could be more to explore at Fourni, too: The project leaders said they have covered less than half of the archipelago's total coastline in their surveys so far.

The deepest dives of the survey went to 213 feet (65 meters), but Campbell said he thinks there's more to discover below that level, "given how many ships are found in shallow areas and given how steep the cliffs are."

In the next phase of the project, the team hopes to go even deeper with technology such as remotely operated underwater vehicles.

Please visit the site: <http://www.livescience.com/55375-45-shipwrecks-greek-island-fourni.html>

SCIENTISTS FIND EVIDENCE OF NEW STONE AGE FARMING POPULATION, BY NASSER KARIMI

Scientists say a previously unknown group of Stone Age farmers may have introduced agriculture to South Asia, challenging earlier theories that attributed the spread of farming to a different population.

Previous research held that a single group of hunter-gatherers developed agriculture in the Middle East some 10,000 years ago and then migrated to Europe, Asia and Africa, where they gradually replaced or mixed with the local population.

But scientists who analyzed ancient human remains found in the Zagros mountains of present-day Iran say they belonged to a completely separate people who appear to have taken up farming around the same time as their cousins further west in Anatolia, now Turkey.

"There was this idea that there'd been one group of genius inventors who developed agriculture," said Joachim Burger, one of the authors of the study published online Thursday in the journal *Science*. "Now we can see there were genetically diverse groups."

Scientists from Europe, the United States and Iran who examined the DNA of 9,000 to 10,000-year-old bone fragments discovered in a cave near Eslamabad, 600 kilometers (370 miles) southwest of the Iranian capital of Tehran, found they belonged to a man with black hair, brown eyes and dark skin.

Intriguingly, the man's diet included cereals, a sign that he had learned how to cultivate crops, said Fereidoun Biglari of National Museum of Iran, who was also involved in the study.

Along with three other ancient genomes from the Zagros mountains, researchers were able to piece together a picture of a population whose closest modern relatives can be found in Afghanistan and Pakistan, and among members of Iran's Zoroastrian religious community, said Biglari.

The Zagros people had very different genes than modern Europeans or their crop-planting ancestors in western Anatolia and Greece, said Burger, an anthropologist and population geneticist at Johannes Gutenberg University in Mainz, Germany.

He said the study's authors calculated that the two populations likely split at least 50,000 years ago, shortly after humans first ventured out of Africa.

Burger said even though the two ancient farming populations didn't mix, it's probable that they knew of — and even learned from — each other, given that the development of agriculture is highly complex and therefore unlikely to have spontaneously occurred twice around the same time.

"You have to build houses, clear forests, cultivate several plants and ensure a plentiful supply of water. You also have to domesticate several animals, be able to grind flour, bake bread," said Burger. "This is a huge process that takes several thousand years."

Burger said the findings could help shed light on important developments in human history that have been neglected due to researchers' long habit of focusing on ancient migratory movements into Europe.

Please visit the site: <http://www.seattletimes.com/nation-world/scientists-find-evidence-of-new-stone-age-farming-population/>, [At <http://tinyurl.com/zgstb58> is a downloadable article (with many authors), "Early Neolithic genomes from the eastern Fertile Crescent," Science 14 Jul 2016]
