

Sacramento Archeological Society, Inc. Newsletter

www.sacarcheology.org.

November/December - 2023

UPCOMING EVENTS CALENDAR

Access calendar: <u>https://sacarcheology.org/archaeology-activities/calendar-of-events/</u> for the complete set of events in our website: <u>www.sacarcheology.org</u>.

November 2023

November 11, 2023 – Saturday, 2:00 – 3:30 PM PT - **SAS Webinar Danielle Marie Huerta**, PhD candidate at UC Santa Cruz, "Glittering and Glassy: Understanding the Intersection of Colonial Mineral Extractivism and the Production of Late Rio Grande Lead Glaze-Painted Pottery in Seventeenth-Century New Mexico"

November 13, 2023 – Monday, 10:00 – 11:30 AM Paul K. Davis "*Timbuktu*" The Renaissance Society Webinar

November 27, 2023 - Monday, 10:00 – 11:30 AM Martha Lewis, "The Wilderness and its consequence" The Renaissance Society Webinar

December 2023

December 2, 2023 - Saturday, 1:00 – 6:00+ PT in person - SAS Annual Meeting and SAS Webinar Patricia McNeill, PhD Candidate at UCD – "Ostrich eggshell beads: a trade item in Knersvlakte, South Africa"

December 18, 2023 - Monday, 10:00 – 11:30 AM **Vance Holliday**, "Modern Humans and the Paleolithic Archaeology of the Eastern European Plain" **The Renaissance Society Webinar**

See announcements: <u>https://sacarcheology.org/announcements/</u> for **webinar access information**.

UPCOMING EVENTS

SAS Webinar

"Glittering and Glassy: Understanding the Intersection of Colonial Mineral Extractivism and the Production of Late Rio Grande Lead Glaze-Painted Pottery in Seventeenth-Century New Mexico"

by

Danielle Marie Huerta, PhD Candidate U.C. Santa Cruz <u>Saturday, November 11, 2023</u> 2:00 PM – 3:30 PM PT

What happens to Indigenous technologies when the dissemination of Traditional Ecological Knowledge (TEK) is forced to occur within a historical context characterized by colonial regimes of labor exploitation and religious/ideological subjugation? In order to understand how Colonialism affects the very systems of knowledge it appropriates, it is necessary to understand how that knowledge is situated within Indigenous ways of interacting with and viewing the world around them.

Danielle Marie Huerta will be presenting initial results from her multi-sited and methodologically diverse dissertation project that aims to understand how Spanish colonial mining practices in New Mexico may have impacted the ability of Pueblo potters to create and maintain communities of practice, cultural perceptions of place, and the ability to pass down sociotechnical knowledge from one generation to the next, ultimately leading to the decision by said potters to stop producing glaze-painted pottery in the early eighteenth-century. Using a combination of methods such as lead isotope sourcing, chemical characterization of lead glaze paints using LA-ICP-MS, and ceramic petrography, late Rio Grande Glaze Ware pottery was analyzed from four sites, San Marcos Pueblo (LA 98), Paa'ko (LA 162), Patokwa (LA 96), and the Sanchez Site (LA 20000). These seventeenth-century sites all represent different but interconnected temporal windows and settlement contexts during the Colonial period that have archaeological evidence for the intersection between late Glaze Ware use and/or production and colonial metallurgical activities and/or exploitation of Pueblo labor and Traditional Ecological Knowledge.

Danielle Marie Huerta is a PhD Candidate at University of California, Santa Cruz and 2022 SAS Scholarship recipient. She received her B.A. in Anthropology from Texas A & M University, College Station in 2015 and M.A. from University of California, Santa Cruz in 2017. She is currently a Graduate Student Researcher and Archaeological Technician at Los Alamos National Laboratory where she supports their Environmental Protection and Compliance group with managing cultural resources. She has served as an Archaeological Technician with the Cibola National Forest, SEARCH, Inc., Aspen CRM Solutions, and Bureau of Land Management – New Mexico State Office. She has participated in multiple survey and excavation projects in the state of New Mexico since her first field school in Abiquiu in 2014.

Friends are welcome and also invited to join our organization. There is no participation fee.

The webinar will start at 2:00 PM PT and formally conclude at 3:30 PM. You may join starting at 2:40 PM to say "Hello" and enjoy a social time.

See announcements: <u>https://sacarcheology.org/announcements/</u> for **webinar access information.**

Sacramento Archeological Society, Inc.'s Annual Meeting

Saturday, December 2, 2023

1:00 p.m. – 6:00+ p.m.

at U. C. Davis campus, Young Hall, Room 224 and Zoom Followed by dinner at local restaurant

The Annual Meeting will be conducted in person at U. C. Davis campus, Young Hall, Room 224 and broadcasted via Zoom starting at 2:00 PM PT with a presentation by Patricia McNeill and formally conclude at about 4:30 PM after the SAS Annual Meeting. After which all attendees are invited to attend a dinner to socialize at a local restaurant. If you are unable to attend in person, you may join the webinar starting as early as 1:40 PM.

The schedule for the event is as follows: 1:00 – Set up, meet and greet 2:00 – Featured talk "Ostrich eggshell beads: a trade item in Knersvlakte, South Africa" by Patricia McNeill, U. C. Davis PhD candidate 3:00 – SAS Annual Meeting 5:00 – Socialize at restaurant

"Ostrich eggshell beads: a trade item in Knersvlakte, South Africa"

Patricia McNeill, a 2022 scholarship recipient will discuss her research into trade and tool making in the North West corner of Cape Province in South Africa during the Later Stone Age.

Ostrich eggshell beads are a common artifact in South Africa and were widely traded. To reconstruct trading networks Strontium isotopes (⁸⁷SR/⁸⁶SR) can be used as a tracing tool for biogenic materials, such as teeth, bone, and egg shell. Strontium from the local geology gets incorporated into biological tissues as they grow, but the ratio of strontium isotopes varies across the landscape. This regional signature becomes permanently embedded in these tissues and when a bead for example is traded from one region to another, archaeologists can trace the bead back to place of origin; hence the reconstruction of trading networks. **Patricia McNeill** in her dissertation research has been investigating hunter-gatherer mobility and resource

catchment area in the arid Knersvlakte of Namaqualand, Western Cape, South Africa. In this presentation she will introduce the region, discuss archaeological finds and present her analysis of ostrich waste fragments discovered there. One of the tools she uses to analysis mobility of Stone Age people in the region is radiogenic strontium isotopes.

Patricia McNeill is a PhD candidate at University of California, Davis. She received her B.A. *Summa com laude* Evolutionary Anthropology and M.A. at University of California, Davis. She has conducted extensive research at the Center for Experimental Archaeology at Davis. Her field experience includes Varsche River 003, Namaqualand, South Africa, Ranis, Saale-Orla Kreis, Thüringen, Germany and Bureau of Land Management, Eagle Lake Field Office, California. She has four publications.

See announcements: <u>https://sacarcheology.org/announcements/</u> for **webinar access information.**

The Renaissance Society/SAS Webinar

"Modern Humans and the Paleolithic Archaeology of the Eastern European Plain"

^{by} Vance Holliday <u>Monday, December 18, 2023</u> **10:00 a.m. - 11:30 a.m. PT**

The Upper Paleolithic of Europe was characterized by dramatic innovations in technology and the appearance of fully modern humans. A key archaeological question from region to region across Europe is when Upper Paleolithic technology and fully modern humans appeared and if the two were related. Archaeological excavations for many decades at several dozen Paleolithic sites in the area of Kostenki, a town in southwestern Russia, shed some light on these key stages in human technological and biological evolution. Recent research suggests that that the Upper Paleolithic occupation, probably representing modern humans appeared in the region 45,000 to 42,000 years ago, as early as anywhere else in northern Eurasia.

Vance Holliday received a B.A. in Anthropology from the University of Texas at Austin (1972), an M.A. in Museum Science (with a minor in Soil Science) at Texas Tech University (1977), and a PhD in Geological Sciences at the University of Colorado, Boulder (1982). He was on the Geography faculty at the University of Wisconsin-Madison (1986-2002) and then in both Anthropology and Geosciences at the University of Arizona. His research career began on the Great Plains of the U.S., focused on reconstructing and interpreting the landscapes and environments in which the earliest occupants of North America lived, and how those conditions evolved during the Paleoindian period. Upon arriving at the UA he became Director of the Argonaut Archaeological Research Fund, which is devoted to research on the archaeology and

geoarchaeology of the Paleoindian period in the southwestern U.S. and northwestern Mexico. In addition, he has been part of an international project focused on the Upper Paleolithic archaeology and paleoenvironments of southwestern Russia and central Ukraine. Vance is now retired.

This webinar is sponsored by The Renaissance Society and Lincoln Big History. Since Sacramento Archeological Society is a partner with the Renaissance Society, SAS members are invited to this webinar. There is no participation fee.

The Renaissance Society webinar will start at 10:00 AM PDT and formally conclude at 11:30 AM. You may join starting at 9:40 AM.

For webinar access information contact Ranny Eckstrom at rensoc@csus.edu

PAST EVENTS

SAS Webinar - "Ukraine – Its Turbulent History" by Paul K. Davis

On Saturday, September 9, 2023 Paul K. Davis reviewed the long and difficult history of the modern nation of Ukraine starting at its prehistory and finishing with its current conflict. Ukraine prehistory as a part of the Pontic steppe in Eastern Europe played an important role in Eurasian cultural events, including the spread of the Chalcolithic and Bronze Ages, Indo-European migrations and the domestication of the horse. The first written information is about invasion by the Persian Empire. The region supplied grain to ancient Athens, and much of it came to be ruled by the Roman Empire. In the early Middle Ages it was the center of a Jewish kingdom, which was then conquered by Vikings, who in turn were subjugated by the Mongols. In modern times it has sometimes been independent, but mostly fought over by Polish, Turkish, Austrian and Russian Empires. In the 1930s it was victim of the Holodomor, the second greatest genocide after the Nazi Holocaust of Jews. Now it again defends itself from imperial aggression.

SAS Tour - *"Fremont: Fossils, Native Americans, and Mission"* led by **Paul K. Davis**

On Saturday, October 7 and Sunday, October 8th seven members of Sacramento Archeological Society attended a historical and pre-history tour in Fremont, CA. They visited the Children's Natural History Museum; Mission San Jose with its associated museum; the Museum of Local History; Coyote Hills Regional Park where Tuibun, a Chochenyo Ohlone-speaking tribe lived; and Shinn House Historical Park site. They also viewed the illumination of the altar of mission at sunset.



SAS Tour group and guide at Mission of Local History

Math/Science Nucleus Paleontology Museum in Children's Natural History Museum

Ken Miller and Eltha Robert presented a slide show on Fremont's early history highlighting the lvingtonian faunal fossils found at Bell Quarry on Sabercat Creek by Wes Gordon and his Hayward Boy Paleontologists during excavations in 1940's. The fossils mentioned in the talk and displayed in the Wes Gordon Fossil Hall included saber-tooth cats, mammoth, Western horse, mastodon, Pronghorn antelope, dire wolf and ground sloth. The museum also included the "Tools of Early Humans" exhibit to show how California Native Americans used natural fibers and rocks to help them survive.

The tour continued at the **Mission San Jose Museum** with a short historical film and a walkthrough of mission history through displays. Mission San Jose was founded on June 11, 1797 by Father Fermin Francisco de Lasuen on a site which was part of a natural highway by way of the Livermore Valley to the San Joaquin Valley. It is the fourteenth of the 21 Spanish Missions in Alta California. Before establishing Mission San Jose, the area was the Ohlone Village of Oroysom.

At about 6:30 PM on Saturday near the end of a church service in the **Mission San Jose Church** the setting sun shone of the alter especially highlighting the rays above Christ's image.

The Museum of Local History

The tour members were first introduced to the history of Fremont through aerial maps of the city. Then they stepped through time through exhibits: ranchos, fossils, schools, wineries, transportation, kitchen utensils, etc. There was a wealth of memorabilia.

Coyote Hills Regional Park

Martha Arlette Cerda led our tour. Before walking into the low lands to a village site for the Tuibun, a Chochenyo Ohlone-speaking tribe, she highlighted crafts made from local materials. On the tour Martha pointed out the ecosystems and their natural resources. We even tasted pickleweed. The East Bay area's original inhabitants were the ancestors of the Ohlone Indians, hunters and gatherers whose skills enabled them to live well off the land's natural bounty.

Shinn House Historical Park

The tour through the Shinn House provided another glimpse at the history of Fremont through the experiences of James and Lucy Shinn and their descendants. The Big House dates back to 1876 and it is surrounded by large trees and beautiful gardens. The 20.1 acre property is the remnant of the California Nursery Company, a once grand nursery operation.

SAS Flint knapping Workshop - Led by Kevin Smith

On Saturday, October 21, 2023 Kevin Smith, PhD archaeologist and SAS scholarship winner led eleven Society members in the art of flintknapping. Kevin discussed flintknapping techniques that had been practiced for thousands of years. Members had the opportunity to use stream pebbles to crack obsidian and chert. They produced many flakes and used antler tools to refining some flakes to represent arrow heads.

This was an opportunity to enjoy hands-on time with obsidian and chert.



Kevin Smith with flintknapping group

MEMBER'S CORNER Election of 2024 Board of Directors

During the Annual Meeting the 2024 Board of Directors will be elected. The following slate of officers is proposed but additional members may still be nominated. We invite members to become involved. Serving on the Board of Directors is a way to influence the content and timing of events. Join us for the annual meeting and consider participation on the Board.

The slate of the board is:

Candidate	Office	Candidate	Office
Jan Johansen	President	Rae Ann Eckstrom	Member at Large
Paul K. Davis	Vice-President	Kim Frasse	Member at Large
Debra Brinson	Secretary	Jeremy Johansen	Member at Large
Lynette Blumhard	Treasurer & Membership	Martie Lewis	Member at Large
Tom Johansen	Past President	Doug La Rocca	Member at Large
		Tori Lyon	Member at Large
		Ruth McElhinney	Member at Large
		Carolyn McGregor	Member at Large
		Lydia Peake	Member at Large
		Roger Peake	Member at Large
		Knuti VanHoven	Member at Large

Major Donors for 2023

We are pleased to acknowledge our major contributors for 2023. These donations support our scholarship program. We have set up a Memorial Scholarship Fund for members who were dedicated to SAS and passed. This scholarship fund succeeds the Michael Barham Fund and includes memory for Michael Barham, Diane Sangster, and Eloise Barker. Thank you to those of you who have donated to this Memorial Scholarship Fund.

Patron (\$1000 or more)

Dennis and Martha Fenwick Carolyn and Gordon McGregor

Sponsor (\$100 - \$999)

OSISoft a division of AVEVA Paul K. Davis and Knuti VanHoven Jan and Tom Johansen Roger and Lydia Peake Diane Sangster

ARCHAEOLOGICAL REFERENCES

Recent Articles

The reviewed article(s) are:

- "Expanded geographic distribution and dietary strategies of the earliest Oldowan hominins and *Paranthropus*" and "Should an also-ran in human evolution get more respect? Oldest Oldowan tools—seen as a hallmark of our own genus—found with bones of an unexpected hominin"
- "Was this extinct human the first gravedigger—and artist? Anthropologists hail new *Homo naledi* fossils but doubt spectacular claims of intentional burial and art"
- "Independent age estimates resolve the controversy of ancient human footprints at White Sands"
- "Death by Fire- Wildfires, intensified by climate change and perhaps human activity, may have doomed Southern California's big mammals 13,000 years ago"
- "Laos Cave Fossils Prompt Rethink of Human Migration Map"
- "Northwest African Neolithic initiated by migrants from Iberia and Levant"
- "Early contact between late farming and pastoralist societies in southeastern Europe"
- "Ancient human DNA recovered from a Palaeolitic pendant"
- "Burials show high status of ancient Mongolian women"
- "Anglo-Saxon burial finery came from African ivory"
- "More than 10,000 pre-Columbian earthworks are still hidden throughout Amazonia"
- "Family Ties Giant family trees based on ancient DNA from thousands of people are revealing prehistoric politics and social structure"
- "In Miami, a modern clash over a 2000-year-old settlement"

"Expanded geographic distribution and dietary strategies of the earliest Oldowan hominins and *Paranthropus*"

"The oldest Oldowan tool sites, from around 2.6 million years ago, have previously been confined to Ethiopia's Afar Triangle. The researchers describe sites at Nyayanga, Kenya, dated to 3.032 to 2.581 million years ago and expand this distribution by over 1300 kilometers. Furthermore, they found two hippopotamid butchery sites associated with mosaic vegetation and a C₄ grazer-dominated fauna. Tool flaking proficiency was comparable with that of younger Oldowan assemblages, but pounding activities were more common. Tool use-wear and bone damage indicate plant and animal tissue processing. *Paranthropus* sp. teeth, the first from southwestern Kenya, possessed carbon isotopic values indicative of a diet rich in C₄ foods. They argue that the earliest Oldowan was more widespread than previously known, used to process diverse foods including megafauna, and associated with *Paranthropus* from its onset." (Thomas W. Plummer *et al., Science,* V 379, 2023-2-10 pp. 561-566 and Ann Gibbons pp. 522-523)

"Was this extinct human the first gravedigger—and artist? Anthropologists hail new *Homo naledi* fossils but doubt spectacular claims of intentional burial and art"

"A trio of papers posted on line and presented at a meeting in June, 2023 lays out an astonishing scenario. Roughly 240,000 years ago, they suggest, a small-brined human relatives carried their dead through a labyrinth of tight passageways into the depts. Of a vast limestone cave system in South Africa. Working by fire-light, these diminutive cave explorers dug shallow graves, sometimes arranging bodies in fetal positions and placing a stone tool near a child's hand. Some etched cave walls with crosshatches and others cooked small animals in what amounted to a subterranean funeral, more than 100,000 years before such behaviors emerged in modern humans. If true, this scenario, based on a wealth of fossil finds in South Africa's Rising Star cave system would have major implications for the dawn of human behavior as well as the abilities of extinct cousins, Homo naledi. However, other researchers are overwhelmingly skeptical of the papers. Researchers say they are wowed by the fossil finds, but the bodies could simply have fallen or been dumped into the pit and been buried slowly by natural processes. Later hominins could have made the etchings, which are undated. Also missing is the wealth of fragmentary artifacts expected at a grave site, such as stone tools used to dig the pits." (Ann Gibbons, *Science*, V 380, 2023-6-9 pp. 996-7)

"Independent age estimates resolve the controversy of ancient human footprints at White Sands"

"Human footprints at White Sands National Park, New Mexico, USA reportedly date to between \sim 23,000 and 21,000 years ago according to radiocarbon dating of seeds from the aquatic plant *Ruppia cirrhosa*. These ages remain controversial because of potential old carbon reservoir effects that could compromise their accuracy. The researchers presented new calibrated ¹⁴C ages of terrestrial pollen collected from the same stratigraphic horizons as those of the *Ruppia* seeds, along with optically stimulated luminescence ages of sediments from within the human footprint-bearing sequence, to evaluate the veracity of the seed ages. The results show that the chronologic framework originally established for the White Sands footprints is robust and reaffirm that humans were present in North America during the Last Glacial Maximum." (Jeffrey S. Pigati *et al., Science,* V 382, 2023-10-6 pp. 73-75 and 36-37)

"Death by Fire

Wildfires, intensified by climate change and perhaps human activity, may have doomed Southern California's big mammals 13,000 years ago" and "Pre-Younger Dryas mega faunal extirpation at Rancho La Brea linked to firedriven state shift"

"At the end of the Pleistocene most of Earth's large mammals (megafauna) became extinct. These extinctions occurred at different times globally, resulting in a drastic reorganization of terrestrial ecosystems. The Rancho La Brea locality in Southern California provides a unique opportunity to investigate decadal-scale changes in mega faunal populations and community composition across the latest Pleistocene. At this site naturally occurring asphalt seeps entrapped and preserved the bones of hundreds and in some cases thousands of individuals from numerous mega faunal species across the last 50,000 years of the Pleistocene. Nearly all of these osteological specimens preserve original collagen, which permits precise radiocarbon dating analysis. The researchers obtained radiocarbon dates on 172 specimens from seven extinct and one extant species spanning 15.6 to 10.0 thousand calendar years before present (ka). Modeling of extinction timing using several methods established that all taxa except coyotes were extirpated from Rancho La Brea by 12.9 ka, before the onset of the Younger Dryas and well before the continental extinction of North American mega fauna. The disappearance of all taxa was synchronous except for camels and sloths, which disappeared a few hundred years earlier in concert with aridification and tree loss during the Bølling-Allerød. Their data document a transition from postglacial mega faunal woodland to a human-mediated chaparral ecosystem in Southern California before the onset of the Younger Dryas. This transition began with gradual opening and drying of the landscape over two millennia, and terminated in an abrupt (300-year) regime shift characterized by the completed extirpation of mega fauna and unprecedented fire activity. This state shift appears to have been triggered by human-ignited fires in an ecosystem stressed by rapid warming, a mega-drought and a millennial-scale trend toward the loss of large herbivores from the landscape" (Michael Price, Science, V 381, 2023-8-18 pp. 724-727 and F. Robin O'Keefe et al., Science, V 381, 2023-8-18 p. 746)

"Laos cave fossils prompt rethink of human migration map – Bone discoveries suggest early humans passed through Southeast Asia earlier than was thought."

"Archaeologists have uncovered two bone fragments in a cave in northern Laos, suggesting that *Homo sapiens* wandered southeast Asia up to 86,000 years ago. The findings were published in Nature Communications (Freidline, S. E. *et al.* Nature Commun. 14m 3193 (2023)). Over more than a decade, excavations in Tam Pà Ling cave have uncovered seven bone fragments sandwiched between layers of clay. Laura Shackelford, an anthropologist at the University of Illinois at Urbana—Champaign, and her colleagues reconstructed a complete chronology of the cave and determined that humans have inhabited the mountainous region for at least 68,000 years and passed through even earlier." (Jude Coleman, *Nature*, V 618, 2023-6-22 pp. 658-9)

"Northwest African Neolithic initiated by migrants from Iberia and Levant"

"In northwestern Africa, lifestyle transitioned from foraging to food production around 7,400 years ago but what sparked that change remains unclear. Archaeological data support conflicting views: (1) that migrants European Neolithic farmers brought the new way of life to North Africa or (2) that local hunter-gatherers adopted technological innovations. The latter view is supported by archaeogenetic data. In this article the researchers fill key chronological and archaeogenetic gaps for the Maghreb, from Epipalaeolithic to Middle Neolithic, by

sequencing the genomes of nine individuals (to between 45.8- and 0.2-fold genome coverage). Notably, they trace 8,000 years of population continuity and isolation from the Upper Paleolithic, via the Epipaleolithic, to some Maghrebi Neolithic farming groups. However, remains from the earliest Neolithic contexts showed mostly European Neolithic ancestry. They suggest that farming was introduced by European migrants and was then rapidly adopted by local groups. During the Middle Neolithic a new ancestry from the Levant appears in the Maghreb, coinciding with the arrival of pastoralism in the region, and all three ancestries blend together during the Late Neolithic. Their results show ancestry shifts in the Neolithization of northwestern Africa that probably mirrored a heterogeneous economic and cultural landscape in a more multifaceted process than observed in other regions." (Luciana G. Simões *et a*l. *Nature*, V 618, 2023-6-15 pp. 550-556 and 460-461)

"Going local with ancient DNA: A review of human histories from regional perspectives"

"Ancient DNA (aDNA) has added a wealth of information about our species' history, including insights on genetic origins, migrations and gene flow, genetic admixture, and health and disease. Much early work has focused on continental-level questions, leaving many regional questions, especially those relevant to the Global South, comparatively underexplored. A few success stories of aDNA studies from smaller laboratories involve more local aspects of human histories and health in the America, Africa, Asia and Oceania. In this article the researchers cover some of these contributions by synthesizing finer-scale questions of importance to the archaeologenetics field, as well as to Indigenous and Descentant communities. They further highlight the potential of aDNA to uncover past histones in regions where colonialism has neglected the oral histories of oppressed peoples." (Maria C. Àvila-Arcos *et al., Science,* V 382, 2023-10-6 pp. 53-63)

"Early contact between late farming and pastoralist societies in southeastern Europe"

"Archaeogentic studies have described two main genetic turnover events in prehistoric western Eurasia: one associated with the spread of farming and a sedentary lifestyle starting around 7000 – 6000 BC and a second with the expansion of pastoralist groups from the Eurasian steppes starting around 3300 BC. The period between these events saw new economies emerging on the basis of key innovations, including metallurgy, wheel and wagon and horse domestication. However, what happened between the demise of the Copper Age settlements around 4250 BC and the expansion of pastoralist remains poorly understood. To address this question, the researchers analyzed genome-wide data from 135 ancient individuals from the contact zone between southeastern Europe and the northwestern Black Sea region spanning this critical time period. While they observed genetic continuity between Neolithic and Copper Age groups from the major sites in the same region, from around 4500 BC on, groups from the northwestern Black Sea region carried varying amounts of mixed ancestries derived from Copper Age groups and those from the forest/steppe zones, indicating genetic and cultural contact over a period of around 1,000 years earlier than anticipated. They propose that the transfer of critical innovations between farmers and transitional foragers/herders from different ecogeographic zones during this early contact was integral to the formation, rise and expansion of pastoralist groups around 3300 BC." (Sandra Penske *et al. Nature*, V 620, 2023-8-10 pp. 358-365)

"Ancient human DNA recovered from a Palaeolithic pendant"

"Artifacts made from stones, bones and teeth are fundamental to our understanding of human subsistence strategies, behavior and culture in the Pleistocene. Although these resources are plentiful, it is impossible to associate artifacts to specific human individuals who can be morphologically or genetically characterized, unless they are found within burials, which are rare in this time period. Thus our ability to discern the societal roles of Pleistocene individuals based on their biological sex or genetic ancestry is limited. In this article the researchers report the development of a non-destructive method for the gradual release of DNA trapped in ancient bone and tooth artifacts. Application of the method to an Upper Paleolithic deer tooth pendant from Denisova Cave, Russia resulted in the recovery of ancient human and deer mitochondrial genomes which allowed them to estimate the age of the pendant at approximately 19,000 - 25,000 years. Nuclear DNA analysis identifies the presumed maker or wearer of the pendant as a female individual with strong genetic affinities to a group of Ancient North Eurasian individuals who lived around the same time but were previously found only further east in Siberia. This work redefines how cultural and genetic records can be linked in prehistoric archaeology." (Elena Essel *et al. Nature*, V 618, 2023-6-8 pp. 328-332)

"Burials show high status of ancient Mongolian women"

"Women were elite political strategist in Xiongnu Empire, which ruled what's now Mongolia from around 209 B C to AD 100, a study suggests. Juhyeon Lee at Seoul National University and colleagues examined 18 individuals from 2 ancient cemeteries in western Mongolia. They found that women had elaborate burials, in ornate coffins made of imported larch wood. Horse, livestock and household goods were often included in their toms. One woman was buried with riding goods, and other items usually associated with male mounted warriors. By contrast, one man was buried with a sewing needle, possible used for embroidering fabric or stitching leather. The results complement previous studies that suggest women were key to expanding the Xiongnu Empire. The Xiongnu people were wide-ranging, the study also shows. Whole-genome sequencing revealed that two cemeteries encompassed as much genetic diversity as was found across the entire empire. Low-ranking individuals in simple graves had the highest genetic diversity. Elite individuals probably recruited their servants from across the vast empire, the researchers concluded (*Sci. Adv.* 9 eadf3904 (2023))." (*Nature*, V 616, 2023-4-27 p. 632)

"Anglo-Saxon Burial finery came from African ivory"

"Ancient Britons' ivory accessories were sourced from African elephants. Katie Hemer at University College London and her colleagues analyzed ivory rings buried with Anglo-Saxon women in the east of England. Analysis of collagen extracted from one ring showed that the ivory came from an African elephant and radiocarbon dating suggested that the creature lived during the same period as the woman in the grave. Strontium isotope analyses—which can help to identify where an animal lived—indicated that the ivory came from an elephant living in an area of Africa characterized by young volcanic rocks, such as the East African Rift Valley." (*Nature*, V 616, 2023-4-13 p. 223)

"More than 10,000 pre-Columbian earthworks are still hidden throughout Amazonia"

"Indigenous societies are known to have occupied the Amazon basin for more than 12,000 years, but the scale of their influence on Amazonian forest remains uncertain. In the article the researchers report the discovery, using LIDAR (light detection and ranging) information from across the basin, of 24 previously undetected pre-Columbian earthworks beneath the forest canopy. Modeled distribution and abundance of large-scale archaeological sites across Amazonia suggest that between 10,272 and 23,648 sites remain to be discovered and that most will be found in the southwest. They also identified 53 domesticated tree species significantly associated with earthwork occurrence probability, likely suggesting past management practices. Closed-canopy forests across Amazonia are likely to contain thousands of undiscovered archaeological sites around which pre-Columbian societies actively modified forests, a discovery that opens opportunities for better understanding the magnitude of ancient human influence on Amazonia and its current state." (Vinicius Peripato *et al., Science,* V 380, 2023-10-6 pp. 103-109)

"Family Ties -

Giant family trees based on ancient DNA from thousands of people are revealing prehistoric politics and social structure"

"The burial jar, found under the floor of a mountain-top citadel called La Almoloya in southeastern Spain held a puzzle. Almost 1 meter in diameter, the vessel entombed a woman in her late 20s with a shining silver diadem on her forehead. She also had silver earplugs threaded through with silver hoops, an awl covered in silver—and a companion: a middle-age man laid to rest in the same jar with a fraction of her wealth. The pair was likely prominent members of a Bronze Age protostate called El Argar, which dominated much of the Iberian Peninsula from hilltop strongholds for nearly 700 years, beginning around 2200 BCE. In 2019 a team of geneticists and archaeologists extracted DNA from the Almoloya woman and her companions, along with 66 other people buried in pairs and singly in the walls and under floors of the hilltop houses. Rather than ancestors and descendants, the analysis showed, the couples

were partners. In three cases, children were buried near their parents, who were buried together; one baby girl was the daughter of the woman and man buried in the palace. The results revealed that the elite women seemed to be transplants, perhaps from other high-status hilltop settlements. Unrelated to others buried at the site, the women married men who were related to each other and apparently local, perhaps as a way to knit far-flung El Argar settlements into a cohesive early state. The results from La Almoloya, published last year, are part of a surge of new studies that are shifting the focus of ancient DNA research from genetic links between populations toward intimate, interpersonal connections." (Andrew Curry, *Science*, V 382, 2023-10-6 pp. 24-27)

"In Miami, a modern clash over a 2000-year-old settlement High-rises planned for "extraordinary" Native American site"

"For nearly 2 years, teams of archaeologists have excavated a sprawling waterfront lot in Miami. They have uncovered ancient human remains and some 1 million artifacts that are providing rare insight into a major Native American settlement, known as Tequesta, which flourished at the mouth of the Miami Rive some 2000 years ago. But the dig—which city rules required a developer to conduct before building three luxury high-rises—has also fueled a fierce conflict over how Miami, which boosters tout as a "new city", should recognize and preserve its ancient past. A loose alliance of archaeologist, Indigenous people and preservation advocates want the city to require the developer to transfer the vast artifact collection to a university or museum and help pay for the efforts to study the collection and share findings with the public. The developer says it has already spent about \$20 million on the dig and is willing to spend millions more—but only if the city doesn't derail its plan to build some 1400 residential units. The developer has been given time to work with archaeologist, universities and other to devise an enforceable "action plan" for preservation and interpretation." (David Malakoff, *Science*, V 380, 2023-4-14 pp. 121-122)

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