

References

Aktuell

EITAM 2020

David Eitam, *Sex, Prestige, and Booming Death—or Eating Bread, A Comment on Rosenberg and Nadel 2014*. [Current Anthropology 61 \(2020\)](#), 124–128.

The feeding of the dead was a direct consequence of the importance of cereal meals and bread in Natufian daily life. This spiritual transition of the use of cereal food Highlights the fundamental difference between the spiritual world of hunter-gatherers and that of the Natufian low-level food-producing societies.

ROSENBERG 2020

Danny Rosenberg & Dani Nadel, *The Function and Context of Natufian Stone Mortars, A Reply to Eitam*. [Current Anthropology 61 \(2020\)](#), 129–131.

In sum, we see no new data, coherent argumentation, or useful critique in Eitam’s comment. As we consistently argued in the past, we see the Natufian bedrock features and boulder mortars phenomenon as one of the hallmarks of the tremendous developments in stone-carving technologies that were first and foremost related to the notable changes and innovations in food production vis-à-vis the transition to farming and a sedentary lifestyle in the Southern Levant. In this sense Eitam clearly agrees with our past conclusions, although we choose, for the time being, to take a more cautious and prudent databased approach to the exact function of these objects (i.e., what was actually processed in these mortars). Hand in hand with this, we still advocate our suggestions that although such items were used in mundane contexts, many of them entered the more sacred and profound realms of burials and commemorative rites and other ritually and symbolically rich ceremonies and social events. In fact, we see no contradiction between the use of these tools in such distinct and different contexts and, for that matter, the “sound of music” (pounding sounds) that may have accompanied Natufian food processing in both hamlets and cemeteries.

Anthropologie

LANGLEY 2020

Michelle C. Langley, Antonio Benítez-Burraco & Vera Kempe, *Playing with language, creating complexity, Has play contributed to the evolution of complex language?* [Evolutionary Anthropology 29 \(2020\)](#), 29–40.

We argue that enhanced play may have contributed to the emergence of complex language systems in modern humans (*Homo sapiens*). To support this idea, we first discuss evidence for an expansion of playing behavior connected to the extended childhood of modern human children, and the potential of this period for the transmission of complex cultural traits, including language. We then link two of the most important functions of play—exploration and innovation—to the

potential for cumulative cultural evolution in general and for the emergence of complex language in particular. If correct, the shorter childhood of Neanderthals—involving restrictions on time to experiment and innovate—may have restricted their language (and other symbolic) system/s. Consequently, fully investigating the role that play may have had in the transmission of language and the development of symbolic cultures in both modern humans and Neanderthals provides a new avenue of research for Paleolithic archaeology and related disciplines.

Keywords: childhood | language development | Neanderthals | self-domestication | symbolism

Bibel

FINKELSTEIN 2008

Israel Finkelstein & Eli Piasezky, *The Date of Kuntillet ‘Ajrud, The ¹⁴C Perspective*. [Tel Aviv: Archaeology 35 \(2008\), 175–185](#).

In this article we take a fresh look at the radiocarbon results from Kuntillet ‘Ajrud. We maintain that they can provide a reasonably accurate date for both the construction and abandonment of the site. The ¹⁴C determinations seem to indicate that the site was built between 820 and 795 BCE and was abandoned after 745 BCE. Historical consideration discussed in the article may narrow this time-span to ca. 795–730/720 BCE.

FINKELSTEIN 2019

Israel Finkelstein & Thomas Römer, *Kiriath-jearim and the List of Bacchides Forts in 1 Maccabees 9:50–52*. In: ORIT PELEG-BARKAT, YEHIEL ZELINGER, JOSEPH (JOE) UZIEL & YUVAL GADOT (Hrsg.), *New Studies in the Archaeology of Jerusalem and its Region, War and Peace: Fortifications, Conflicts and their Aftermath*. Collected Papers 13 ([Jerusalem 2019](#)), 7–17.

In conclusion, the results of the excavation in Kiriath-jearim seem to shed new light on the system of forts established by Bacchides in Judea, and may also reopen the discussion on the identification of a place named Emmaus with Abu Gosh.

FINKELSTEIN 2019

Israel Finkelstein, *First Israel, Core Israel, United (Northern) Israel*. [Near Eastern Archaeology 82 \(2019\), 8–15](#).

The rise of ancient Israel has been studied from the perspectives of archaeology and the biblical text in parallel. Archaeology deals with the settlement processes that took place in the highlands, while biblical exegesis may identify germs of memories that go back to events that took place before the rise of the Hebrew kingdoms and shed light on the ideology of Israelite and Judahite authors regarding the emergence of the Israelite “nation.”

Recent work on pollen records from the Sea of Galilee points to a severe dry spell in ca. 1250–1100 BCE (ig. 2; Langgut, Finkelstein, and Litt 2013). his record is supported by additional recent pollen statistics from the Levant and Cyprus. The date of this event corresponds well to two other datasets: Near Eastern textual material about drought and famine in the later phases of the Late Bronze Age (e.g., Singer 1999, 715–19) and destruction layers in the Levant.

SCHWIDERSKI 2004

Dirk Schwiderski, *Lernübersichten zur Bibelkunde des Alten Testaments*. (Münster 2004).

Datierung

CLARKSON 2020

Chris Clarkson et al., *Human occupation of northern India spans the Toba super-eruption $\approx 74,000$ years ago*. [Nature Communications 11 \(2020\), 961, 1–10](#). DOI:10.1038/s41467-020-14668-4.

[NatComm11-a00961-Supplement.pdf](#)

India is located at a critical geographic crossroads for understanding the dispersal of *Homo sapiens* out of Africa and into Asia and Oceania. Here we report evidence for long-term human occupation, spanning the last ≈ 80 thousand years, at the site of Dhaba in the Middle Son River Valley of Central India. An unchanging stone tool industry is found at Dhaba spanning the Toba eruption of ≈ 74 ka (i.e., the Youngest Toba Tuff, YTT) bracketed between ages of 79.6 ± 3.2 and 65.2 ± 3.1 ka, with the introduction of microlithic technology ≈ 48 ka. The lithic industry from Dhaba strongly resembles stone tool assemblages from the African Middle Stone Age (MSA) and Arabia, and the earliest artefacts from Australia, suggesting that it is likely the product of *Homo sapiens* as they dispersed eastward out of Africa.

Chris Clarkson, Clair Harris, Bo Li, Christina M. Neudorf, Richard G. Roberts, Christine Lane, Kasih Norman, Jagannath Pal, Sacha Jones, Ceri Shipton, Jinu Koshy, M. C. Gupta, D. P. Mishra, A. K. Dubey, Nicole Boivin & Michael Petraglia

WALSH 2020

Bryan Walsh & Larry Schwalbe, *An instructive inter-laboratory comparison, The 1988 radiocarbon dating of the Shroud of Turin*. [Journal of Archaeological Science: Reports 29 \(2020\), 102015, 1–9](#).

We review the statistical method cited in the report of the radiocarbon dating of the Shroud of Turin. Following strict analytical protocol, we find the Shroud data to be heterogeneous, while data from three control samples show no heterogeneity. We consider two potential sources for the Shroud data heterogeneity. The first, an approximate linear dependence of the dates on the original sample locations suggests a variation in the carbon isotopic composition. The second, differences in the cleaning protocols of the three laboratories may have given rise to differences in residual contamination. We suggest experiments to test the two competing hypotheses.

Keywords: Shroud | Heterogeneity | Radiocarbon | Inter-laboratory | Statistics | Cleaning protocols

Energie

HAND 2020

Eric Hand, *Underground oil fires liberate carbon-free fuel*. [science 367 \(2020\), 617](#).

Company ignites heavy oil fields to make green hydrogen while leaving carbon trapped.

The heat “cracks” the oil’s long hydrocarbon chains into smaller pieces and produces small amounts of hydrogen. But if the fire reaches temperatures above 500°C, injected steam or water vapor from the hot reservoir itself will react with the hydrocarbons to make syngas: a mixture of carbon monoxide and hydrogen. Adding more water to the syngas sets off a final reaction that produces CO₂ and more hydrogen.

For now, Proton Technologies will use their membranes at the surface and vent the separated CO₂. But if the company can raise roughly \$50 million for the next field test, Strem would like to test the membranes deep in the wells. The CO₂, and all of its power to warm the climate, would remain sequestered deep in the earth.

Grabung

BENZAQUEN 2019

Mordechay Benzaquen, Israel Finkelstein & Dafna Langgut, *Vegetation History and Human Impact on the Environs of Tel Megiddo in the Bronze and Iron Ages, A Dendroarchaeological Analysis*. [Tel Aviv: Archaeology 46 \(2019\), 42–64.](#)

A substantial amount of macro-botanical remains has been recorded at Tel Megiddo since the initiation of the renewed excavations in 1992. We constructed a database with 1,162 identified samples and analysed them diachronically. This dataset enables us to trace environmental trends and human impact on the vegetation in the vicinity of the site during the Bronze and Iron Ages ($\approx 3,500$ –500 BCE). The earlier periods in the studied sequence are characterised by a higher availability of common natural arboreal elements (oak, conifers and terebinth) and the later periods by a dramatically reduced presence of these elements, with a much stronger occurrence of anthropogenically dependent species (olive), foreign species (cedar of Lebanon, sycamore fig), and less prevalent forest/maquis elements. Our investigation also provides some context for the appearance of both horticultural and rare/special species in the assemblage (almond, walnut, myrtle, laurel, sage). The appearance of prestigious species such as the imported cedar in one sector of the site (Area H) provides botanical support to other finds which rendered this area an elite neighbourhood.

Keywords: Archaeobotany | Bronze Age | Iron Age | Tel Megiddo | Charcoal analysis | Paleo-vegetation

Klima

BORETTI 2020

Alberto Boretti, *The European colonization of the Americas as an explanation of the Little Ice Age*. [Journal of Archaeological Science: Reports 29 \(2020\), 102132, 1–3.](#)

The hypothesis that the European colonization of the Americas was the driving force behind the onset of the Little Ice Age, through a mechanism involving reforestation and sequestration of carbon dioxide from the atmosphere, is here tested. On the basis of a literature review, and the assessment of the present temperature sensitivity to atmospheric carbon dioxide, it is concluded that the claim is over-rated. The reforestation attributed to the European colonization of the Americas is excessive. Even this excessive atmospheric carbon dioxide sequestration would not be enough to produce the Little Ice Age.

Keywords: Little ice age | Global warming | Carbon dioxide sensitivity | Colonization of the Americas

TURNERY 2020

Chris S. M. Turney et al., *Early Last Interglacial ocean warming drove substantial ice mass loss from Antarctica*. *PNAS* **117** (2020), 3996–4006.

pnas117-03996-Supplement1.pdf, pnas117-03996-Supplement2.xlsx

The future response of the Antarctic ice sheet to rising temperatures remains highly uncertain. A useful period for assessing the sensitivity of Antarctica to warming is the Last Interglacial (LIG) (129 to 116 ky), which experienced warmer polar temperatures and higher global mean sea level (GMSL) (+6 to 9 m) relative to present day. LIG sea level cannot be fully explained by Greenland Ice Sheet melt (≈ 2 m), ocean thermal expansion, and melting mountain glaciers (≈ 1 m), suggesting substantial Antarctic mass loss was initiated by warming of Southern Ocean waters, resulting from a weakening Atlantic meridional overturning circulation in response to North Atlantic surface freshening. Here, we report a blue-ice record of ice sheet and environmental change from the Weddell Sea Embayment at the periphery of the marine-based West Antarctic Ice Sheet (WAIS), which is underlain by major methane hydrate reserves. Constrained by a widespread volcanic horizon and supported by ancient microbial DNA analyses, we provide evidence for substantial mass loss across the Weddell Sea Embayment during the LIG, most likely driven by ocean warming and associated with destabilization of subglacial hydrates. Ice sheet modeling supports this interpretation and suggests that millennial-scale warming of the Southern Ocean could have triggered a multimeter rise in global sea levels. Our data indicate that Antarctica is highly vulnerable to projected increases in ocean temperatures and may drive ice–climate feedbacks that further amplify warming.

Keywords: Antarctic ice sheets | marine ice sheet instability (MISI) | paleoclimatology | polar amplification | tipping element

Chris S. M. Turney, Christopher J. Fogwill, Nicholas R. Golledge, Nicholas P. McKay, Erik van Sebille, Richard T. Jones, David Etheridge, Mauro Rubino, David P. Thornton, Siwan M. Davies, Christopher Bronk Ramsey, Zo A. Thomas, Michael I. Bird, Niels C. Munksgaard, Mika Kohno, John Woodward, Kate Winter, Laura S. Weyrich, Camilla M. Rootes, Helen Millman, Paul G. Albert, Andres Rivera, Tas van Ommen, Mark Curran, Andrew Mo, Stefan Rahmstorf, Kenji Kawamura, Claus-Dieter Hillenbrand, Michael E. Weber, Christina J. Manning, Jennifer Young & Alan Cooper

Significance: Fifty years ago, it was speculated that the marine-based West Antarctic Ice Sheet is vulnerable to warming and may have melted in the past. Testing this hypothesis has proved challenging due to the difficulty of developing in situ records of ice sheet and environmental change spanning warm periods. We present a multiproxy record that implies loss of the West Antarctic Ice Sheet during the Last Interglacial (129,000 to 116,000 y ago), associated with ocean warming and the release of greenhouse gas methane from marine sediments. Our ice sheet modeling predicts that Antarctica may have contributed several meters to global sea level at this time, suggesting that this ice sheet lies close to a “tipping point” under projected warming.

Methoden

KEMPF 2020

Michael Kempf & Susanne Brather-Walter, *Spatial analyses of three early medieval graveyards in southern Germany: Social status or chro-*

nological signal? [Journal of Archaeological Science: Reports](#) **29** (2020), 102133, 1–18.

Traditional narratives about ethnic identities, social status and their distinct burial practices played a major role in early medieval archaeology for decades. The spatial composition of graves and the overall structure of Merovingian graveyards were thought to follow specific hierarchical systems – thus reflecting the social status of the deceased. Deep grave pits were considered an indicator for rich burials and high social reputation of the individual. However, spatial analyses of three large-scale Merovingian cemeteries in southern Germany reveal a dominant chronological signal that controls grave depth and social representation needs. The large-scale cemeteries at Lauchheim ‘Wasserfurche’, Mengen ‘Hohle/Merzengraben’ and Straubing ‘Bajuwarenstraße’ were analyzed for chronology, grave depth and local topographic conditions to draw conclusions about the link between burial practices and socio-cultural developments between 500 and 700 CE in southern Germany.

Keywords: Lauchheim | Merovingian | Grave depth | Spatial analysis | GIS

Story or Book

ROBINSON 2020

Andrew Robinson, *Apocalyptic archaeology*. [nature](#) **578** (2020), 510–511.

After a century of work, archaeologists are still tantalized by the secrets of Armageddon.

Digging up Armageddon: The Search for the Lost City of Solomon. Eric H. Cline. Princeton Univ. Press (2020)

Breasted and Rockefeller were fired up by the legend of Armageddon in the Bible, which originally refers to the place as Megiddo, supposedly built by King Solomon in the mid-tenth century bc. Solomon is recorded only in scripture, but Megiddo is mentioned in many other ancient texts, such as the records of Egyptian pharaoh Thutmose III, whose armies captured the city in 1479 bc.

An original and lively study that skilfully mixes archaeology with personalities, and politics with culture, science and technology.