

## References

### Aktuell

#### FAITH 2020

J. Tyler Faith, John Rowan & Andrew Du, *Fifty gazelles do not equal an elephant, and other ecological misunderstandings, Reply to Weihmann*. [PNAS 117 \(2020\), 3370–3371](#).

We beg to differ—an elephant is not the ecological equivalent of 50 gazelles. Finally, Weihmann’s focus on metabolic scaling ignores the unique nonconsumptive effects of megaherbivores on vegetation. For example, their large body size allows them to topple trees and shrubs, thus opening impenetrable thickets. The fact that we (and others) even use the term “megaherbivore” for animals >1,000 kg is a reflection of their unique impacts on ecosystems.

#### WEIHMANN 2020

Tom Weihmann, *Species richness and composition are not sufficient for determining the functionality of ancient ecosystems*. [PNAS 117 \(2020\), 3368–3369](#).

The enormous ecological range of African elephants is striking. Currently, there are desert-dwelling groups of *Loxodonta africana* in southern and western Africa, those grazing and browsing savanna, and the forest-dwelling sister species *Loxodonta cyclotis*, apparently covering at least parts of the ecological niches previously occupied by a number of proboscidean species.

Thus, a herd of smaller herbivores can reduce plant cover as efficiently as a community of large herbivores with the same collective mass even if timescales and spatial patterns may vary.

### Anthropologie

#### PRICE 2020

Michael Price, *Africans, too, carry Neanderthal genetic legacy*. [science 367 \(2020\), 497](#).

Ancient Europeans took Neanderthal DNA back to Africa.

Akey’s study might help explain another “head scratcher,” says computer biologist Kelley Harris of the University of Washington, Seattle. Studies had suggested East Asians have 20% more Neanderthal DNA than Europeans, she notes. “Europe is where Neanderthal remains are found, so why wouldn’t Europeans have more Neanderthal ancestry than any other group?”

By suggesting that Europeans introduced Neanderthal sequences into Africa, the new study points to an explanation: Researchers previously assumed that Neanderthal sequences shared by Europeans and Africans were modern and subtracted them out. After correcting for that bias, the new study found similar amounts of Neanderthal DNA in Europeans and Asians—51 and 55 Mb, respectively. It’s a “convincing and elegant” explanation, Harris says.

## Archäologie

TODOROVA 2007

HENRIETA TODOROVA, MARK STEFANOVICH & GEORGI IVANOV (Hrsg.), *The Struma/Strymon River Valley in Prehistory, Proceedings Int. Symp. Strymon Praehistoricus, Kjustendil–Blagoevgrad & Serres–Amphipolis 27. 09.–01. 10. 2004.* (Sofia 2007).

## Bibel

FINKELSTEIN 2017

Israel Finkelstein, *What the Biblical Authors Knew about Canaan before and in the Early Days of the Hebrew Kingdoms.* [Ugarit-Forschungen 48 \(2017\), 173–198.](#)

The author deals with pre-Deuteronomistic texts which preserve recollections of city-states that existed in the late Iron I and early Iron IIA – the 10th and early 9th centuries BCE – on the eve of the rise of the Hebrew kingdoms or in their early days. These are among the earliest memories that can be found in the Bible. Three maps are discussed: towns mentioned in the conquest traditions; city-states “remembered” by the biblical authors; and the main cities of Canaan in the late Iron I and early Iron IIA as revealed by archaeology.

**Keywords:** Canaan | Cities of Canaan | Iron I | Pre-Deuteronomistic | Anaharath | Megiddo | Shechem | Heshbon | Ir Moab | Ammon | Lidebir | Rogelim | Tob | Geshur | Ma’acah | Rehob

The analysis above shows that the earliest territorial reality echoed in the Bible is that of the late Iron I and early Iron IIA, in the 10th and early 9th centuries BCE. Some of the traditions – regarding Megiddo, Annaharath and Shechem – may resonate actual events related to the turmoil that took place in Canaan at the end of the Iron I, during the 10th century BCE. Others merely record a memory of the importance of certain places in these early days, for instance Abel, Rehob and Gath. The geographical balance in the old memories is on the eastern parts of Canaan; the coast is poorly represented. The old tales appear in pre-Deuteronomistic sources; they were transmitted orally until committed to writing not earlier than the first half of the 8th century in Israel and the end of that century in Judah.

FINKELSTEIN 2019

Israel Finkelstein & Assaf Kleiman, *The Archaeology of the Days of Baasha?* [Revue Biblique 126 \(2019\), 277–296.](#)

Recent excavations at Megiddo facilitate the establishment of a nuanced record for the Iron IIA in northern Israel. A previously unknown phase in the settlement history of the site has been recognized at the southeastern sector of the site and is termed here “Middle Iron IIA”; it is radiocarbon dated to ca. 900 BCE. A similar phase can be detected at Tell el-Far’ah North, the location of biblical Tirzah, and perhaps at sites in the Beth-shean Valley. This phase portrays significant urban and economic developments in the Northern Kingdom in pre-Omride times, probably in the days of King Baasha. In this article, we describe the archaeological finds that can be attributed to this phase and discuss the biblical references to the reign of Baasha, who ruled for more than two decades, and seems to have set the infrastructure for the prosperity of the north during the Omride dynasty.

**Keywords:** Northern Kingdom | Iron IIA | Megiddo | Tell el-Far’ah North | Tel Rehov | Baasha | Omrides

FREEDMAN 1993

David Noel Freedman, *How the Hebrew Bible and the Christian Old Testament Differ*. [Bible Review 9 \(1993\), vi, 28–39](#).

The device is easy to see: Since the Dead Sea Scroll people didn't have a prophet of their own, the next best thing was to have an inspired interpreter. They used prophecy that everybody accepted as authoritative and adapted it. No problem with this, except that according to these people theirs is the only, the real, interpretation. This isn't just homiletics. This describes a convergence of all the events recounted in the prophets of the past about this present eschatological moment, when everything's going to change.

As an academic exercise, that's very interesting and challenging. No problem. A few years pass, however, and that interpretation becomes obsolete, so you make another adjustment, with a different interpretation. And ultimately you give up the whole thing because the prophecy is equally applicable to this period, to that period, to another period, or inapplicable to any of them, because what the prophet says just doesn't happen. Then you banish the prophecy to a distant future.

But when you say, "This is the only way, this is the real meaning and any other interpretation is invalid," then you're creating a problem.

FREEDMAN 1994

David Noel Freedman, *The Undiscovered Symmetry of the Bible, An Interview with David Noel Freedman—Part II*. [Bible Review 10 \(1994\), i, 34–41, 63](#).

GORANSON 1993

Stephen Goranson, *Qumran, The Evidence of the Inkwells*. [Biblical Archaeology Review 19 \(1993\), vi, 67](#).

Whether four or five, the number of inkwells from a site like this is extraordinary. None has been found, for example, at Sepphoris, a major Galilean site, extensively excavated, where the Mishnah was completed.

LAUGHLIN 1993

John C. H. Laughlin, *Capernaum, From Jesus' Time and After*. [Biblical Archaeology Review 19 \(1993\), v, 54–61](#).

RÖMER 2017

Thomas Römer, *The Rise and Fall of Josiah*. In: ODED LIPSCHITS, YUVAL GADOT & MATTHEW J. ADAMS (Hrsg.), *Rethinking Israel, Studies in the History and Archaeology of Ancient Israel in Honor of Israel Finkelstein*. (Winona Lake 2017), 329–339.

Although the so-called "Josianic reform" did not immediately produce clear results, it was the beginning of a new status for Jerusalem, which later became the "ideological center" of Judaism. The historical Josiah was perhaps not as influential and powerful as Finkelstein and many others think, as is shown by his inglorious end. He was probably controlled a great deal by his political, economic, and religious advisers, so that it is perhaps better to speak of a "Shaphanite" reform rather than a "Josianic" reform (if the Shaphahn family indeed played a major role). Be that as it may, during the reign of this king, there was much that set the stage that would later allow for—after the events of 587 BCE—a rethinking of the traditional way of national and religious identity.

RÖMER 2019

Thomas Römer, *Jeremiah and the ark*. In: JIM WEST & NIELS PETER LEMCHE (Hrsg.), *Jeremiah in History and Tradition*. (London 2019), 60–70.

STRANGE 1982

James F. Strange & Hershel Shanks, *Has the House Where Jesus Stayed in Capernaum Been Found?* *Biblical Archaeology Review* 8 (1982), vi, 26–37.

For all intents and purposes, this house as originally built is indistinguishable from all other houses of ancient Capernaum. Its indoor living area is somewhat larger than usual, but overall it is about the same size as other houses. Its building materials are the usual ones. It was built with no more sophistication than the others in the region. In short, there is nothing to distinguish this house from its neighbors, except perhaps the events that transpired there and what happened to it later.

During the second half of the first century A.D., someone did mark this house off from its neighbors. Perhaps as early as the middle of the first century A.D. the floor, walls, and ceiling of the single large room of the house were plastered. This was unusual in ancient Capernaum. Thus far, this is the only excavated house in the city with plastered walls. In the centuries that followed, the walls were re-plastered at least twice. The floor too was replastered a number of times.

## Biologie

MILLER 2020

Sara E. Miller & Michael J. Sheehan et al., *Evolutionary dynamics of recent selection on cognitive abilities*. *PNAS* 117 (2020), 3045–3052.

[pnas117-03045-Supplement1.pdf](#), [pnas117-03045-Supplement2.xlsx](#)

Cognitive abilities can vary dramatically among species. The relative importance of social and ecological challenges in shaping cognitive evolution has been the subject of a long-running and recently renewed debate, but little work has sought to understand the selective dynamics underlying the evolution of cognitive abilities. Here, we investigate recent selection related to cognition in the paper wasp *Polistes fuscatus*—a wasp that has uniquely evolved visual individual recognition abilities. We generate high quality de novo genome assemblies and population genomic resources for multiple species of paper wasps and use a population genomic framework to interrogate the probable mode and tempo of cognitive evolution. Recent, strong, hard selective sweeps in *P. fuscatus* contain loci annotated with functions in long-term memory formation, mushroom body development, and visual processing, traits which have recently evolved in association with individual recognition. The homologous pathways are not under selection in closely related wasps that lack individual recognition. Indeed, the prevalence of candidate cognition loci within the strongest selective sweeps suggests that the evolution of cognitive abilities has been among the strongest selection pressures in *P. fuscatus*' recent evolutionary history. Detailed analyses of selective sweeps containing candidate cognition loci reveal multiple cases of hard selective sweeps within the last few thousand years on de novo mutations, mainly in noncoding regions. These data provide unprecedented insight into some of the processes by which cognition evolves.

**Keywords:** cognition | selective sweeps | evolutionary dynamics | wasps | social evolution

Sara E. Miller, Andrew W. Legan, Michael T. Henshaw, Katherine L. Ostevik, Kieran Samuk, Floria M.K. Uy & Michael J. Sheehan

**Significance:** Humans have long been fascinated by animal cognition, but little research has addressed the dynamics of the evolution of cognitive traits. Does cognitive evolution involve strong selection on novel mutations or selection on preexisting genetic variation? Do selective events happen in concert or in multiple independent bouts? We examined population genomic signatures of cognitive adaptation in *Polistes fuscatus* paper wasps, which have recently evolved individual facial recognition. We find evidence for multiple hard selective sweeps of novel mutations associated with genes involved in learning, memory, brain development, and visual processing. Arguably, selection on cognition has been among the strongest selective pressures in the species' recent history. These data provide insight into the evolutionary processes by which new cognitive traits evolve.

## Islam

GROH 1994

Dennis E. Groh, *The Arian Controversy, How It Divided Early Christianity*. [Bible Review 10](#) (1994), i, 20–32.

## Judentum

GANZFRIED 1886

Rabbi Schelomo Ganzfried, *Kizzur Schulchan Aruch, Deutsch von Rabbiner Dr. Selig Bamberger*. (Basel 2016).

## Klima

HMIEL 2020

Benjamin Hmiel et al., *Preindustrial  $^{14}\text{CH}_4$  indicates greater anthropogenic fossil  $\text{CH}_4$  emissions*. [nature 578](#) (2020), 409–412.

[n578-0409-Supplement.pdf](#)

Atmospheric methane ( $\text{CH}_4$ ) is a potent greenhouse gas, and its mole fraction has more than doubled since the preindustrial era<sup>1</sup>. Fossil fuel extraction and use are among the largest anthropogenic sources of  $\text{CH}_4$  emissions, but the precise magnitude of these contributions is a subject of debate<sup>2,3</sup>. Carbon-14 in  $\text{CH}_4$  ( $^{14}\text{CH}_4$ ) can be used to distinguish between fossil ( $^{14}\text{C}$ -free)  $\text{CH}_4$  emissions and contemporaneous biogenic sources; however, poorly constrained direct  $^{14}\text{CH}_4$  emissions from nuclear reactors have complicated this approach since the middle of the 20th century<sup>4,5</sup>. Moreover, the partitioning of total fossil  $\text{CH}_4$  emissions (presently 172 to 195 teragrams  $\text{CH}_4$  per year)<sup>2,3</sup> between anthropogenic and natural geological sources (such as seeps and mud volcanoes) is under debate; emission inventories suggest that the latter account for about 40 to 60 teragrams  $\text{CH}_4$  per year<sup>6,7</sup>. Geological emissions were less than 15.4 teragrams  $\text{CH}_4$  per year at the end of the Pleistocene, about 11,600 years ago<sup>8</sup>, but that period is an imperfect analogue for present-day emissions owing to the large terrestrial ice sheet cover, lower sea level and extensive permafrost. Here we use preindustrial-era ice core  $^{14}\text{CH}_4$  measurements to show that natural geological  $\text{CH}_4$  emissions to the atmosphere were about 1.6 teragrams  $\text{CH}_4$  per year, with a maximum of 5.4 teragrams  $\text{CH}_4$  per year (95 per cent confidence limit)—an order of magnitude lower

than the currently used estimates. This result indicates that anthropogenic fossil CH<sub>4</sub> emissions are underestimated by about 38 to 58 teragrams CH<sub>4</sub> per year, or about 25 to 40 per cent of recent estimates. Our record Highlights the human impact on the atmosphere and climate, provides a firm target for inventories of the global CH<sub>4</sub> budget, and will help to inform strategies for targeted emission reductions<sup>9,10</sup>.

Benjamin Hmiel, V. V. Petrenko, M. N. Dyonisius, C. Buizert, A. M. Smith, P. F. Place, C. Harth, R. Beaudette, Q. Hua, B. Yang, I. Vimont, S. E. Michel, J. P. Severinghaus, D. Etheridge, T. Bromley, J. Schmitt, X. Faïn, R. F. Weiss & E. Dlugokencky

## Metallzeiten

AVNER 2014

Uzi Avner, *Egyptian Timna – Reconsidered*. In: JUAN MANUEL TEBES (Hrsg.), *Unearthing the Wilderness, Studies on the History and Archaeology of the Negev and Edom in the Iron Age*. Ancient Near Eastern Studies Supplement 45 (Leuven 2014), 103–162.

Unlike many studies in the past, it now seems that more attention should be paid to the indigenous, desert people. They were involved in developing the disciplines of mining and metallurgy from the very beginning, in the mid-fifth millennium BCE; they were the geologists, the mining engineers and the physicists behind this industry through the ages. Mining, smelting and trade in copper formed an integral part of their material culture long before the coming of the Egyptians and long after. They organised the work on a large scale on their own, not as cheap manpower but for their own economic interest. Most relevant to this point is the period from 1150 to 1000 BCE, the heyday of copper production in the Arabah Valley, a time when no “big power” existed nearby to initiate this industry.

The connection of the desert tribes to copper production brings to mind a name that runs through history: the Qenites, the biblical desert tribe, who were expert smiths. The name Qeni appeared in the early second millennium BCE on Stele 163 at Serabit al-Khadem. Later, the private name, Qini/Qinu, appears in the same region in sixty-eight Nabataean inscriptions, and the Kinuka (Qainuqa), a Jewish tribe of metal smiths lived in the northern Hejaz until the early seventh century CE. Besides the desert origin, common to all is the root “qnh”, Hebrew “create” and “smith” in Western Semitic languages. The smith was actually a magician, creating a new substance, a metal from a rock.

Today, however, ancient Egypt has returned to Timna Valley. All direction and explanation signs in the park are designed in an Egyptian artistic style. Visitors are instructed about the Egyptian mines, furnaces and temple, and a sophisticated presentation demonstrates the glory and achievements of the ancient Egyptians. The Egyptian pharaohs and gods have now been recruited for marketing the Timna Park.

## Mittelpaläolithikum

KOLOBOVA 2020

Kseniya A. Kolobova, Richard G. Roberts & Maciej T. Krajcarze et al., *Archaeological evidence for two separate dispersals of Neanderthals into southern Siberia*. *PNAS* **117** (2020), 2879–2885.

[pnas117-02879-Supplement.pdf](#)

Neanderthals were once widespread across Europe and western Asia. They also penetrated into the Altai Mountains of southern Siberia, but the geographical origin of these populations and the timing of their dispersal have remained elusive. Here we describe an archaeological assemblage from Chagyrskaya Cave, situated in the Altai foothills, where around 90,000 Middle Paleolithic artifacts and 74 Neanderthal remains have been recovered from deposits dating to between 59 and 49 thousand years ago (age range at 95.4% probability). Environmental reconstructions suggest that the Chagyrskaya hominins were adapted to the dry steppe and hunted bison. Their distinctive toolkit closely resembles Micoquian assemblages from central and eastern Europe, including the northern Caucasus, more than 3,000 kilometers to the west of Chagyrskaya Cave. At other Altai sites, evidence of earlier Neanderthal populations lacking associated Micoquian-like artifacts implies two or more Neanderthal incursions into this region. We identify eastern Europe as the most probable ancestral source region for the Chagyrskaya toolmakers, supported by DNA results linking the Neanderthal remains with populations in northern Croatia and the northern Caucasus, and providing a rare example of a long-distance, intercontinental population movement associated with a distinctive Paleolithic toolkit.

**Keywords:** Chagyrskaya Cave | Altai Mountains | Siberian Neanderthals | Middle Paleolithic | Micoquian artifacts

Kseniya A. Kolobova, Richard G. Roberts, Victor P. Chabai, Zenobia Jacobs, Maciej T. Krajcarze, Alena V. Shalaginaa, Andrey I. Krivoschapkin, Bo Li, Thorsten Uthmeier Sergey V. Markin, Mike W. Morley, Kieran O’Gormanb, Natalia A. Rudayaa, Sahra Talamoi, Bence Viola & Anatoly P. Derevianko

**Significance:** Neanderthals once inhabited Europe and western Asia, spreading as far east as the Altai Mountains in southern Siberia, but the geographical origin and time of arrival of the Altai populations remain unresolved. Excavations at Chagyrskaya Cave in the Altai foothills have yielded 90,000 stone artifacts, numerous bone tools, 74 Neanderthal fossils, and animal and plant remains recovered from 59,000- to 49,000-year-old deposits. The Chagyrskaya Neanderthals made distinctive stone tools that closely resemble Micoquian artifacts from eastern Europe, whereas other Altai sites occupied by earlier Neanderthal populations lack such artifacts. This suggests at least two dispersals of Neanderthals into southern Siberia, with the likely ancestral homeland of the Chagyrskaya toolmakers located 3,000 to 4,000 kilometers to the west, in eastern Europe.

## Politik

SANDFORD 2020

Maggie Ryan Sandford, *You can’t fight feelings with facts, Start with a chat.* *nature* **578** (2020), 339.

I donned a sandwich board inviting questions on evolution and learnt three crucial lessons about public engagement on divisive issues, writes Maggie Ryan Sandford.

Lay people are more likely to trust and engage with science when they learn that researchers are human beings, fallible and conflicted.

## Religion

KNÜSEL 2002

Christopher J. Knüsel, *More Circe than Cassandra, The Princess of Vix*

*in ritualized social context.* [European Journal of Archaeology 5 \(2002\), 275–308.](#)

Ritual and ritual specialists have often been dissociated from power in the writings of prehistorians and archaeologists. From ethnographic and ethnohistoric accounts, however, ritual specialists often exert disproportionate control over the maintenance, manipulation, and elaboration of social codes and practices. Their roles in ritual practice (orthopraxy in non-literate societies) and its effect on decision-making accord them considerable social and political importance. Due to this involvement they become the targets of ritual sanctions that include punitive rites, ritualized deaths, and suppression during periods of rapid social change, both from within their own societies and from without. The present article derives from a re-analysis of the Vix (Côte-d’Or, Burgundy) human skeletal remains, specifically with reference to the age, sex and health status of the interred individual. An evaluation of the social roles of this so-called ‘Princess’ is then attempted, integrating this biological information with that derived from a consideration of the grave inclusions and their imagery in the context of competitive feasting and social change in the late Hallstatt period.

Keywords: Burgundy | Hallstatt period | power | ritualists | Vix