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References

Afrika

Fenn 2009

Thomas R. Fenn, David J. Killick, John Chesley, Sonja Magnavita & Joaquin Ruiz, *Contacts Between West Africa and Roman North Africa, Archaeometallurgical Results from Kissi, Northeastern Burkina Faso.* In: Sonja Magnavita, Lassina Koté, Peter Breunig & Oumarou A. Idé (Hrsg.), *Crossroads / Carrefour Sahel, Cultural and technological developments in first millennium BC/AD West Africa.* Journal of African Archaeology Monograph Series 2 (Frankfurt 2009), 119–146.

Early first millennium AD trans-Saharan contacts between North and West Africa long have been debated and disputed, mainly due to lack of archaeological evidence. However, recent excavations in the Mare de Kissi region, northeastern Burkina Faso, recovered a number of exotic and imported materials in cemetery contexts mainly dated from between the 3rd to 7th centuries AD. Copper-based artifacts were recovered from some graves and were subjected to elemental and isotopic analyses. Lead isotopic analysis results suggest that metal used in the manufacture of some Kissi copper-based objects originated, at least partly, from North African and eastern Mediterranean ore sources. Strong similarities also were observed with metallurgical debris and ingots from the site of Marandet, Niger, suggesting connections between Kissi, Marandet and North Africa. Elemental analysis results indicate that the many copper-based objects shared common production histories, and the presence/absence and concentrations of alloying and minor impurity elements corroborated that much of the metal was wholly or partially produced outside West Africa. Isotopic and elemental analyses strongly support a North African and eastern Mediterranean origin for much of the Kissi metals, suggesting Roman era trade existed across the Sahara in the early irst millennium AD.

Magnavita 2008

Sonja Magnavita, *The Oldest Textiles from Sub-Saharan West Africa, Woolen Facts from Kissi, Burkina Faso.* Journal of African Archaeology **6** (2008), 243–257.

The textile evidence for the archaeological site of Kissi, Burkina Faso, is presented and the implications for the history of weaving in West Africa are discussed. Woolen textiles have been preserved in Iron Age graves of the irst millennium AD due to the corrosion of metal objects in the graves. This lucky circumstance adds further examples to the very small corpus of irst millennium AD textile finds, pushing back in time the evidence for the demand and use of cloth in sub-Saharan Africa.

Keywords: Textiles | wool | weaving | loom | ibers | Sahel | Burkina Faso

Mauch 1874
Carl Mauch, *Carl Mauch's Reisen im Inneren von Süd-Afrika 1865–1872*. Mittheilungen aus Justus Perthes' Geographischer Anstalt, Ergänzungsheft 37 (Gotha 1874).

Mbida 2005
C. Mbida, H. Doutrelepont, L. Viydaghs, Ro Swennen, Ru Swennen, H. Beeckman, E. De Langhe & P. de Maret, *The initial history of bananas in Africa, A reply to Jan Vansina, Azania, 2003*. Azania **40** (2005), 128–135.
In conclusion, we stand by our previous conclusion that the phytoliths from the Nkang site, dating from c. 2500 bp, belong to the genus Mzwa and that they point to banana cultivation in Africa at that time. We accept that the Nkang phytolith finds need to be substantiated by more specimens, preferably from other sites. It would, therefore, be desirable to differentiate AAB plantain from the AAA East African bananas, and efforts to that end are currently being conducted in order to develop an identification key of the phytolith deriving from the genus Mzwa, triploids cultivars included. The key involves qualitative and quantitative criteria (Ball et a/. 2005a&b, and submitted). Hence, we hope that the present debate encourages more archaeologists to track banana phytoliths in humid tropical Africa in order to apply the Mzwa phytolith identification key for further documenting the antiquity of banana in Africa.

Aktuell

Cohen 2022
Jon Cohen, *Monkeypox outbreak questions intensify as cases soar*. science **376** (2022), 902–903. DOI:10.1126/science.add1583.
Rapid emergence of hundreds of cases around the world alarms public health officials and scientists.

Kozlov 2022
Max Kozlov, *Monkeypox Goes Global, Why scientists are on the alert*. nature **606** (2022), 15–16.
Researchers are trying to understand why the virus, a less-lethal relative of smallpox, has cropped up in so many populations around the world.

Manry 2022
Jérémy Manry et al., *The risk of COVID-19 death is much greater and age dependent with type I IFN autoantibodies*. PNAS **119** (2022), e2200413119. DOI:10.1073/pnas.2200413119.
pnas119-e2200413119-Supplement.pdf
Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection fatality rate (IFR) doubles with every 5 y of age from childhood onward. Circulating autoantibodies neutralizing IFN-a, IFN-o, and/or IFN-b are found in ≈20 % of deceased patients across age groups, and in .1 % of individuals aged <70 y and in >4 % of those >70 y old in the general population. With a sample of 1,261 unvaccinated deceased patients and 34,159 individuals of the general population sampled before the pandemic, we estimated both IFR and relative risk of death (RRD) across age groups for individuals carrying autoantibodies neutralizing type I IFNs,

relative to noncarriers. The RRD associated with any combination of autoantibodies was higher in subjects under 70 y old. For autoantibodies neutralizing IFN-a2 or IFN-o, the RRDs were 17.0 (95 % CI: 11.7 to 24.7) and 5.8 (4.5 to 7.4) for individuals <70 y and >70 y old, respectively, whereas, for autoantibodies neutralizing both molecules, the RRDs were 188.3 (44.8 to 774.4) and 7.2 (5.0 to 10.3), respectively. In contrast, IFRs increased with age, ranging from 0.17 % (0.12 to 0.31) for individuals <40 y old to 26.7 % (20.3 to 35.2) for those >80 y old for autoantibodies neutralizing IFN-a2 or IFN-o, and from 0.84 % (0.31 to 8.28) to 40.5 % (27.82 to 61.20) for autoantibodies neutralizing both. Autoantibodies against type I IFNs increase IFRs, and are associated with high RRDs, especially when neutralizing both IFN-a2 and IFN-o. Remarkably, IFRs increase with age, whereas RRDs decrease with age. Autoimmunity to type I IFNs is a strong and common predictor of COVID-19 death.

Keywords: COVID-19 | type I IFNs | autoantibodies | relative risk | infection fatality rate

Significance: There is growing evidence that preexisting autoantibodies neutralizing type I interferons (IFNs) are strong determinants of life-threatening COVID-19 pneumonia. It is important to estimate their quantitative impact on COVID-19 mortality upon SARS-CoV-2 infection, by age and sex, as both the prevalence of these autoantibodies and the risk of COVID-19 death increase with age and are higher in men. Using an unvaccinated sample of 1,261 deceased patients and 34,159 individuals fromthe general population, we found that autoantibodies against type I IFNs strongly increased the SARS-CoV-2 infection fatality rate at all ages, in both men and women. Autoantibodies against type I IFNs are strong and common predictors of life-threatening COVID-19. Testing for these autoantibodies should be considered in the general population.

Sample 2022

Ian Sample, *Monkeypox may have been circulating in UK for years, scientists say*. Guardian **2022**, May 25.

UK confirmed cases in outbreak rise to 78, and experts say virus may have been spreading unseen for some time.

Tuvali 2022

Ortal Tuvali, Sagi Tshori, Estela Derazne, Rebecca Regina Hannuna, Arnon Afek, Dan Haberman, Gal Sella & Jacob George, *The Incidence of Myocarditis and Pericarditis in Post COVID-19 Unvaccinated Patients, A Large Population-Based Study*. Journal of Clinical Medicine **11** (2022), 2219, 1–10. DOI:10.3390/jcm11082219.

Myocarditis and pericarditis are potential post-acute cardiac sequelae of COVID-19 infection, arising from adaptive immune responses. We aimed to study the incidence of post-acute COVID-19 myocarditis and pericarditis. Retrospective cohort study of 196,992 adults after COVID-19 infection in Clalit Health Services members in Israel between March 2020 and January 2021. Inpatient myocarditis and pericarditis diagnoses were retrieved from day 10 after positive PCR. Follow-up was censored on 28 February 2021, with minimum observation of 18 days. The control cohort of 590,976 adults with at least one negative PCR and no positive PCR were age- and sex-matched. Since the Israeli vaccination program was initiated on 20 December 2020, the time-period matching of the control cohort was calculated backward from 15 December 2020. Nine post-COVID-19 patients developed myocarditis (0.0046 %), and eleven patients were diagnosed with pericarditis (0.0056 %). In the control cohort, 27 patients had myocarditis (0.0046 %)

and 52 had pericarditis (0.0088 %). Age (adjusted hazard ratio [aHR] 0.96, 95 % confidence interval [CI]; 0.93 to 1.00) and male sex (aHR 4.42; 95 % CI, 1.64 to 11.96) were associated with myocarditis. Male sex (aHR 1.93; 95 % CI 1.09 to 3.41) and peripheral vascular disease (aHR 4.20; 95 % CI 1.50 to 11.72) were associated with pericarditis. Post COVID-19 infection was not associated with either myocarditis (aHR 1.08; 95 % CI 0.45 to 2.56) or pericarditis (aHR 0.53; 95 % CI 0.25 to 1.13). We did not observe an increased incidence of neither pericarditis nor myocarditis in adult patients recovering from COVID-19 infection.

Keywords: COVID-19 | myocarditis | pericarditis

Amerika

Kreier 2022

Freda Kreier, *'Mind Blowing' Ancient Sites Uncovered in the Amazon*. nature **606** (2022), 16–17.

The urban centres are the first to be discovered in the region, challenging archaeological dogma.

Anthropologie

Allentoft 2022

Morten E. Allentoft et al., *Population Genomics of Stone Age Eurasia*. bioRxiv **2022**, May 6. DOI:10.1101/2022.05.04.490594.

bioRxiv2022-05.06-Supplement1.pdf, bioRxiv2022-05.06-Supplement2.pdf

The transitions from foraging to farming and later to pastoralism in Stone Age Eurasia (c. 113 thousand years before present, BP) represent some of the most dramatic lifestyle changes in human evolution. We sequenced 317 genomes of primarily Mesolithic and Neolithic individuals from across Eurasia combined with radiocarbon dates, stable isotope data, and pollen records. Genome imputation and co-analysis with previously published shotgun sequencing data resulted in >1600 complete ancient genome sequences offering fine-grained resolution into the Stone Age populations. We observe that: 1) Hunter-gatherer groups were more genetically diverse than previously known, and deeply divergent between western and eastern Eurasia. 2) We identify hitherto genetically undescribed hunter-gatherers from the Middle Don region that contributed ancestry to the later Yamnaya steppe pastoralists; 3) The genetic impact of the Neolithic transition was highly distinct, east and west of a boundary zone extending from the Black Sea to the Baltic. Large-scale shifts in genetic ancestry occurred to the west of this "Great Divide", including an almost complete replacement of hunter-gatherers in Denmark, while no substantial ancestry shifts took place during the same period to the east. This difference is also reflected in genetic relatedness within the populations, decreasing substantially in the west but not in the east where it remained high until c. 4,000 BP; 4) The second major genetic transformation around 5,000 BP happened at a much faster pace with Steppe-related ancestry reaching most parts of Europe within 1,000years. Local Neolithic farmers admixed with incoming pastoralists in eastern, western, and southern Europe whereas Scandinavia experienced another near-complete population replacement. Similar dramatic turnover-patterns are evident in western Siberia; 5) Extensive regional differences in the ancestry components involved in these early events remain visible to this day, even within countries. Neolithic farmer ancestry is highest in southern and eastern England while Steppe-related ancestry is highest in the Celtic populations

of Scotland, Wales, and Cornwall (this research has been conducted using the UK Biobank resource); 6) Shifts in diet, lifestyle and environment introduced new selection pressures involving at least 21 genomic regions. Most such variants were not universally selected across populations but were only advantageous in particular ancestral backgrounds. Contrary to previous claims, we find that selection on the FADS regions, associated with fatty acid metabolism, began before the Neolithisation of Europe. Similarly, the lactase persistence allele started increasing in frequency before the expansion of Steppe-related groups into Europe and has continued to increase up to the present. Along the genetic cline separating Mesolithic hunter-gatherers from Neolithic farmers, we find significant correlations with trait associations related to skin disorders, diet and lifestyle and mental health status, suggesting marked phenotypic differences between these groups with very different lifestyles. This work provides new insights into major transformations in recent human evolution, elucidating the complex interplay between selection and admixture that shaped patterns of genetic variation in modern populations.

Kreier 2022

Freda Kreier, *Ancient Tooth Shows Denisovans Ventured Far Beyond Siberia*. nature **606** (2022), 602–603.

Molar found in Laos could be first fossil evidence that the hominin species could adapt to different climates.

Marchi 2022

Nina Marchi et al., *The genomic origins of the world's first farmers*. Cell **185** (2022), 1842–1859.

Highlights:

- European HGs diverged from SW Asian HGs during the LGM
- Low genetic diversity of European HGs is due to a strong LGM demographic bottleneck
- Ancestors of western early farmers emerged after repeated post-LGM admixtures
- EFs strongly diverged from SW Asians during their expansion through Anatolia

The precise genetic origins of the first Neolithic farming populations in Europe and Southwest Asia, as well as the processes and the timing of their differentiation, remain largely unknown. Demogenomic modeling of high-quality ancient genomes reveals that the early farmers of Anatolia and Europe emerged from a multiphase mixing of a Southwest Asian population with a strongly bottlenecked western hunter-gatherer population after the last glacial maximum. Moreover, the ancestors of the first farmers of Europe and Anatolia went through a period of extreme genetic drift during their westward range expansion, contributing highly to their genetic distinctiveness. This modeling elucidates the demographic processes at the root of the Neolithic transition and leads to a spatial interpretation of the population history of Southwest Asia and Europe during the late Pleistocene and early Holocene.

Nina Marchi, Laura Winkelbach, Ilektra Schulz, Maxime Brami, Zuzana Hofmanová, Jens Blöcher, Carlos S. Reyna-Blanco, Yoan Diekmann, Alexandre Thiéry, Adamandia Kapopoulou, Vivian Link, Valérie Piuz, Susanne Kreutzer, Sylwia M. Figarska, Elissavet Ganiatsou, Albert Pukaj, Travis J. Struck, Ryan N. Gutenkunst, Necmi Karul, Fokke Gerritsen, Joachim Pechtl, Joris Peters, Andrea Zeeb-Lanz, Eva Lenneis, Maria Teschler-Nicola, Sevasti Triantaphyllou, Sofija Stefanović, Christina Papageorgopoulou, Daniel Wegmann, Joachim Burger & Laurent Excoffier

Padilla-Iglesias 2022

Cecilia Padilla-Iglesias et al., *Population interconnectivity over the past 120,000 years explains distribution and diversity of Central African hunter-gatherers*. PNAS **119** (2022), e2113936119.

pnas119-e2113936119-Supplement.pdf

The evolutionary history of African hunter-gatherers holds key insights into modern human diversity. Here, we combine ethnographic and genetic data on Central African hunter-gatherers (CAHG) to show that their current distribution and density are explained by ecology rather than by a displacement to marginal habitats due to recent farming expansions, as commonly assumed. We also estimate the range of huntergatherer presence across Central Africa over the past 120,000 years using paleoclimatic reconstructions, which were statistically validated by our newly compiled dataset of dated archaeological sites. Finally, we show that genomic estimates of divergence times between CAHG groups match our ecological estimates of periods favoring population splits, and that recoveries of connectivity would have facilitated subsequent gene flow. Our results reveal that CAHG stem from a deep history of partially connected populations. This form of sociality allowed the coexistence of relatively large effective population sizes and local differentiation, with important implications for the evolution of genetic and cultural diversity in Homo sapiens.

Keywords: hunter-gatherers | Central Africa | ecological niche modelling | environmental change | population dynamics

Cecilia Padilla-Iglesias, Lane M. Atmore, Jesús Olivero, Karen Lupo, Andrea Manica, Epifanía Arango Isaza, Lucio Vinicius & Andrea Bamberg Migliano

Significance: We combined ethnographic, archaeological, genetic, and paleoclimatic data to model the dynamics of Central African hunter-gatherer populations over the past 120,000 years. We show, against common assumptions, that their distribution and density are explained by changing environments rather than by a displacement following recent farming expansions, and that they have maintained large population sizes and genetic diversity, despite fluctuations in niche availability. Our results provide insights into the evolution of genetic and cultural diversity in Homo sapiens.

Archäologie

Cline 2020

Eric H Cline, *Digging up Armageddon, The search for the lost city of Solomon*. (Princeton 2022).

In 1925, famed Egyptologist James Henry Breasted sent a team of archaeologists to the Holy Land to excavate the ancient site of Megiddo–Armageddon in the New Testament–which the Bible says was fortified by King Solomon. Their excavations made headlines around the world and shed light on one of the most legendary cities of biblical times, yet little has been written about what happened behind the scenes. Digging Up Armageddon brings to life one of the most important archaeological expeditions ever undertaken, describing the stunning discoveries that were made there and providing an up-close look at the internal workings of a dig in the early years of biblical archaeology.

Maran 2022

Joseph Maran, *Archaeological Cultures, Fabricated Ethnicities and DNA Research, "Minoans" and "Mycenaeans" as Case Examples*. In:

Uri Davidovich, Naama Yahalom-Mack & Sveta Matskevich (Hrsg.), *Material, Method, and Meaning*, *Papers in Eastern Mediterranean Archaeology in Honor of Ilan Sharon*. Ägypten und Altes Testament 110 (Münster 2022), 7–25.

Primordialist understandings of ethnicity that rest on the proof of a direct and unbroken line of descent from ancient populations have, for good reasons, been abandoned by the humanities and social sciences after World War II. They were replaced by constructivist views that regard ethnicity as rooted in how groups think about themselves in specific social and historical contexts. By contrast, the "cultures" defined by archaeology constitute mere inventions by scholarship without any linkage to self-perceptions of past societies. The two cultures known as Minoan and Mycenaean are good examples of everything that is wrong with the concept of archaeological cultures. Besides creating the impression of longterm continuity and homogeneity in the geographical zones in question, the convention of juxtaposing the Minoan and Mycenaean cultures implies that societies in Crete and the Greek Mainland remained different for many centuries. The most problematic effect of defining archaeological cultures, however, is reflected in the habit of imbuing such mere constructs of archaeology with an "ethnic significance" by employing their names as substitutes for ethnic designations and speaking of "Mycenaeans" and "Minoans". By applying such fabricated ethnicities the impression is created that collective identities are clean-cut, supra-regionally and diachronically stable and mutually exclusive, not unlike modern nationalities. The alleged connection of "Minoans" and "Mycenaeans" to certain genetic patterns may then be taken as a justification for linking ethnicities to blood-ties. Those who do not wish to grace dangerous völkische ideologies of the extreme political right with scholarly respectability must realize that "ethnicizing" archeological "cultures" or language groups and "biologizing" them by linking them to DNA-patterns is not an innocent endeavor. Scholars using the results of aDNA research should refrain from imposing an ethnic significance on archaeological cultures and resist the temptation, fueled by public expectations, of connecting aDNA to ancient or modern collective identities. Fabricated ethnicities such as "Indo-Europeans", "Corded Ware people" or "Mycenaeans" should be particularly avoided in scholarly discourses as they create a false impression of supraregional and diachronic homogeneity (in the sense of Völker) and can thus be very easily abused for political ends.

Keywords: aDNA | Bronze Age | culture | ethnicity | Greece | Minoan | Mycenaean | Völker

Bibel

Hempel 2022

Charlotte Hempel, *Ezra and the Dead Sea Scrolls*. Biblical Archaeology Review **48** (2022), ii, 55–58.

I suggest another possible, more likely, explanation: Ezra was simply unknown to some Jewish scribes of the Second Temple period, including those of Qumran and the near contemporary writers behind the books of Ben Sira and 2 Maccabees. While this might at first seem a radical idea, given the prominence of Ezra in the Bibles we read today, we must remember that the evidence of the Dead Sea Scrolls, Ben Sira, and 2 Maccabees represents a signiicant portion of ancient Jewish literature, whose authors seem not to have had access to the Ezra tradition. This is in contrast, of course, to the writings and collections of other Jewish groups, where Ezra was not only present but prominent.

In a world before bookstores or Kindles, early Jewish communities only had access to those scrolls that their teachers or families had acquired or collected. Ancient Jewish scribes wrote their works on lengthy parchment scrolls, which were difficult to transport, store, access, and preserve as uniform collections. Although the Qumran scribes clearly had access to a comprehensive collection of biblical manuscripts from antiquity, it may well be that works preserving the Ezra tradition simply did not make it into their collection.

Knohl 2022

Israel Knohl, *The Messianic Controversy*. In: Grant Macaskill, Christl M. Maier & Joachim Schaper (Hrsg.), *Congress Volume Aberdeen 2019*. Vetus Testamentum Supplements 192 (Leiden 2022), 133–158.

In sum, the Torah as a whole, apart from the sections of poetry it contains, reflects an outlook that avoids ascribing kingship to God. In addition, it is distrustful of monarchy in general and makes a clear distinction between the human and the divine. This distinction is seen particularly in two spheres. First, while God lives forever, man is mortal. Even Moses, and even those who were born from the union of the sons of God and the daughters of men, had to die after a hundred and twenty years, "for they too were flesh."

Secondly, according to the Torah, God cannot reproduce biologically, and therefore there cannot be a man who is a "son of God." At most, the concept of a "son of God" serves as a collective metaphor for the relationship between God and the people of Israel. Against this clear separation between humans and the Divine, there is, as we saw above, in several psalms and in the words of several prophets a different tendency in which the figure of the King-Messiah is a kind of hybrid of the human and the divine. In these sources, there is a glorification of the position of the king to the point where he attains a superhuman status, whether it is a living king, as in the psalms, or a future king, as in several prophetic books. The king is glorified in several ways: through a description of the king as the son of God, by giving the king divine names, or when the king is given eternal life. After the disappearance of Zerubbabel around 515 BCE, we scarcely hear any messianic expectation for hundreds of years. It is only around the year 100 BCE that we can hear messianic voices first within the Dead Sea Scrolls and later among the Pharisees. However, in the priestly group of the Sadducees there are no messianic or eschatological expectations. The Sadducees also rejected the belief in resurrection.

Knohl 2022

Israel Knohl, *Psalm 29: Canaanite or Israelite? The Evidence of the Numerical Structure*. unknown (2022), preprint, 1–8.

Maeir 2021

Aren M. Maeir, *On Defining Israel, Or, Let's do the Kulturkreislehre Again!* Hebrew Bible and Ancient Israel **10** (2021), 106–148.

Most study of the definition of early Israel, from an archaeological perspective, is based on outdated views on the relationship between material culture and group identity, ignoring recent social theory on the relationship between the archaeological finds and group identity. This has led to simplistic assumptions on defining and identifying the materials correlates – and the group identities – relevant for understanding the formation and development of early Israel. While critical of much of the research, and aware of the limitations of the ability to interpret the archaeological remains, I suggest some paths how to move forward in defining –

what is and what is not – early Israel, stressing the need to focus on a bottom-up approach, commencing with the study of small-scale communities of practice.

Keywords: Israel | Iron Age | identity | ethnicity | communities of practice | technology

Na'aman 2017

Nadav Na'aman, *Was Khirbet Qeiyafa a Judahite City? The case against it*. Journal of Hebrew Scriptures **17** (2017), vii, 1–40.

In sum, many elements uncovered in Khirbet Qeiyafa connect it to the region wherein it is located, but other elements distance it from the Philistine sites of south Canaan. In my opinion, the thesis posed in my earlier article (Na aman 2010a), according to which Khirbet Qeiyafa reflects a shortterm revival of the Canaanite groups that remained in the Shephelah in the early 10th century BCE, still provides the best solution for the unique combination of elements discovered at the site. The destruction of Khirbet Qeiyafa and the eastward expansion of Gath brought to an end this south Canaanite enclave. From this point onward, the Philistines became Judah s western neighbours; and this neighborhood, with no additional separating political-cultural Canaanite groups, is reflected in the story-cycles of Saul, David and Solomon (see 1 Kgs 2:39–40).

Ortiz 2022

Steven Ortiz & Samuel Wolf, *Pharaoh's Fury, Merneptah's Destruction of Gezer*. Biblical Archaeology Review **48** (2022), ii, 48–54.

We know from excavation that in the inal days of Ramesses II's rule (r. 1279–1213 B.C.E.), the Egyptian governor's estate at Aphek as well as the administrative center at Jafa were violently destroyed. Some scholars attribute these destructions to the Canaanite king of Gezer who might have sought to take advantage of Egypt's perceived weakness during the waning years of Ramesses II's reign. It would then be conceivable that Ramesses' son and heir, Merneptah, responded to this unrest with a devastating campaign against Gezer and like-minded rebellious groups—including early Israel—who posed a threat to Egyptian control. Our excavations now offer a glimpse of the pharaoh's wrath.

Rollston 2008

Christopher A. Rollston, *The Phoenician Script of the Tel Zayit Abecedary and Putative Evidence for Israelite Literacy*. In: Ron Tappy & P. Kyle McCarter (Hrsg.), *Literate Culture and Tenth-Century Canaan, The Tel Zayit Abecedary in Context*. (University Park 2008), 61–96.

In sum, I must differ with the proposal that the Tel Zayit Abecedary is not written in the Phoenician script. Rather, I posit that it is, in fact, written in the Phoenician script. Ultimately, (1) the suggestion that elongation is a marker of a non-Phoenician script is not, in my opinion, sustainable. Rather, elongation is something that is well attested in the 10th and 9th centuries. Of course, the fact that elongation is the norm for all three major script series (Phoenician, Aramaic, and Old Hebrew) from the 9th century through the 6th century must also be factored in as evidence demonstrating that elongation is not a feature that can be considered unique to Phoenician, Hebrew, or Aramaic. (2) Furthermore, the suggestion that certain letters of the Tel Zayit Abecedary (such as bet, yod, or qop) do not fit the Phoenician script series of the same horizon is problematic. Actually, these letters fit the Phoenician script series very nicely.

Rollston 2021

Christopher Rollston, Yosef Garfinkel, Kyle H. Keimer,Gillan Davis & Saar Ganor, *The Jerubba'al Inscription from Khirbet al-Ra'i, A Proto-Canaanite (Early Alphabetic) Inscription.* Jerusalem Journal of Archaeology **2** (2021), 1–15.

This article presents a Proto-Canaanite inscription written in ink on a jug. It was unearthed in 2019 at Khirbet al-Ra'i, located 4 km west of Tel Lachish, in a level dated to the late twelfth or early eleventh century BCE. Only part of the inscription had survived, with five letters indicating the personal name Yrb'l (Jerubba'al). This name also appears in the biblical tradition, more or less in the same era: "[Gideon] from that day wascalled Yrb'l" (Judg. 6:31¡V32). This inscription, together with similar inscriptions from Beth-Shemesh and Khirbet Qeiyafa, contributes to a better understanding of the distribution of theophoric names with the element ba'al in the eleventh–tenth centuries BCE in Judah.

Keywords: Proto-Canaanite inscription | Jerubba'al | Khirbet al-Ra'i

Sergi 2015

Omer Sergi, *State Formation, Religion and "Collective Identity" in the Southern Levant.* Hebrew Bible and Ancient Israel **4** (2015), 56–77.

This study examines the role of textual production and scribal schools in the process of state formation, demonstrating that historiographic literature was used in order to constitute a collective identity. I argue that the accounts of David's battles with the Philistines (1 Sam 23:1–5; 2 Sam 5:17–25; 8:1) should be considered as early Judahite historiography, and I compare them with the accounts of Mesha battles with the Omrides (Mesha Inscription, lines 4–21), which may also be considered as an historiographical text related to state formation. I demonstrate that both texts share similar structure, content and narration and consequently both use similar strategies to reconstruct identity in a newly formed political entity. Furthermore, they both reflect the earliest stages of the development of the royal cult in Judah and Moab.

van der Veen 2015

Peter van der Veen, *The Name Shishaq: Šošenq or Šyšu/q? Responding to the critics and assessing the evidence.* In: Peter James & Peter G. van der Veen (Hrsg.), *Solomon and Shishak: Current Perspectives from Archaeology, Epigraphy, History and Chronology, Proceedings of the Third BICANE Colloquium, Sidney Sussex College, Cambridge, 26-27 March 2011.* BAR International Series 2732 (Oxford 2015), 82–97.

The author re-examines the linguistic arguments raised by a number of critics against the derivation of the biblical name Shishak from Ramesses (Sesu). While dealing with these criticisms at greater length, he will seek to reinforce the equation by presenting new evidence. The linguistic evidence from the Late Bronze Age not only appears to support the view that Egyptian /s/ was indeed represented by /š/ in the West Semitic dialects, qop within Shishak can also be reasonably explained as a scribal confusion between the letters waw and qoph, which indeed were written virtually the same when – according to the Centuries of Darkness model – Shishak invaded Judah.

Biologie

Milner 2005

George R. Milner, *Nineteenth-Century Arrow Wounds and Perceptions of Prehistoric Warfare*. American Antiquity **70** (2005), 144–156.

While the applicability of the Indian Wars experience to prehistoric settings is problematic, more for some issues than others, some quantification better than none at all. In aggregate, these case reports represent one of the few reasonably large samples of arrow injuries for any part of the world, past or present. The data are sufficient to say that arrows often do not strike bones, and wounds can be conservatively estimated as being something the order of three times the number that left indelible marks on skeletons. Postmortem damage including the erosion of bone surfaces and the complete loss of skeletal elements, makes it unlikely that all arrow wounds that struck bone can be recognized. It follows that when even a small fraction of a skeletal collection displays arrow wounds, conflicts must have been an important element of life, as Keeley (2001) has previously argued. Such figures are especially noteworthy when coupled with the mortality among survivors whose risk of dying was almost certainly elevated when essential tasks were disrupted by the sudden loss of critical members of self-sufficient households. Thus, cemetery samples with even a few percent of skeletons showing arrow wounds indicate that socially disruptive conflict gripped prehistoric villagers. The relative invisibility of signs of conflict-related trauma, whatever weapon caused it, means that this evidence, when it occurs, should not be dismissed casually.

Slavin 2022

Philip Slavin & Florent Sebbane, *Emergence and spread of ancestral Yersinia pestis in Late-Neolithic and Bronze-Age Eurasia, ca. 5,000 to 2,500 y B.P.* PNAS **119** (2022), e2204044119.

Valtueña 2022

Aida Andrades Valtueña, Gunnar U. Neumann, Maria A. Spyrou & Lyazzat Musralina et al., *Stone Age Yersinia pestis genomes shed light on the early evolution, diversity, and ecology of plague*. PNAS **119** (2022), e2116722119.

The bacterial pathogen Yersinia pestis gave rise to devastating outbreaks throughout human history, and ancient DNA evidence has shown it afflicted human populations as far back as the Neolithic. Y. pestis genomes recovered from the Eurasian Late Neolithic/ Early Bronze Age (LNBA) period have uncovered key evolutionary steps that led to its emergence from a Yersinia pseudotuberculosis-like progenitor; however, the number of reconstructed LNBA genomes are too few to explore its diversity during this critical period of development. Here, we present 17 Y. pestis genomes dating to 5,000 to 2,500 y BP from a wide geographic expanse across Eurasia. This increased dataset enabled us to explore correlations between temporal, geographical, and genetic distance. Our Results suggest a non-flea-adapted and potentially extinct single lineage that persisted over millennia without significant parallel diversification, accompanied by rapid dispersal across continents throughout this period, a trend not observed in other pathogens for which ancient genomes are available. A stepwise pattern of gene loss provides further clues on its early evolution and potential adaptation. We also discover the presence of the flea-adapted form of Y. pestis in Bronze Age Iberia, previously only identified in in the Caucasus and the Volga regions, suggesting a much wider geographic spread of this form of Y. pestis. Together, these

data reveal the dynamic nature of plague's formative years in terms of its early evolution and ecology.

Keywords: ancient DNA | plague | Yersinia pestis

Aida Andrades Valtueña, Gunnar U. Neumann, Maria A. Spyrou, Lyazzat Musralina, Franziska Aron, Arman Beisenov, Andrey B. Belinskiy, Kirsten I. Bos, Alexandra Buzhilova, Matthias Conrad, Leyla B. Djansugurova, Miroslav Dobeš, Michal Ernée, Javier Fernández-Eraso, Bruno Frohlich, Mirosław Furmanek, Agata Hałuszko, Svend Hansen, Éadaoin Harney, Alina N. Hiss, Alexander Hübner, Felix M. Key, Elmira Khussainova, Egor Kitov, Alexandra O. Kitova, Corina Knipper, Denise Kühnert, Carles Lalueza-Foxa, Judith Littleton, Ken Massy, Alissa Mittnik, José Antonio Mujika-Alustiza, Iñigo Olalde, Luka Papac, Sandra Penske, Jaroslav Peška, Ron Pinhasi, David Reich, Sabine Reinhold, Raphaela Stahl, Harald Stäuble, Rezeda I. Tukhbatova, Sergey Vasilyev, Elizaveta Veselovskaya, Christina Warinner, Philipp W. Stockhammer, Wolfgang Haak, Johannes Krause & Alexander Herbig

Significance: The bacterium Yersinia pestis has caused numerous historically documented outbreaks of plague and research using ancient DNA could demonstrate that it already affected human populations during the Neolithic. However, the pathogen's genetic diversity, geographic spread, and transmission dynamics during this early period of Y. pestis evolution are largely unexplored. Here, we describe a set of ancient plague genomes up to 5,000 y old from across Eurasia. Our data demonstrate that two genetically distinct forms of Y. pestis evolved in parallel and were both distributed across vast geographic distances, potentially occupying different ecological niches. Interpreted within the archeological context, our results suggest that the spread of plague during this period was linked to increased human mobility and intensification of animal husbandry.

Grabung

Kirkpatrick 2009

Casey Kirkpatrick, *Site 117, A Multidisciplinary Reconstruction of the Lives and Deaths of the Deceased at Nubia's First Known Cemetery.* Master Thesis, University of Wales (Swansea 2009).

The following study used a multidisciplinary method to reconstruct aspects of the diet, culture and lifestyle of the deceased of site 117. Archaeological, geological, technological, palaeopathological, palaeonutritional and palaeodemographical analyses were used to determine the environment in which the deceased of site 117 lived and their adaptations to this environment.

Essential (i.e. necessary to sustain life) and non-essential cultural aspects were theorized based on the resulting observations in an effort to understand the circumstances of life and death for this population. Ethnographical comparisons were also used to support several of the theories put forth. In addition to their role in forming these theories, the palaeopathological, palaeonutritional and palaeodemographical analyses were used to determine the effects of the environment and the aforementioned cultural adaptations on the nutrition, morbidity and mortality of the population. Together, these observations were used in an effort to reconstruct the settlement pattern, subsistence Methods, burial traditions and possible causes for interpersonal violence evident at this cemetery.

This study and reinterpretation of the available evidence suggests that the deceased of site 117 belonged to a semi-nomadic hunter-gatherer-fisher group. The majority, if not all, of the population interred at the site were fatally injured during battle or a massacre. There is no evidence to support the hypothesis that there

was a depletion of resources leading to competition between tribes. Instead, the violence was likely a result of personal disagreements or other matters of control or honour. While it has been suggested that all deaths occurred during the same massacre this study suggests that this cemetery was revisited and reused. This cemetery also shows evidence of several possible traditions or rituals which have also been interpreted in an effort to understand the ideology of the population.

Judentum

Ahearne-Kroll 2022

Patricia Ahearne-Kroll, *Aseneth of Egypt*. Biblical Archaeology Review **48** (2022), ii, 63–64.

Joseph's wife, Aseneth, was Egyptian. According to Genesis, she was the daughter of an Egyptian priest (Potiphera in Hebrew; Pentephres in Greek), and she married Joseph and bore Manasseh and Ephraim (41:45, 50–52). Aseneth is never mentioned again in the Tanakh or Christian Bible, and Genesis expresses no concern that she was Egyptian. The Israelite ancestral stories are interesting in this regard; sometimes they care about endogamy (marrying within kinship boundaries), and sometimes they do not (e.g., compare Genesis 24 and 28 with Genesis 38). Nevertheless, what didn't bother the scribes of Genesis raised questions for later Jewish writers. How could Joseph marry an Egyptian woman?

Klima

Heidgen 2022

Shaddai Heidgen et al., *Palaeoecological signals for Mesolithic land use in a Central European landscape?* Journal of Quaternary Science (2022), preprint, 1–16. .

During the Early Holocene, climate was the major factor causing fires, but whether during the Mesolithic (≈11.5–7.4 cal ka BP) people co-shaped their environment by means of fire remains of debate. Few studies have tackled this question by linking high-resolution multi-proxy palaeoecological studies from near Mesolithic occupation sites. An Early Holocene sediment record from the Ammer Valley palaeo-wetland in south-west Germany was studied using pollen, micro- and macrocharcoal, and plant macroremains. Archaeological evidence from Early and Late Mesolithic sites of Rottenburg-Siebenlinden allowed us to link this palaeoecological record with Mesolithic land use in the same catchment. Between 11.6 and 10.6 cal kaBP intensive wildfires reinforced the persistence of open and pioneer vegetation. A transition from a river- dominated landscape towards a wetland with open stagnant waters at 10.6–9.5 cal kaBP made the region attractive to hunter- gatherers, providing various plant resources (incl. hazel). From 10.1 cal kaBP onwards, Mesolithic communities may have shaped their environment by using fire as a tool to expand open areas, which were important for the implementation of their subsistence strategies. After 9.5 cal kaBP human control over fires cannot be excluded as Mesolithic occupation phases chronologically coincide with frequent low-intensity fires and vegetation disturbance.

Keywords: macrocharcoal | Mesolithic | palaeofire | palynology | south-western Germany

Shaddai Heidgen, Elena Marinova, Oliver Nelle, Martin Ebner, Teresa Rotava, Yvonne Tafelmaier, Raiko Krauß, Jörg Bofinger & Annett Junginger

Keller 2022

Thomas Keller & Dani Or, *Farm vehicles approaching weights of sauropods exceed safe mechanical limits for soil functioning.* PNAS **119** (2022), e2117699119.

pnas119-e2117699119-Supplement.pdf

Mechanization has greatly contributed to the success of modern agriculture, with vastly expanded food production capabilities achieved by the higher capacity of farm machinery. However, the increase in capacity has been accompanied by higher vehicle weights that increase risks of subsoil compaction. We show here that while surface contact stresses remained nearly constant over the course of modern mechanization, subsoil stresses have propagated into deeper soil layers and now exceed safe mechanical limits for soil ecological functioning. We developed a global map for delineating subsoil compaction susceptibility based on estimates of mechanization level, mean tractor size, soil texture, and climatic conditions. The alarming trend of chronic subsoil compaction risk over 20 % of arable land, with potential loss of productivity, calls for a more stringent design of farm machinery that considers intrinsic subsoil mechanical limits. As the total weight of modern harvesters is now approaching that of the largest animals that walked Earth, the sauropods, a paradox emerges of potential prehistoric subsoil compaction. We hypothesize that unconstrained roaming of sauropods would have had similar adverse effects on land productivity as modern farm vehicles, suggesting that ecological strategies for reducing subsoil compaction, including fixed foraging trails, must have guided these prehistoric giants.

Keywords: soil compaction | soil functions | crop productivity | mechanization | dinosaurs

Significance: Mechanization has transformed agriculture over the past century, greatly improving crop production efficiency. However, the higher capacity has resulted in increased farmvehicle weights. We show that whilemachinery design-maintains constant surface contact stresses, an insidious and largely overlooked threat of subsoil compaction has developed. We demonstrate that modern vehicles induce high soil stresses that now exceed critical mechanical thresholds formany arable soils, inducing chronic soil compaction in root zones below tillage depths and adversely affecting soil functioning. We draw parallels betweenmodern farm vehicles and the heaviest animals that walked Earth: sauropods. We hypothesize that these prehistoric giants may have induced subsoil compaction, thus presenting a paradox for productivity of the land that supported them.

Wu 2022

Pei-Chin Wu, Meng (Matt) Wei & Steven D'Hondt, *Subsidence in Coastal Cities Throughout the World Observed by InSAR.* Geophysical Research Letters (2022), preprint, 1–11. DOI:10.1029/2022GL098477.

We measured subsidence rates in 99 coastal cities around the world between 2015 and 2020 using the PS Interferometric Synthetic Aperture Radar method and Sentinel-1 data. In most cities, part of the land is subsiding faster than sea level is rising. If subsidence continues at present rates, these cities will be challenged by flooding much sooner than projected by sea level rise models. The most rapid subsidence is occurring in South, Southeast, and East Asia. However, rapid subsidence is also happening in North America, Europe, Africa, and Australia. Human activity—primarily groundwater extraction—is likely the main cause of this subsidence. Expanded monitoring and policy interventions are required to reduce subsidence rates and minimize their consequences.

Plain Language Summary Satellite data indicate that land is subsiding faster than sea level is rising in many coastal cities throughout the world. If subsid-

ence continues at recent rates, these cities will be challenged by flooding much sooner than projected by sea level rise models. We measured subsidence rates in 99 coastal cities around the world between 2015 and 2020 using satellite data. Subsidence rates are highly variable within cities and from city to city. The most rapid subsidence is occurring in South, Southeast, and East Asia. However, rapid subsidence is also happening in North America, Europe, Africa, and Australia. Human activity—primarily groundwater extraction—is likely the main cause of this subsidence. Expanded monitoring and policy interventions are required to reduce subsidence rates and minimize their consequences.

Kultur

Snyder 2022

William D. Snyder, Jonathan S. Reeves & Claudio Tennie, *Early knapping techniques do not necessitate cultural transmission*. Science Advances **8** (2022), eabo2594. DOI:10.1126/sciadv.abo2894.

Early stone tool production, or knapping, techniques are claimed to be the earliest evidence for cultural transmission in the human lineage. Previous experimental studies have trained human participants to knap in conditions involving opportunities for cultural transmission. Subsequent knapping was then interpreted as evidence for a necessity of the provided cultural transmission opportunities for these techniques. However, a valid necessity claim requires showing that individual learning alone cannot lead to early knapping techniques. Here, we tested human participants (N = 28) in cultural isolation for the individual learning of early knapping techniques by providing them with relevant raw materials and a puzzle task as motivation. Twenty-five participants were technique naïve according to posttest questionnaires, yet they individually learned early knapping techniques, therewith producing and using core and flake tools. Early knapping techniques thus do not necessitate cultural transmission of knowhow and could likewise have been individually derived among premodern hominins.

Sokol 2022

Joshua Sokol, *The stargazers*. science **376** (2022), 1036–1041.

The historic Maya oriented their lives by the heavens. Today, their descendants and Western scholars team up to understand their sophisticated astronomy.

Kupfer

Krüger 2012

Joachim Krüger et al., *Bronze Age tin rings from the Tollense valley in northeastern Germany*. Prähistorische Zeitschrift **87** (2012), 29–43.

The discovery of numerous human skeletal remains, with traces of violence in several cases, together with two wooden clubs, dating to period III of the Nordic Bronze has made the Tollense valley in Mecklenburg-Vorpommern the focus of research in the past few years. The unusual finds, c. 3300–3200 years old, were discovered at different locations along a c. 1.5 km long stretch of the river. Supported by the Deutsche Forschungsgemeinschaft (DFG), extensive diving surveys have been conducted in addition to excavations since 2010. During these surveys a new find locality (Weltzin 32) was discovered at a depth of up to 3 m under water level. Lots of human skeletal remains, found scattered and not in anatomical position, could be retrieved from fluviatile sands across a section of the river

bank. Despite difficult conditions it was possible to locate further finds among the skeletal material. This article introduces the find locality Weltzin 32 together with its most important finds, among them two small tin spiral rings. These new finds again raise the question of the origin and development of the find layer in the river valley. The authors favour the theory of violent conflicts, possibly also connected to sacrificial rites, as the cause for the accumulation of skeletal remains of at least 110 individuals, which repeatedly occur together with horse bones and weapons (arrowheads).

Keywords: Bronze Age | Tollense valley | tin rings | violence.

Joachim Krüger, Frank Nagel, Sonja Nagel, Detlef Jantzen, Reinhard Lampe, Jana Dräger, Gundula Lidke, Oliver Mecking, Tim Schüler and Thomas Terberger

Das Tollensetal in Mecklenburg-Vorpommern ist in den letzten Jahren durch die Entdeckung zahlreicher Menschenreste, die z.T. Verletzungen zeigen, und zweier Holzkeulen aus der älteren Nordischen Bronzezeit in den Blickpunkt der Forschung gerückt. Die ungewöhnlichen, ca. 3300–3200 Jahre alten Funde konnten auf einer Länge von ca. 1,5 km entlang des Flusses an verschiedenen Stellen nachgewiesen werden. Mit Unterstützung der DFG haben seit dem Sommer 2010 neben Ausgrabungen auch intensive Tauchprospektionen stattgefunden. Dabei ist es gelungen, eine neue Fundkonzentration (Weltzin 32) in einer Tiefe von bis zu ca. 3 m unter Geländeoberfläche im Fluss zu entdecken. Die bislang aus dem Profil geborgenen zahlreichen Menschenreste liegen nicht mehr in korrektem anatomischen Verband und sind in Flusssande eingebettet. Unter schwierigen Bedingungen ist es gelungen, zwischen den Menschenresten auch weitere Funde in der Fundschicht zu lokalisieren. Der Beitrag stellt die ausgezeichnet erhaltene Lokalität mit ihren wichtigsten Funden vor, unter denen zwei kleine Zinnringe ganz besonders hervorzuheben sind. Die Neufunde werfen wiederum die Frage nach dem Entstehungskontext der Fundschicht im Flusstal auf. Die Autoren favorisieren als Ursache für die ausgedehnte Ablagerung der Überreste von mindestens ca. 110 Individuen, die wiederholt mit Pferdeknochen und Waffen / Pfeilspitzen vergesellschaftet sind, Gewaltkonflikte und möglicherweise auch Opferhandlungen.

Keywords: Ältere Bronzezeit | Tollensetal | Zinnringe | Gewaltkonflikt.

Metallzeiten

Cline 2022

Eric H. Cline, *1177 B.C. The Collapse of Bronze Age Civilization.* Biblical Archaeology Review **48** (2022), ii, 40–47.

And if our interconnected world is nearing the breaking point, are there lessons we can learn from the Late Bronze Age collapse to help prevent or stave of our collective demise?

First, we should be aware that no society is invulnerable. Every society in the history of the world has ultimately collapsed. The collapse of similarly intertwined civilizations just after 1200 B.C. should be a warning to us that it can certainly happen again.

Second, while it is clear that climate change and pandemics have caused instability in the past, there is at least one major diference between then and now—we are aware of what is happening, both scientiically and socially, and can respond accordingly.

Our world has the knowledge, technology, and resources to meet the challenges posed by a "systems collapse." If we are aware of serious problems on the horizon that can afect the world order, such as climate change, it behooves us to take steps to ix them as best we can and as soon as we can.

We would do well to heed what happened to the lourishing kingdoms of the Aegean and eastern Mediterranean during the collapse at the end of the Late Bronze Age. We are not as far removed from those days as one might think; COVID-19 has just exposed a vulnerability of modern societies to one of the forces of nature. The story of their collapse has its own inherent fascination, but it should also remind us of the fragility of our own world.

Methoden

Connah 2008

Graham Connah, *Urbanism and the Archaeological Visibility of African Complex Societies*. Journal of African Archaeology **6** (2008), 233–241.

One of the principal manifestations of African complex societies is urbanism. However, a concentration on the excavation of larger settlements built in long-lasting materials and on the excavation of elite structures within such settlements, means that the archaeology of African social complexity presents an unrepresentative picture. Archaeologically, some societies have a low visibility. There is a need to improve our methodology if this problem is to be overcome. A greater use should be made of aerial photography and satellite coverage to locate sites, and many known sites need detailed planning by these and other means. Regional surveys are also needed, in order to establish the settlement hierarchies of which the principal sites were a part. Such surveys should be followed by systematic surface collection and by both physical and electronic sub-surface prospection, use of the latter particularly needing development in the African context. Only then should excavation be resorted to but it is largescale open-area excavation guided by rigorous sampling procedures that will be necessary to obtain the most useful information about social organization in the past. In addition, relevant ethnoarchaeological investigations need to be undertaken wherever possible, and extensive use should be made of ethnohistorical documentation. It is concluded that, to improve the archaeological visibility of ancient African urbanism, we need either larger and internationally-funded research programmes or we need programmes that make up for modest funding by continuing over a number of years.

Keywords: Urbanism | archaeological visibility | African complex societies | survey methods | excavation methods | scale of investigations

Winegard 2014

Benjamin M. Winegard, *Misrepresentations of Evolutionary Psychology in Sex and Gender Textbooks*. Evolutionary Psychology **12** (2014), 474–508. .

Evolutionary psychology has provoked controversy, especially when applied to human sex differences. We hypothesize that this is partly due to misunderstandings of evolutionary psychology that are perpetuated by undergraduate sex and gender textbooks. As an initial test of this hypothesis, we develop a catalog of eight types of errors and document their occurrence in 15 widely used sex and gender textbooks. Consistent with our hypothesis, of the 12 textbooks that discussed evolutionary psychology, all contained at least one error, and the median number of errors was five. The most common types of errors were “Straw Man”, “Biological Determinism”, and “Species Selection”. We conclude by suggesting improvements to undergraduate sex and gender textbooks.

Keywords: textbooks | evolutionary psychology | sex differences | sex and gender studies

Neolithikum

Alt 2020

Kurt W. Alt, Frank Ramsthaler, Eva Scheurer, Sandra L. Pichler & Manuel A. Rojo Guerra et al., *A massacre of early Neolithic farmers in the high Pyrenees at Els Trocs, Spain*. Scientific Reports **10** (2020), 2131. DOI:10.1038/s41598-020-58483-9.

SciRep10-02131-Supplement.pdf

Violence seems deeply rooted in human nature and an endemic potential for such is today frequently associated with differing ethnic, religious or socio-economic backgrounds. Ethnic nepotism is believed to be one of the main causes of inter-group violence in multi-ethnic societies. At the site of Els Trocs in the Spanish pyrenees, rivalling groups of either migrating early farmers or farmers and indigenous hunter-gatherers collided violently around 5300 BCE. This clash apparently resulted in a massacre of the Els Trocs farmers. The overkill reaction was possibly triggered by xenophobia or massive disputes over resources or privileges. In the present, violence and xenophobia are controlled and sanctioned through social codes of conduct and institutions. So that, rather than representing an insurmountable evolutionary inheritance, violence and ethnic nepotism can be overcome and a sustainable future achieved through mutual respect, tolerance and openness to multi-ethnic societies.

Kurt W. Alt, Cristina Tejedor Rodríguez, Nicole Nicklisch, David Roth, Anna Szécsényi Nagy, Corina Knipper, Susanne Lindauer, Petra Held, Iñigo García Martínez De Lagrán, Georg Schulz, Thomas Schuerch, Florian Thieringer, Philipp Brantner, Guido Brandt, Nicole Israel, Héctor Arcusa Magallón, Christian Meyer, Balazs G. Mende, Frieder Enzmann, Veit Dresely, Frank Ramsthaler, José Ignacio Royo Guillén, Eva Scheurer, Esther López Montalvo, Rafael Garrido Pena, Sandra L. Pichler & Manuel A. Rojo Guerra

Religion

Banerjee 2015

Konika Banerjee & Paul Bloom, *Religion: More Money, More Morals*. Current Biology **25** (2015), r37–r38.

Between 500 BCE and 300 BCE, religions worldwide underwent a dramatic shift, emphasizing morality and asceticism for the first time. A new study suggests that the emergence of this new type of religion can be explained by increases in prosperity.

Baumard 2015

Nicolas Baumard, Alexandre Hyafil, Ian Morris & Pascal Boyer, *Increased Affluence Explains the Emergence of Ascetic Wisdoms and Moralizing Religions*. Current Biology **25** (2015), 10–15.

Background: Between roughly 500 BCE and 300 BCE, three distinct regions, the Yangtze and Yellow River Valleys, the Eastern Mediterranean, and the Ganges Valley, saw the emergence of highly similar religious traditions with an unprecedented emphasis on self-discipline and asceticism and with "otherworldly," often moralizing, doctrines, including Buddhism, Jainism, Brahmanism, Daoism, Second Temple Judaism, and Stoicism, with later offshoots, such as Christianity, Manichaeism, and Islam. This cultural convergence, often called the "Axial Age," presents a puzzle: why did this emerge at the same time as distinct moralizing

religions, with highly similar features in different civilizations? The puzzle may be solved by quantitative historical evidence that demonstrates an exceptional uptake in energy capture (a proxy for general prosperity) just before the Axial Age in these three regions.

Results: Statistical modeling confirms that economic development, not political complexity or population size, accounts for the timing of the Axial Age.

Conclusions: We discussed several possible causal pathways, including the development of literacy and urban life, and put forward the idea, inspired by life history theory, that absolute affluence would have impacted human motivation and reward systems, nudging people away from short-term strategies (resource acquisition and coercive interactions) and promoting long-term strategies (self-control techniques and cooperative interactions).

Johnson 2005

Dominic D. P. Johnson, *God's Punishment and Public Goods, A Test of the Supernatural Punishment Hypothesis in 186 World Cultures*. Human Nature **16** (2005), 410–446.

Cooperation towards public goods relies on credible threats of punishment to deter cheats. However, punishing is costly, so it remains unclear who incurred the costs of enforcement in our evolutionary past. Theoretical work suggests that human cooperation may be promoted if people believe in supernatural punishment for moral transgressions. This theory is supported by new work in cognitive psychology and by anecdotal ethnographic evidence, but formal quantitative tests remain to be done. Using data from 186 societies around the globe, I test whether the likelihood of supernatural punishment–indexed by the importance of moralizing "high godsis associated with cooperation.

Keywords: Cooperation | Evolution of cooperation | Gods | High gods | Intentionality system | Religion | Sanctions | Standard Cross-Cultural Sample | Supernatural punishment | World cultures

Peoples 2012

Hervey C. Peoples & Frank W. Marlowe, *Subsistence and the Evolution of Religion*. Human Nature **23** (2012), 253–269.

HumNat23-253-Supplement.pdf

We present a cross-cultural analysis showing that the presence of an active or moral High God in societies varies generally along a continuum from lesser to greater technological complexity and subsistence productivity. Foragers are least likely to have High Gods. Horticulturalists and agriculturalists are more likely. Pastoralists are most likely, though they are less easily positioned along the productivity continuum. We suggest that belief in moral High Gods was fostered by emerging leaders in societies dependent on resources that were difficult to manage and defend without group cooperation. These leaders used the concept of a supernatural moral enforcer to manipulate others into cooperating, which resulted in greater productivity. Reproductive success would accrue most to such leaders, but the average reproductive success of all individuals in the society would also increase with greater productivity. Supernatural enforcement of moral codes maintained social cohesion and allowed for further population growth, giving one society an advantage in competition with others.

Keywords: Religion | Evolution | Subsistence | Foragers | Pastoralists | Supernatural punishment

Peoples 2016

Hervey C. Peoples, Pavel Duda & Frank W. Marlowe, *Hunter-Gatherers and the Origins of Religion*. Human Nature **27** (2016), 261–282.

HumNat27-261-Supplement.pdf

Recent studies of the evolution of religion have revealed the cognitive underpinnings of belief in supernatural agents, the role of ritual in promoting cooperation, and the contribution of morally punishing high gods to the growth and stabilization of human society. The universality of religion across human society points to a deep evolutionary past. However, specific traits of nascent religiosity, and the sequence in which they emerged, have remained unknown. Here we reconstruct the evolution of religious beliefs and behaviors in early modern humans using a global sample of hunter-gatherers and seven traits describing hunter-gatherer religiosity: animism, belief in an afterlife, shamanism, ancestor worship, high gods, and worship of ancestors or high gods who are active in human affairs. We reconstruct ancestral character states using a time-calibrated supertree based on published phylogenetic trees and linguistic classification and then test for correlated evolution between the characters and for the direction of cultural change. Results indicate that the oldest trait of religion, present in the most recent common ancestor of present-day hunter-gatherers, was animism, in agreement with long-standing beliefs about the fundamental role of this trait. Belief in an afterlife emerged, followed by shamanism and ancestor worship. Ancestor spirits or high gods who are active in human affairs were absent in early humans, suggesting a deep history for the egalitarian nature of hunter-gatherer societies. There is a significant positive relationship between most characters investigated, but the trait "high gods" stands apart, suggesting that belief in a single creator deity can emerge in a society regardless of other aspects of its religion.

Keywords: Religion | Evolution | Hunter-gatherers | Animism | High gods | Cultural phylogenetics

Watts 2015

Joseph Watts, Simon J. Greenhill, Quentin D. Atkinson, Thomas E. Currie, Joseph Bulbulia & Russell D. Gray, *Broad supernatural punishment but not moralizing high gods precede the evolution of political complexity in Austronesia*. Proc. Royal Society B **282** (2015), 20142556.

ProcRSocB282-20142556-Supplement.pdf

Supernatural belief presents an explanatory challenge to evolutionary theorists—it is both costly and prevalent. One influential functional explanation claims that the imagined threat of supernatural punishment can suppress selfishness and enhance cooperation. Specifically, morally concerned supreme deities or 'moralizing high gods' have been argued to reduce free-riding in large social groups, enabling believers to build the kind of complex societies that define modern humanity. Previous cross-cultural studies claiming to support the MHG hypothesis rely on correlational analyses only and do not correct for the statistical non-independence of sampled cultures. Here we use a Bayesian phylogenetic approach with a sample of 96 Austronesian cultures to test the MHG hypothesis as well as an alternative supernatural punishment hypothesis that allows punishment by a broad range of moralizing agents. We find evidence that broad supernatural punishment drives political complexity, whereas MHGs follow political complexity. We suggest that the concept of MHGs diffused as part of a suite of traits arising from cultural exchange between complex societies. Our results show the power of phylogenetic methods to address long-standing debates about the origins and functions of religion in human society.

Keywords: cultural evolution | phylogenetics | supernatural punishment | social complexity | evolution of religion | political complexity

Whitehouse 2021

Harvey Whitehouse, Pieter François & Patrick E. Savage et al., *Testing the Big Gods Hypothesis with global historical data, A review and 'retake'*. Online **2021**, Apr. 3. DOI:10.31219/osf.io/mbnvg.

This 'Retake' article presents a corrected and extended version of a Letter published in Nature (Whitehouse et al., 2019) which set out to test the Big Gods hypothesis proposing that beliefs in moralizing punitive deities drove the evolution of sociopolitical complexity in world history. The Letter was retracted by the authors in response to a critique by Beheim et al. (2021). Correction of errors in the coding and analysis of missing data to address this critique does not significantly change the main findings of the original Nature Letter. We report the results of a major reanalysis of Seshat data following expansion of the codebook and database and substantial improvements to our data management methods. We also employ a more direct statistical methodology to test theories of evolutionary causality. Together, these results show a compellingly convergent picture, confirming the headline finding of the original Letter in Nature, which shows that the largest increases in social complexity do indeed precede Big Gods in world history and that Big Gods did not contribute to the evolution of sociopolitical complexity as predicted by the Big Gods hypothesis.

Harvey Whitehouse, Pieter François, Patrick E. Savage, Daniel Hoyer, Kevin C. Feeney, Enrico Cioni, Rosalind Purcell, Jennifer Larson, John Baines, Barend ter Haar, Alan Covey & Peter Turchin

Story or Book

Heymans 2022

Catherine Heymans, *Implied but unseen*. science **376** (2022), 926.

A journalist probes dark matter and those who study it.

The Elephant in the Universe: Our Hundred-Year Search for Dark Matter. Govert Schilling. Belknap Press, 2022. 376 pp.

As the decades pass, the nature of research shifts from a moment when academics had the freedom and time to pursue interdisciplinary research to today's era of fast-paced competition. Mistakes are made, and individuals who should know better intimidate and bully.

While the decade-long search for the weakly interacting massive particle (WIMP) dark matter candidate continues to come up empty-handed, fear is in the air as we move from the era of the "WIMP miracle" into a fast-approaching "dark crisis." Will dark matter and dark energy become the ether of the 21st century?