

References

Afrika

CONNAH 1976

Graham Connah, *The Daima Sequence and the Prehistoric Chronology of the Lake Chad Region of Nigeria*. [Journal of African History 17 \(1976\), 321–352](#).

DAVISON 1971

Claire C. Davison, Robert D. Giaouque & J. Desmond Clark, *Two Chemical Groups of Dichroic Glass Beads from West Africa*. [Man, New Series 6 \(1971\), 645–659](#).

Certain blue glass beads from west African archaeological sites have been found by X-ray fluorescence analysis to fall into two chemical groups. Each group includes beads which exhibit blue/yellow dichroism and/or cords. Held in the hand, the dichroic examples appear blue, but against the light they appear greenish-yellow.

One group of dichroic and corded beads appears to belong to the glass industry of Ife, and that relationship will be discussed in a forthcoming report. The present article presents the two chemical groups and discusses possible relationships between them.

GRONENBORN 2011

DETLEF GRONENBORN (Hrsg.), *Gold, Sklaven und Elfenbein – Mittelalterliche Reiche im Norden Nigerias, Begleitbuch zur Ausstellung im Römisch-Germanischen Zentralmuseum 22. September 2011 bis 1. Januar 2012*. Mosaiksteine – Forschungen am RGZM 7 ([Mainz 2011](#)).

GRONENBORN 2012

Detlef Gronenborn et al., *Durbi Takusheyi, A high-status burial site in the western Central bilād al-sūdān*. [Azania 47 \(2012\), 256–271](#).

Durbi Takusheyi is a burial site composed of at least eight mounds located between the modern towns of Katsina and Daura in northern Nigeria. Parts of the mounds were first excavated in 1907 by Herbert Richmond Palmer in cooperation with the Emir of Katsina and later again in 1992 in the course of a German research project under the lead of Dierk Lange, Bayreuth. After the 1992 excavation, the retained blocks were stored in the Jos Museum, Nigeria, for further analyses. In 2007 the Römisch-Germanisches Zentralmuseum (RGZM) and the National Commission for Museums and Monuments in Nigeria (NCMM) started a project with the objective of completely restoring and analyzing the excavated artefacts.

While the remains of the first excavation appear to be lost with only minimal information preserved, the three mounds excavated in 1992 each contained a single interment in the centre of the mound, all three with various burial goods produced from inorganic (metal, glass, stone, cowries) and organic material (cloth, wood, hides). Many artefacts are of regional provenance but some were also imported from distant regions of the Islamic world. Following the currently available

radiocarbon measurements, one group of the burials would date to the earlier fourteenth century AD, and judging from typology and art history another burial dates to the later fifteenth/early sixteenth centuries. The site thus covers a crucial phase in history during which the Hausa city states emerged, indicating shifting contacts to the Mediterranean and to the Middle East.

Keywords: Northern Nigeria | Katsina | Daura | Hausaland | emerging élites | city states | Islam

Detlef Gronenborn, Paul Adderley, James Amejé, Arun Banerjee, Thomas Fenn, Gerhard Liesegang, Claus-Peter Haase, Yusuf Abdallah Usman & Stephan Patscher

HOLL 2009

Augustin F. C. Holl, *Early West African Metallurgies, New Data and Old Orthodoxy*. [Journal of World Prehistory](#) **22** (2009), 415–438.

The debate on West African metallurgies cannot be properly understood without reference to the colonial template that featured Africa as the receiving partner in all crucial social, economic, and technological development. The interesting debate that took place in West Africa during the Colonial Period was more meta-theoretical than factual. These conflicting glosses, despite their lack of empirical foundations, have constrained the nature of archaeological research and oversimplified the dynamics of the many facets of technological innovation. The relative boom in archaeological research that took place from the 1960s onwards resulted in an exponential growth of factual information. Challenging evidence has emerged from Niger, Nigeria, Burkina Faso, Cameroon, Central African Republic, Gabon, Togo, and Senegal. The picture that emerges from this survey calls for more sophisticated explanations for the origins of West African metallurgies away from the single non-African source hypothesis.

Keywords: Early metallurgy | West Africa | Chronology | Copper | Iron | Early forges

KILLICK 2009

David Killick, *Cairo to Cape, The Spread of Metallurgy Through Eastern and Southern Africa*. [Journal of World Prehistory](#) **22** (2009), 399–414.

This article traces the beginnings of metallurgy in the eastern half of the African continent, focusing on three regions: (1) Egypt and Nubia; (2) the Great Lakes region of Central and East Africa; and (3) southern Africa. Metallurgy was not practiced much beyond the Nile valley until the first millennium BC, when copper, bronze and iron metallurgy began in Ethiopia and Eritrea, and iron metallurgy in the Great Lakes region. The expansion of agricultural societies carried iron metallurgy south, reaching its southern limit in South Africa by c. 300 cal AD. Copper was also smelted in southern Africa, but its use was restricted to pendants, bracelets, wire and other items of jewelry. In stark contrast to the metallurgical sequence in the Nile Valley, there was no production of tin, lead, gold or silver in central or southern Africa before these regions were linked to the Islamic world system after c. 800 AD.

The main point to take away from this review is that there is an absolute break—in central Sudan—of the southwards diffusion of metallurgy. Egypt and Nubia are, with respect to metallurgy, peripheral regions of the Near Eastern systems of technology and values. The earliest metallurgy in Egypt, in the late fifth millennium BC, was clearly acquired from adjacent regions of the Levant, as is seen by the parallelism in the value accorded to copper, gold, turquoise and lapis lazuli in both regions. It is not yet clear when metals were first smelted in Nubia

(as opposed to imported from Egypt) but bronze metallurgy was definitely well established at Kerma towards the end of the third millennium BC, and was (at the very latest) extended up the Nile to the vicinity of present Khartoum during the reconquest of Nubia at the beginning of the New Kingdom (c. 1500 BC). Iron was smelted in Nubia by at least 500 BC. It appears, on present evidence, that there was then a long hiatus in the further expansion of metallurgy. Copper, bronze and gold first appeared in Pre-Axumite sites in Ethiopia and Eritrea in the early first millennium BC, but whether the technology came from the Nile or from south Arabia is not yet known.

Keywords: Metallurgy | Africa | Egypt | Nubia | Iron | Copper | Gold | Tin

MCINTOSH 1993

Susan Keech McIntosh & Roderick J. McIntosh, *Cities without Citadels, Understanding urban origins along the middle Niger*. In: THURSTAN SHAW, PAUL SINCLAIR, BASSEY ANDAH & ALEX OKPOKO (Hrsg.), *The Archaeology of Africa, Food, metals and towns*. (London 1993), 622–641.

MAGNAVITA 2003

Sonja Magnavita, *The Beads of Kissi, Burkina Faso*. [Journal of African Archaeology 1 \(2003\), 127–138](#).

Archaeological investigations on settlements and graveyards near the Mare de Kissi in NE Burkina Faso proved human occupation at that location at least from the 4th century BC up to the 12th/13th century AD. Among others, one important category of finds recovered from excavations are beads: about five thousand of various materials were found, especially as grave goods in the cemeteries, but also in the settlement zones. A clear imbalance in raw materials is visible between beads found in the settlement zones and those from the cemeteries: there is a trend towards low value materials in the settlement zones, while beads found in the graves demonstrate wealth and important trade relations of that society.

MAGNAVITA 2006

Sonja Magnavita, *1500 Jahre am Mare de Kissi, Eine Fallstudie zur Besiedlungsgeschichte des Sahel von Burkina Faso*. Dissertation, Universität Frankfurt ([Frankfurt 2015](#)).

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 first millennium AD due to the corrosion of metal objects in the graves. This lucky circumstance adds further examples to the very small corpus of first millennium AD textile finds, pushing back in time the evidence for the demand and use of cloth in sub-Saharan Africa.

MAGNAVITA 2009

Sonja Magnavita, *Sahelian Crossroads, Some Aspects on the Iron Age Sites of Kissi, 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), 79–104.

Surveys and excavations at the archaeological sites of Kissi in NE Burkina Faso revealed settlements sites and graveyards dating to the first and early second millennium AD. Some of the grave goods found associated with burials, like swords and daggers, glass beads, cowries, and textiles, are among the oldest of their kind in Burkina Faso and sub-Saharan West Africa. The type and amount of goods found in discrete graves seemingly indicate both the existence of a hierarchical social system and trade connections of interregional and long-distance character. The Kissi sites shed light on vital topics of discussion concerning the history of the region in the first millennium AD: the River Niger as a commercial axis, trans-Saharan trade and the socio-political development of West Africa before the Arab influence.

MAGNAVITA 2017

Sonja Magnavita & Carlos Magnavita, *A Very Brief Archaeological Reconnaissance of the Niger Valley in the Southwestern Niger Republic*. In: NICOLE RUPP, CHRISTINA BECK, GABRIELE FRANKE & KARL PETER WENDT (Hrsg.), *Winds of Change, Archaeological Contributions in Honour of Peter Breunig*. Frankfurter Archäologische Schriften 35 (Bonn 2017), 181–191.

The eastern Niger Bend in the cross-border space between Mali, Niger and Burkina Faso is an especially interesting region concerning the early emergence of African urbanism, sociopolitical complexity and long-distance contacts. Despite that significance, the region has mostly only seen sporadic and localized field research in the course of the last fifty years. One of this virtually blank zones encompasses the western margins of the Niger between Niamey and the Sirba and Dargol river valleys. In 2008 and 2009, we conducted field surveys and test-pitting that aimed at evaluating the archaeological potential of the area. This paper succinctly presents original results of that work and provides a perspective for future research.

Keywords: Eastern Niger Bend | Niger | first millennium CE | field survey | test excavations

NIKIS 2017

Nicolas Nikis & Alexandre Livingstone Smith, *Copper, Trade and Politics: Exchange Networks in Southern Central Africa in the 2nd Millennium CE*. *Journal of Southern African Studies* 43 (2017), 895–911.

A rare, scattered resource in Central Africa, copper was produced in the Copperbelt since the 4th–7th centuries CE and traded over large distances from the 9th to the 19th centuries. It was exchanged mainly in the form of cross-shaped ingots, also called croisettes, varying in form and size over time and space. In this article, we explore and compare the spatial distribution of these ingots over time. This approach offers an opportunity to study pre-colonial trade. Indeed, during the 2nd millennium CE, the use of the same type of ingots is attested in distant regions, from the Great Zimbabwe area to the Upemba depression (north Katanga, Democratic Republic of Congo [DRC]). Over the centuries, changes in geographic distribution patterns and styles indicate shifts in contacts and the appearance

of new boundaries. These variations reflect changes in the regional distribution networks and suggest areas of exclusive political influence. Historical information available for the 19th century shows that it is possible to link the diffusion of copper with political entities, a hypothesis supported by evidence related to other kinds of production, such as ceramics and salt. For remote periods, confrontation of the croisettes' distribution with other aspects of material culture suggests that such links between socio-political spaces and copper distribution may also have occurred in the distant past.

Keywords: Copperbelt | copper ingots | croisettes | precolonial trade | exchange networks | socio-political boundaries | social spaces

REDMAN 1979

Charles L. Redman, Ronald D. Anzalone & Patricia E. Rubertone, *Medieval Archaeology at Qsar es-Seghir, Morocco*. [Journal of Field Archaeology](#) **6** (1979), 1–16.

JFieldArch06-001-Abbildung.zip

The medieval port fortress of Qsar es-Seghir is located midway between the modern cities of Tangier and Sebta on the Moroccan coast of the Strait of Gibraltar. Qsar es-Seghir was an active participant in the events and developments of the 12th through 16th centuries, although its population never grew to urban proportions. In addition to an historical and material reconstruction of human activities during that era, another primary goal of the Qsar es-Seghir project is the improvement and evaluation of methods of archaeological research for examining complex society. This article presents the historical context of the investigations, a brief discussion of basic research strategies employed, and a summary of findings from the excavation.

RICHTER 1995

Jürgen Richter, *Prähistorische Felskunst und Besiedlung in Zentralnamibia*. [Archäologische Informationen](#) **18** (1995), 19–30.

ROBERTSHAW 2009

Peter Robertshaw, Sonja Magnavita, Marilee Wood, Erik Melchiorre, Rachel Popelka-Filcoff & Michael D. Glascock, *Glass Beads From Kissi (Burkina Faso), Chemical Analysis and Archaeological Interpretation*. 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), 105–118.

Chemical analysis, using LA-ICP-MS, of 37 glass beads from the cemetery of Kissi 13 in Burkina Faso revealed the presence of three main types of glass. Soda-lime-silica glass, manufactured using plant ash as the flux, was the glass type from which almost all the beads were made. Western Asia, specifically the region east of the Euphrates River, was the probable source of most of this glass, except for four beads made from glass likely manufactured in the Levant. One bead is made of a high-alumina, high-lime glass manufactured in West Africa. Another has white stripes from the probable use of the mineral pyromorphite as a coloring agent. Although chemical analysis aids in the identification of the sources of the glass, the analysis does not shed light on where the beads themselves were made.

SCERRI 2021

Eleanor M.L. Scerri et al., *Continuity of the Middle Stone Age into the Holocene*. [Scientific Reports 11 \(2021\), 70](#). DOI:10.1038/s41598-020-79418-4.

The African Middle Stone Age (MSA, typically considered to span ca. 300–30 thousand years ago [ka]), represents our species' first and longest lasting cultural phase. Although the MSA to Later Stone Age (LSA) transition is known to have had a degree of spatial and temporal variability, recent studies have implied that in some regions, the MSA persisted well beyond 30 ka. Here we report two new sites in Senegal that date the end of the MSA to around 11 ka, the youngest yet documented MSA in Africa. This shows that this cultural phase persisted into the Holocene. These results highlight significant spatial and temporal cultural variability in the African Late Pleistocene, consistent with genomic and palaeo-anthropological hypotheses that significant, long-standing inter-group cultural differences shaped the later stages of human evolution in Africa.

Eleanor M.L. Scerri, Khady Niang, Ian Candy, James Blinkhorn, William Mills, Jacopo N. Cerasoni, Mark D. Bateman, Alison Crowther & Huw S. Groucutt

SORIANO 2010

Sylvain Soriano, Michel Rasse, Chantal Tribolo & Eric Huysecom, *Ounjougou, A long Middle Stone Age sequence in the Dogon country (Mali)*. In: PHILIP ALLSWORTH-JONES (Hrsg.), *West African Archaeology, New developments, new perspectives*. BAR International Series 2164 (Oxford 2010), 1–14.

West Africa at the moment is totally absent from discussions relating to the Middle Stone Age. Sites belonging to this period have been known in this region for a long time, but their stratigraphic context has frequently been unsure or is completely lacking. As in southern Africa and in western Europe, progress in our knowledge of this stage depends mainly on the construction of a general chronological framework, preferably correlated with worldwide climatic changes and supported by absolute dates. For this reason the study of the complex of open air sites at Ounjougou has opened up a new perspective on the MSA in West Africa. Almost 30 archaeological levels belonging to the period have been identified within thick Pleistocene deposits, most of aeolian origin. Systematic recovery of OSL dates has allowed this sequence of deposits to be determined chronologically, and the many palaeolithic occupations have thus been indirectly dated. The oldest MSA occupations are dated to the end of the Middle Pleistocene, about 150 kyrs ago. They are more numerous between 80 and 25 kyrs ago, with a particular concentration in isotopic stage 3.

As usual in open air sites, the density of material within these archaeological levels is very variable, and only the lithic industries have been preserved. Apart from the frequency of occupation, the originality of this archaeological sequence resides in the diversity of these industries, which follow on one from another without any apparent logic. Techniques of manufacture (such as Levallois, discoid, blade, unipolar, or bipolar on anvil) alternate throughout the sequence, and industries characterized by bifacial foliate artefacts occur more than once. If for the most part these industries it easily enough within the West African MSA as a whole, there are some questions arising with regard to the diversity of technical traditions and their rapid alternation. Are there regional equivalents for this rhythm of change, does it have any particular significance in terms of the peopling of West Africa at this time, and what could have led to these rapid changes?

Keywords: West Africa | Middle Stone Age | chronology | settlement

SULE 2014

Abubakar Sani Sule & Anne Haour, *The archaeology of northern Nigeria, Trade, people and politics, 1500 BP onwards*. *Azania* **49** (2014), 439–462.

This paper offers an overview of archaeological work carried out in the northern part of the Federal Republic of Nigeria and dealing with sites of the past 1500 years ('Historical' and 'Iron Age'). Selecting case studies spanning the past 40 years, it discusses both well-published and less well-published evidence and pays particular attention to setting research within the institutional context of archaeology in Nigeria. It concludes with recommendations for future work and, in particular, calls for a move away from focusing on excavation and for much more sustained post-excavation analyses, including revisiting material, such as pottery, that is currently languishing in the archives of Nigerian institutions.

Keywords: Nigeria | historical archaeology | Iron Age archaeology | pottery | long-distance exchange

Aktuell

FLEMING-DUTRA 2022

Katherine E. Fleming-Dutra et al., *Association of Prior BNT162b2 COVID-19 Vaccination With Symptomatic SARS-CoV-2 Infection in Children and Adolescents During Omicron Predominance*. *Journal of the American Medical Association* (2022), preprint, 1–10. DOI:10.1001/jama.2022.7493.

Among children and adolescents, estimated VE for 2 doses of BNT162b2 against symptomatic infection was modest and decreased rapidly. Among adolescents, the estimated effectiveness increased after a booster dose.

Katherine E. Fleming-Dutra, Amadea Britton, Nong Shang, Gordana Derado, Ruth Link-Gelles, Emma K. Accorsi, Zachary R. Smith, Joseph Miller, Jennifer R. Verani, Stephanie J. Schrag

FOLLMANN 2022

Dean Follmann, Holly E. Janes, Olive D. Buhule, Honghong Zhou, Bethany, Girard, Kristen Marks, Karen Kotloff, Michaël Desjar, *Anti-nucleocapsid antibodies following SARS-CoV-2 infection in the blinded phase of the mRNA-1273 Covid-19 vaccine efficacy clinical trial*. *medRxiv* **2022**, Apr. 19. DOI:10.1101/2022.04.18.22271936.

As a marker of recent infection, anti-N Abs may have lower sensitivity in mRNA-1273-vaccinated persons who become infected. Vaccination status should be considered when interpreting seroprevalence and seropositivity data based solely on anti-N Ab testing.

Conclusions about the prevalence and incidence of SARS-CoV-2 infection in vaccinated persons based on anti-nucleocapsid antibody assays need to be weighed in the context of these results.

Dean Follmann, Holly E. Janes, Olive D. Buhule, Honghong Zhou, Bethany, Girard, Kristen Marks, Karen Kotloff, Michaël Desjardins, Lawrence Corey, Kathleen M. Neuzil, Jacqueline M. Miller, Hana M. El Sahly, Lindsey R. Baden

MALLAPATY 2022

Smriti Mallapaty, *Most US Kids Have Caught the Coronavirus*. *nature* **605** (2022), 207.

Antibody survey finds that infections in very young children doubled during the Omicron wave.

Anthropologie

ALLENTOFT 2022

Morten E. Allentoft et al., *Population Genomics of Stone Age Eurasia*. [bioRxiv 2022, May 5. DOI:10.1101/2022.05.04.490594](https://doi.org/10.1101/2022.05.04.490594).

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 1,000 years. 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.

ARNOLD 2014

Lee J. Arnold et al., *Luminescence dating and palaeomagnetic age constraint on hominins from Sima de los Huesos, Atapuerca, Spain*. *Journal of Human Evolution* **67** (2014), 85–107.

Establishing a reliable chronology on the extensive hominin remains at Sima de los Huesos is critical for an improved understanding of the complex evolutionary histories and phylogenetic relationships of the European Middle Pleistocene hominin record. In this study, we use a combination of ‘extended-range’ luminescence dating techniques and palaeomagnetism to provide new age constraint on sedimentary infills that are unambiguously associated with the Sima fossil assemblage. Post-infrared-infrared stimulated luminescence (pIR-IR) dating of K-feldspars and thermally transferred optically stimulated luminescence (TT-OSL) dating of individual quartz grains provide weighted mean ages of 433 ± 15 ka (thousands of years) and 416 ± 19 ka, respectively, for allochthonous sedimentary horizons overlying the hominin-bearing clay breccia. The six replicate luminescence ages obtained for this deposit are reproducible and provide a combined minimum age estimate of 427 ± 12 ka for the underlying hominin fossils. Palaeomagnetic directions for the luminescence dated sediment horizon and underlying fossiliferous clays display exclusively normal polarities. These findings are consistent with the luminescence dating results and confirm that the hominin fossil horizon accumulated during the Brunhes Chron, i.e., within the last 780 ka. The new bracketing age constraint for the Sima hominins is in broad agreement with radiometrically dated *Homo heidelbergensis* fossil sites, such as Mauer and Arago, and suggests that the split of the *H. neanderthalensis* and *H. sapiens* lineages took place during the early Middle Pleistocene. More widespread numerical dating of key Early and Middle Pleistocene fossil sites across Europe is needed to test and refine competing models of hominin evolution. The new luminescence chronologies presented in this study demonstrate the versatility of TT-OSL and pIR-IR techniques and the potential role they could play in helping to refine evolutionary histories over Middle Pleistocene timescales.

Keywords: Geochronology | Middle Pleistocene | Brunhes | Western Europe | *Homo heidelbergensis* | *Homo neanderthalensis*

Lee J. Arnold, Martina Demuro, Josep M. Parés, Juan Luis Arsuaga, Arantza Aranburu, José María Bermúdez de Castro & Eudald Carbonell

BRAND 2022

Colin M. Brand, Frances J. White, Alan R. Rogers & Timothy H. Webster, *Estimating bonobo (*Pan paniscus*) and chimpanzee (*Pan troglodytes*) evolutionary history from nucleotide site patterns*. *PNAS* **119** (2022), e2200858119.

[pnas119-e2200858119-Supplement.pdf](#)

Admixture appears increasingly ubiquitous in the evolutionary history of various taxa, including humans. Such gene flow likely also occurred among our closest living relatives: bonobos (*Pan paniscus*) and chimpanzees (*Pan troglodytes*). However, our understanding of their evolutionary history has been limited by studies that do not consider all *Pan* lineages or do not analyze all lineages simultaneously, resulting in conflicting demographic models. Here, we investigate this gap in knowledge using nucleotide site patterns calculated from whole-genome sequences from the autosomes of 71 bonobos and chimpanzees, representing all five extant *Pan* lineages. We estimated demographic parameters and compared all previously proposed demographic models for this clade. We further considered sex bias in *Pan* evolutionary history by analyzing the site patterns from the X chromosome. We show that 1) 21% of autosomal DNA in eastern chimpanzees derives from western

chimpanzee introgression and that 2) all four chimpanzee lineages share a common ancestor about 987,000 y ago, much earlier than previous estimates. In addition, we suggest that 3) there was male reproductive skew throughout Pan evolutionary history and find evidence of 4) male-biased dispersal from western to eastern chimpanzees. Collectively, these results offer insight into bonobo and chimpanzee evolutionary history and suggest considerable differences between current and historic chimpanzee biogeography.

Keywords: admixture | Congo River | demography | introgression | male reproductive skew

Significance: There is genomic evidence of widespread admixture in deep time between many closely related species, including humans. Our closest living relatives, bonobos and chimpanzees, may also exhibit such patterns. However, assessing the exact degree of interbreeding remains challenging because previous studies have resulted in multiple inconsistent demographic models. We use an approach that addresses these gaps by analyzing all lineages, simultaneously estimating parameters, and comparing previously models. We find evidence of considerable introgression from western into eastern chimpanzees. We also show more breeding females than males and evidence of male-biased dispersal in western chimpanzees. These findings highlight the extent of admixture in bonobo and chimpanzee evolutionary history and are consistent with substantial differences between past and present chimpanzee biogeography.

DEMETER 2022

Fabrice Demeter et al., *A Middle Pleistocene Denisovan molar from the Annamite Chain of northern Laos*. [Nature Communications 13 \(2022\), 2557, 1–17](#). DOI:10.1038/s41467-022-29923-z.

[NatComm13-a02557-Supplement.pdf](#)

The Pleistocene presence of the genus *Homo* in continental Southeast Asia is primarily evidenced by a sparse stone tool record and rare human remains. Here we report a Middle Pleistocene hominin specimen from Laos, with the discovery of a molar from the Tam Ngu Hao 2 (Cobra Cave) limestone cave in the Annamite Mountains. The age of the fossil-bearing breccia ranges between 164–131 kyr, based on the Bayesian modelling of luminescence dating of the sedimentary matrix from which it was recovered, U-series dating of an overlying flowstone, and U-series–ESR dating of associated faunal teeth. Analyses of the internal structure of the molar in tandem with palaeoproteomic analyses of the enamel indicate that the tooth derives from a young, likely female, *Homo* individual. The close morphological affinities with the Xiahe specimen from China indicate that they belong to the same taxon and that Tam Ngu Hao 2 most likely represents a Denisovan.

Fabrice Demeter, Clément Zanolli, Kira E. Westaway, Renaud Joannes-Boyau, Philippe Durringer, Mike W. Morley, Frido Welker, Patrick L. Rütter, Matthew M. Skinner, Hugh McColl, Charleen Gaunitz, Lasse Vinner, Tyler E. Dunn, Jesper V. Olsen, Martin Sikora, Jean-Luc Ponche, Eric Suzzoni, Sébastien Frangeul, Quentin Boesch, Pierre-Olivier Antoine, Lei Pan, Song Xing, Jian-Xin Zhao, Richard M. Bailey, Souliphane Boualaphane, Phonephanh Sichanthongtip, Daovee Sihanam, Elise Patole-Edoumba, Françoise Aubaile, Françoise Crozier, Nicolas Bourgon, Alexandra Zachwieja, Thonglith Luangkhoth, Viengkeo Souksavatdy, Thongsa Sayavongkhamdy, Enrico Cappellini, Anne-Marie Bacon, Jean-Jacques Hublin, Eske Willerslev & Laura Shackelford

YELLEN 1995

John E. Yellen, Alison S. Brooks, Els Cornelissen, Michael J. Mehiman & Kathlyn Stewart, *A Middle Stone Age Worked Bone Industry from*

Katanda, Upper Semliki Valley, Zaire. [science](#) **268** (1995), 553–556.

Three archaeological sites at Katanda on the Upper Semliki River in the Western Rift Valley of Zaire have provided evidence for a well-developed bone industry in a Middle Stone Age context. Artifacts include both barbed and unbarbed points as well as a daggerlike object. Dating by both direct and indirect means indicate an age of ~90,000 years or older. Together with abundant fish (primarily catfish) remains, the bone technology indicates that a complex subsistence specialization had developed in Africa by this time. The level of behavioral competence required is consistent with that of upper Paleolithic *Homo sapiens sapiens*. These data support an African origin of behaviorally as well as biologically modern humans.

Bibel

CLINES 1974

D. J. A. Clines, *The Evidence for an Autumnal New Year in Pre-Exilic Israel Reconsidered.* [Journal of Biblical Literature](#) **93** (1974), 22–40.

The conclusion of this study is that while there are no data that categorically exclude autumnal reckoning of the calendar year prior to ca. 605 B.C., there are no data that support it, not even cumulatively. On the other hand, there is one piece of evidence (the reference to Abib in the festival “calendars”) which may suggest spring new year reckoning, but which certainly does not amount to a strong argument in favor of such reckoning. What can be claimed, however, is that it can no longer be confidently affirmed that in pre-exilic Israel the calendar year began in the autumn, nor can it be said with confidence that the Babylonian calendar was adopted ca. 605 B.C., nor can it be assumed that the reckoning of months according to a spring new year can be used as a criterion for dating a document in which it occurs.

CLINES 2015

David J. A. Clines, *The Decalogue as the Prohibition of Theft.* In: RANFRID I. THELLE, TERJE STORDALEN & MERVYN E. J. RICHARDSON (Hrsg.), *New Perspectives on Old Testament Prophecy and History, Essays in Honour of Hans M. Barstad.* *Vetus Testamentum Supplements* 168 ([Leiden 2015](#)), 293–305.

Recognizing the Decalogue as directed as a whole and in its parts toward one particular issue, the avoidance of theft, has a profound effect on how the Decalogue should be understood. It can no longer be regarded as a comprehensive rule for life, or as a statement of universal ethical principles, or as fundamental guidance for a just society. It addresses only one element in a scheme of justice, that is, not robbing others of what is due to them. It completely ignores the issue of how giving to others what is due to them may be achieved. And it leaves entirely out of consideration social values outside the realm of justice, such as friendship, kindness, solidarity, and the communal experience of joy and sorrow.

FINKELSTEIN 2020

Israel Finkelstein, Christophe Nicolle & Thomas Römer, *Archaeological Excavations at Kiriath-jearim and the Ark Narrative in the Books of Samuel.* In: HAMOUDI KHALAILY, AMIT RE’EM, JACOB VARDI & IANIR MILEVSKI (Hrsg.), *The Mega Project at Motza (Moza), The Neolithic and Later Occupations up to the 20th Century.*

New Studies in the Archaeology of Jerusalem and Its Region, Supplement ([Jerusalem 2020](#)), 313–331.

The first version of the Ark Narrative in 1 Samuel 4:1–7:1 was probably written under Jeroboam II, who made Kiriath-jearim—on the border between Israel and its vassal kingdom Judah—the new sanctuary of the Ark, instead of the holy place at Shiloh. The sanctuary of the Ark was established in a monumental compound that could have had other functions, among them guarding the road to Jerusalem and hence dominating Judah’s capital. Placing the Ark on the border between the two Hebrew kingdoms could have also been related to a ‘United Monarchy’ ideology in Israel.

The original Ark Narrative, which ends in 1 Samuel 7:1, was therefore the hieros logos of the shrine of Kiriath-jearim.

The Ark was transferred from Kiriath-jearim to Jerusalem probably during the reign of King Josiah who, in the framework of his centralization policy, had it set in the Temple of Jerusalem. Josiah’s scribes edited the ancient text and composed the story in 2 Samuel 6. They also rewrote the story of the construction of the Temple in 1 Kings 6–8 in order to ‘prove’ that the Ark was part of the Temple ever since its construction. Another possibility is to date the transfer of the Ark from Kiriath-jearim to Jerusalem somewhat earlier, to the days of Hezekiah. This would mean that enough time had passed between the actual event and the composition of 2 Samuel 6, to allow the Josianic scribes to argue that the Ark was brought to the Temple by David.

Biologie

CASTELVECCHI 2022

Davide Castelvechi, *Did Life Begin with RNA–Protein Hybrids?* [nature](#) **605** (2022), 409.

Researchers propose an amino-acid twist to the ‘RNA world’ theory of life’s origins.

Datierung

DEMURO 2022

Martina Demuro et al., *Extended-range luminescence chronologies for the Middle Pleistocene units at the Sima del Elefante archaeological site (Sierra de Atapuerca, Burgos, Spain)*. [Quaternary Geochronology](#) **71** (2022), 101318, 1–11.

[QuGeochr71-a101318-Supplement.pdf](#)

The Sima del Elefante site is located within the Sierra de Atapuerca karst system (Burgos, northern Spain), and forms part of a series of important Early, Middle and Late Pleistocene archaeological complexes that have been dated previously with luminescence techniques (Gran Dolina, Galeria Complex, Sima de los Huesos, Galeria de las Estatuas). This study focuses on the upper Middle Pleistocene units (TE18 and TE19) at Sima del Elefante, which contain Acheulean and transitional lithic assemblages (Mode 2/3), as well as large and small mammal fossils. Importantly, these uppermost units are associated with a sediment plug located in the cave’s interior at Galeria Baja, which marks the closure of a significant palaeoentrance to the Atapuerca karst system. Establishing the accumulation history of these related deposits is important for understanding both Lower Palaeolithic technological dynamics via comparisons with similar levels at

other Atapuerca sites (i.e., Gran Dolina and Galeria Complex), as well as past human occupation patterns and carnivore use of (and accessibility to) the caves. We present single-grain TT-OSL and multi-grain pIR-IR chronologies for the Sima del Elefante upper sequence and the Galeria Baja sediment cone, as well as U-series dating results for a stalagmitic crust capping the combined clastic infill sequence. The paired luminescence ages for the upper occupation levels are in agreement with each other and reveal that the host deposits accumulated 576–481 ka for the TE18 stratified scree layers, 266–237 ka for TE19 and 206–250 ka for the Galeria Baja upper cone section (weighted mean 2s age ranges). A concordant U-series age of 202 ± 65 ka is obtained for the overlying stalagmitic crust at Galeria Baja. The Sima del Elefante ages are consistent with those previously obtained using U-series and biochronology, confirming that there is an erosional unconformity and complex carbonate deposition phase associated with the upper layers of unit TE18 and that the original cave entrance likely closed by ≈ 200 ka. Chronological correlation with other Atapuerca sites reveals potential equivalence between TE18 and unit TD8 (at Gran Dolina), and between TE19 and units GIIb–GIIIb (at Galeria Complex) and, possibly, TD10.1 and TD10.2 (at Gran Dolina), though more refined dating is required to confirm the latter.

Keywords: Atapuerca | Sima del Elefante | Single-grain TT-OSL | Post IR-IR | Middle pleistocene

Martina Demuro, Lee J. Arnold, Josep-María Parés, Arantza Aranburu, Rosa Huguet, Josep Vallverdú, Juan-Luis Arsuaga, José-María Bermúdez de Castro & Eudald Carbonell

Energie

BUNDESAMT 2019

Bundesamt für Bevölkerungsschutz & Katastrophenhilfe (BBK), *Auswertungsbericht LÜKEX 18, Gasmangellage in Süddeutschland*. Online 2019, July 1. <<http://www.bbk.bund.de/SharedDocs/Downloads/DE/Mediathek/Publikationen/LUEKEX/luekex18-auswertungsbericht.pdf>> (2022-07-26).

Es wurde deutlich, dass das Szenario einer Gasmangellage zwar eine geringe Eintrittswahrscheinlichkeit, dafür aber ein hohes Schadenspotenzial aufweist. Der großflächige Ausfall des Energieträgers Gas mit einer zeitgleich auftretenden, langanhaltenden und extremen Kälteperiode hätte drastische Auswirkungen auf das öffentliche Leben und die Versorgung.

Im Übungsverlauf sanken die Speicherstände kontinuierlich weiter und es wurden mehrere Lieferausfälle eingespielt. Die Ursache der Lieferausfälle, die Kopplung zwischen Gas- und Stromausfällen und der internationale Gastransit wurden in der Übung nicht betrachtet.

Grabung

ALT 1995

Kurt W. Alt, Werner Vach & Joachim Wahl, *Verwandtschaftsanalyse der Skelettreste aus dem bandkeramischen Massengrab von Talheim, Kreis Heilbronn, Applikation mit odontologischen und klassisch-epigenetischen Merkmalen*. *Fundberichte aus Baden-Württemberg* 20 (1995), 195–217.

Eine Gesamtbeurteilung der bisherigen verwandtschaftsanalytischen Ergebnisse weist auf einen wesentlichen Widerspruch hin. Zunächst läßt die relativ gute Erhaltung des Skelettmaterials eine differenzierte Auswertung erwarten, die sich aber nicht in den Befunden oder schlüssigen Ergebnissen widerspiegelt. Daß keine herausragenden Substrukturen sichtbar werden, könnte daran liegen, daß die Population bevölkerungsbiologisch gesehen isoliert lebt und in sich sehr homogen ist, weil alle irgendwie mit allen verwandt sind. Dagegen sprechen aber die Merkmalsfrequenzen, die in einer geschlossenen Population entsprechend erhöht sein müßten, was hier jedoch explizit nicht der Fall ist. Als mögliche Gründe für den aufgezeigten Widerspruch könnten sowohl bestimmte, schwer abschätzbare bevölkerungsdynamische Prozesse wie auch externe Faktoren, die auf die spezifische demographische Zusammensetzung der Dorfbevölkerung Einfluß nahmen, in Betracht gezogen werden. Dabei ist ein Zusammenhang mit dem plötzlichen Tod der gesamten Dorfbevölkerung nicht von der Hand zu weisen. Von methodischer Seite wäre zu wünschen, daß die Heritabilität einer größeren Anzahl epigenetischer Merkmale einer Klärung nähergebracht würde, um derartige Analysen künftig auf ein breiteres Fundament stellen zu können.

NARR 1993

K. J. Narr, *Gemetzel oder rituelle Tötung? Zum bandkeramischen "Massengrab" von Talheim*. In: W. KRAWIETZ, L. POSPIŠIL & S. STEINBRICH (Hrsg.), *Sprache, Symbole und Symbolverwendungen in Ethnologie, Kulturanthropologie, Religion und Recht, Festschrift Rüdiger Schott*. (Berlin 1993), 291–305.

TESCHLER-NICOLA 1996

Maria Teschler-Nicola, Friederike Gerold, Fabian Kanz, Karin Lindenhauer & Michaela Spannagl, *Anthropologische Spurensicherung, Die traumatischen und postmortalen Veränderungen an den linearbandkeramischen Skelettresten von Asparn/Schletz*. In: HELMUT WINDL (Hrsg.), *Rätsel um Gewalt und Tod vor 7000 Jahren – Eine Spurensicherung, Herrn Univ.-Prof. Dr. Fritz Felgenhauer zum 75. Geburtstag gewidmet*. Katalog des Niederösterreichischen Landesmuseums 393 (Wien 1996), 4–12.

Islam

BOUŠEK 2021

Daniel Boušek, *The Abrogation of Mosaic Law in Judaism's Medieval Polemic with Islam: Se'adyah Gaon, Ya'qub al-Qirqisānī, Maimonides*. unknown (2021), preprint, 1–29. .

In conclusion, we may confirm Salo W. Baron's statement¹²⁴ that, whereas the antinomistic attacks by pagan Greek and Roman authors and the early Christians had caused the Jews to emphasize the Law as a "fence" around the Torah, the new critique of the validity of specific commandments of Mosaic Law (conducted primarily from the positions of rationalism and religious skepticism that had spread among some followers of kalam or among free-thinkers of the Renaissance in Islam) forced the Jews to reconsider the meaning and purpose of religious law in general and of the individual commandments in particular, and spurred the development of a new philosophy of Jewish law. Confronted with equally convincing

philosophical arguments for abrogation that contradicted their own argumentation, Jewish thinkers eventually also invoked arguments from the Torah.

Similarly, Shimon ben Semah Duran does not expressly give the source of his polemic arguments either. Although he declares that he found no work in Jewish literature other than Yehuda ha-Levi's *Kuzari* that polemicized with Islam, his labeling of Islam as an inconsistent imitation of Judaism shows that he sought enlightenment in the Epistle to Yemen, where Maimonides says that all religions are willful and imperfect imitations of the outer structure of the "true religion" (*din al-haqq*) – i.e., of the commandments and prohibitions of Judaism – and that they "contain matters that have no inner meaning, only imitations, simulations, and copies." Duran sees Islam's imitation of Judaism in the areas of prayer, the Sabbath, dietary prescriptions, circumcision, pilgrimage and more. Although Duran barely addresses the question of abrogation directly, his entire polemic with Islam aims to show that the mutually contradictory teaching of Islam and the "muddled" Quran cannot abrogate the consummate Torah.

KLOPPENBORG 2021

John S. Kloppenborg, *The Didache and the Apostolic Constitutions in the context of association rules*. In: JOSEPH VERHEYDEN, JENS SCHRÖTER & TOBIAS NICKLAS (Hrsg.), *Texts in Context, Essays on dating and contextualising Christian writings from the second and early third centuries*. Bibliotheca Ephemeridum Theologicarum Lovaniensium 319 (Leuven 2021), 73–95.

What is more distinctive is the Didache's need to stipulate the exact texts of the prayers to be said daily and at the eucharist, and the Didache's strong orientation to teaching and the reception of those who claim to teach. Both of these distinctives seem symptomatic of a group that cannot rely on long-established practices and shared knowledge on the part of its members.

Hence, the need to develop tests for authentic and approved teaching. The Didache's tests – both financial and behavioural – can be seen as adaptations of the common practices of associations and guilds developed for a new situation in which Christ groups took on some of the traits of textual communities or even philosophical groups and hence needed ways to control their knowledge production.

Judentum

BEYER 2018

Burkhard Beyer & Florian Steinfals, *Historisches Handbuch der jüdischen Gemeinschaften in Westfalen und Lippe, Register der jüdischen und christlichen Namen*. Materialien der Historischen Kommission für Westfalen 14 (Münster 2018).

BEYER 2021

Burkhard Beyer & Anna Strunk, *Historisches Handbuch der jüdischen Gemeinschaften in Westfalen und Lippe, Nachträge, neue Forschungen und regionale Erinnerungskultur*. Materialien der Historischen Kommission für Westfalen 20 (Münster 2021).

FREUND 2008

SUSANNE FREUND, FRANZ-JOSEF JAKOBI & PETER JOHANEK (Hrsg.), *Historisches Handbuch der jüdischen Gemeinschaften in Westfalen und Lippe, Die Ortschaften und Territorien im heutigen Regierungsbezirk Münster*. Quellen und Forschungen zur jüdischen Geschichte in Westfalen 2 ([Münster 2008](#)).

FREUND 2013

SUSANNE FREUND (Hrsg.), *Historisches Handbuch der jüdischen Gemeinschaften in Westfalen und Lippe, Grundlagen – Erträge – Perspektiven*. Veröffentlichungen der Historischen Kommission für Westfalen, Neue Folge 11 ([Münster 2013](#)).

GÖTTMANN 2016

FRANK GÖTTMANN (Hrsg.), *Historisches Handbuch der jüdischen Gemeinschaften in Westfalen und Lippe, Die Ortschaften und Territorien im heutigen Regierungsbezirk Arnsberg*. Veröffentlichungen der Historischen Kommission für Westfalen, Neue Folge 12 ([Münster 2016](#)).

HENGST 2013

KARL HENGST & URSULA OLSCHESKI (Hrsg.), *Historisches Handbuch der jüdischen Gemeinschaften in Westfalen und Lippe, Die Ortschaften und Territorien im heutigen Regierungsbezirk Detmold*. Veröffentlichungen der Historischen Kommission für Westfalen, Neue Folge 10 ([Münster 2013](#)).

STEINFALS 2016

Florian Steinfals, *Historisches Handbuch der jüdischen Gemeinschaften in Westfalen und Lippe, Register der Orte und Territorien*. Materialien der Historischen Kommission für Westfalen 12 ([Münster 2016](#)).

Jungpaläolithikum

TRINKAUS 2012

E. Trinkaus & A. P. Buzhilova, *The Death and Burial of Sunghir 1*. [International Journal of Osteoarchaeology](#) **22** (2012), 655–666.

The Mid Upper Paleolithic Sunghir 1 burial of an older adult male is one of the most elaborate burials known, with red ochre, thousands of mammoth ivory beads, and other body ornaments. Reanalysis and cleaning of the skeletal remains revealed a perimortem incision in the ventral–lateral first thoracic vertebra (T1) body, most likely from a sharp blade or point and the probable cause of death. Context indicates that the trauma was most likely from a hunting accident or social altercation. The unusual cause of death may be correlated with the exceptional burial elaboration of Sunghir 1, adding to the high frequency of unusual individuals in the ‘red ochre’ burials of the Mid Upper Paleolithic.

Keywords: human paleontology | Upper Paleolithic | Europe | Russia | paleopathology | vertebra | trauma

Klima

GUNDERSEN 2021

Ingar M. Gundersen, *Iron Age vulnerability, The Fimbulwinter hypothesis and the archaeology of the inlands of eastern Norway*. Dissertation, Universität Oslo ([Oslo 2021](#)).

A growing body of climate data points towards a significant climate cooling in the northern hemisphere during the 6th century AD. Linked to multiple explosive volcanic eruptions between AD 536-547, the cooling event is the coldest that has been documented for the last 2000 years and seems to have persisted, to varying degrees, well into the latter half of the 6th century.

Several researchers have claimed that the 6th-century cooling must have resulted in extensive crop failure throughout Scandinavia, followed by famine, plagues, and social unrest. One hypothesis suggests that the population of the Scandinavian Peninsula may have been halved as a result. The combination of prolonged cooling and presumed crop failure is often compared to Norse myths about the Fimbulwinter, but critics argue that the Fimbulwinter hypothesis is rife with the uncritical use of climate data, a lack of source criticism and deterministic conclusions. In many ways, the ongoing discourse follows in line with previous discourses in archaeology, revolving around an artificial dichotomy between crisis and continuity.

I conclude that climate cooling had the potential to critically impact some areas, while others were seemingly less affected. These results suggest significant regional diversity in the consequences and adaptations in relation to the 6th-century cooling event. The hypothesis of a halving of the population is up for revision, but the crisis narrative still cannot be fully discounted.

Kultur

CREVECOEUR 2021

Isabelle Crevecoeur, Marie-Hélène Dias-Meirinho, Antoine Zazzo, Daniel Antoine & François Bon, *New insights on interpersonal violence in the Late Pleistocene based on the Nile valley cemetery of Jebel Sahaba*. [Scientific Reports 11 \(2021\), 9991. DOI:10.1038/s41598-021-89386-y](#).

The remains of 61 individuals buried in the cemetery of Jebel Sahaba (site 117) offer unique and substantial evidence to the emergence of violence in the Nile Valley at the end of the Late Pleistocene. Excavated and assessed in the 1960s, some of the original findings and interpretations are disputed. A full reanalysis of the timing, nature and extent of the violence was conducted through the microscopic characterization of the nature of each osseous lesion, and the reassessment of the archaeological data. Over 100 previously undocumented healed and unhealed lesions were identified on both new and/or previously identified victims, including several embedded lithic artefacts. Most trauma appears to be the result of projectile weapons and new analyses confirm for the first time the repetitive nature of the interpersonal acts of violence. Indeed, a quarter of the skeletons with lesions exhibit both healed and unhealed trauma. We dismiss the hypothesis that Jebel Sahaba reflects a single warfare event, with the new data supporting sporadic and recurrent episodes of inter-personal violence, probably triggered by major climatic and environmental changes. At least 13.4 ka old, Jebel Sahaba is one of the earliest sites displaying interpersonal violence in the world.

HODGSON 2018

Derek Hodgson & Paul Pettitt, *The Origins of Iconic Depictions, A Falsifiable Model Derived from the Visual Science of Palaeolithic Cave Art and World Rock Art*. *Cambridge Archaeological Journal* **28** (2018), 591–612.

Archaeologists have struggled for more than a century to explain why the first representational art of the Upper Palaeolithic arose and the reason for its precocious naturalism. Thanks to new data from various sites across Europe and further afield, as well as crucial insights from visual science, we may now be on the brink of bringing some clarity to this issue. In this paper, we assert that the main precursors of the first figurative art consisted of hand prints/stencils (among the Neanderthals and early *Homo sapiens*) and a corpus of geometric marks as well as a hunting lifestyle and highly charged visual system for detecting animals in evocative environments. Unlike many foregoing arguments, the present one is falsifiable in that five critical, but verifiable, points are delineated.

MEYER 2013

Christian Meyer, Christian Lohr, Hans-Christoph Strien, Detlef Gronenborn & Kurt W. Alt, *Interpretationsansätze zu ‚irregulären‘ Bestattungen während der linearbandkeramischen Kultur, Gräber en masse und Massengräber*. In: NILS MÜLLER-SCHEESSEL (Hrsg.), *‚Irreguläre‘ Bestattungen in der Urgeschichte – Norm, Ritual, Strafe? Akten der Internationalen Tagung in Frankfurt a. M. vom 3. bis 5. Februar 2012*. Kolloquien zur Vor- und Frühgeschichte 19 (Bonn 2013), 111–122.

The burial practices of the Linear Pottery culture (LBK) may be considered as comparatively well understood. A rather high number of cemeteries of this Neolithic culture are known and allow the definition of the standard LBK burial type: a left-crouched inhumation burial of one individual, often equipped with grave goods and oriented east to west. Deviations from this standard burial package, though, are frequent, which in itself is another characteristic of the LBK. Settlement burials are frequent as well, and are very similar in appearance to the cemetery burials. It follows that burial location alone is not a suitable indicator for the identification of deviant LBK burials, and that settlement burials should be regarded as part of the regular burial pattern of this culture. Deviant burials do occur, also within settlement areas. A working typology of the latter, mainly mass graves and related types, is presented and discussed, using traits like body position, the presence or absence of grave goods, and stressed or neglected individuality of the buried person(s). A recently discovered new LBK mass grave is highlighted as an example of how the combination of different types of regular individual burials and deviant mass graves may lead to a better understanding of not only how LBK individuals died, but also how they lived.

Die Bestattungssitten der Linearbandkeramik (LBK) können mittlerweile insgesamt als gut erforscht gelten. Insbesondere die Vielzahl der Gräberfelder erlaubt es, eine bandkeramische Standardbestattung zu definieren, die sich im wesentlichen als eine Ost–West-ausgerichtete Hockerbestattung eines einzelnen Individuums mit Grabbeigaben beschreiben lässt. Zum üblichen Bild gehören jedoch auch viele Abweichungen von dieser Regel. Ebenfalls relativ häufig treten Gräber in Siedlungsbereichen auf, die sich aber generell nur wenig von Gräbern auf ausgewiesenen Gräberfeldern unterscheiden. Daraus folgt, dass viele Siedlungsbestattungen ebenfalls als Teil der regulären Bestattungssitten angesehen werden sollten, und der Ort, an dem die Gräber angelegt werden, allein kein ausreichendes Kriterium zur

Definition einer irregulären Bestattung darstellt. Der Versuch einer Typologie deutlich von der Norm abweichender Totenbehandlungen der LBK erfolgt auf einer allgemeineren Ebene unter Berücksichtigung verschiedener Merkmale wie z. B. Körperhaltung, dem Vorhandensein von Beigaben und betonter Individualität der Toten. Insbesondere Massengräber, von denen ein neueres Beispiel knapp vorgestellt wird, erfüllen die Kriterien irregulärer ‚Bestattungen‘ innerhalb der LBK, da hinter deren Anlage fundamental andere Gründe stehen als bei den bekannten regulären Bestattungen. Die Zusammenführung aller Aspekte der bandkeramischen Totenbehandlung wie auch die weitere Fokussierung auf die menschlichen Skelettfunde verspricht weiterhin signifikante neue Ergebnisse.

PALACIOS-HUERTA 2022

Ignacio Palacios-Huerta, *Competitiveness among Nandi female husbands*. [PNAS 119 \(2022\), e2117454119](#).

[pnas119-e2117454119-Supplement.pdf](#)

In the Nandi society in Kenya, custom establishes that a woman’s “house property” can only be transmitted to male heirs. As not every woman gives birth to a male heir, the Nandi solution to sustain the family lineage is for the heirless woman to become the “female husband” to a younger woman by undergoing an “inversion” ceremony to “change” into a man. This biological female, now socially a man, becomes a “husband” and a “father” to the younger woman’s children, whose sons become the heirs of her property. Using this unique separation of biological sex and social roles holding constant the same society, I conduct competitiveness experiments. Similar to Western cultures, I find that Nandi men choose to compete at roughly twice the rate as Nandi women. Importantly, however, female husbands compete at the same rate as males, and thus around twice as often as females. These findings are robust to controlling for several risk aversion, selection, and behavioral factors. The results provide support for the argument that social norms, family roles, and endogenous preference formation are crucially linked to differences in competitiveness between men and women.

Keywords: gender differences | competitiveness | social norms | endogenous preferences | stereotypes

Significance: Differences in competitiveness between men and women have been hypothesized as a potential explanation for important differences in education and labor market outcomes. Central to the literature is whether these differences are innate or learned. I take advantage of the distinct cultural institution of “female husbands” (biologically females but socially men) in the Nandi society in Kenya to study this question. By keeping biological sex constant, holding the society constant, but altering the social gender at an adult age, this unique setting advances our understanding of these differences. Specifically, the Results support the hypothesis that competitive inclinations are channeled through social roles and the family. Social norms and social identity critically matter to tackle differences between men and women directly.

Kultur Klima

McCOOL 2022

Weston C. McCool et al., *Climate change-induced population pressure drives high rates of lethal violence in the Prehispanic central Andes*.

[PNAS 119 \(2022\), e2117556119](#).

[pnas119-e2117556119-Supplement.pdf](#)

Understanding the influence of climate change and population pressure on human conflict remains a critically important topic in the social sciences. Long-term records that evaluate these dynamics across multiple centuries and outside the range of modern climatic variation are especially capable of elucidating the relative effect of—and the interaction between—climate and demography. This is crucial given that climate change may structure population growth and carrying capacity, while both climate and population influence per capita resource availability. This study couples paleoclimatic and demographic data with osteological evaluations of lethal trauma from 149 directly accelerator mass spectrometry ^{14}C -dated individuals from the Nasca highland region of Peru. Multiple local and supraregional precipitation proxies are combined with a summed probability distribution of 149 ^{14}C dates to estimate population dynamics during a 700-y study window. Counter to previous findings, our analysis reveals a precipitous increase in violent deaths associated with a period of productive and stable climate, but volatile population dynamics. We conclude that favorable local climate conditions fostered population growth that put pressure on the marginal and highly circumscribed resource base, resulting in violent resource competition that manifested in over 450 y of interne-cine warfare. These findings help support a general theory of intergroup violence, indicating that relative resource scarcity—whether driven by reduced resource abundance or increased competition—can lead to violence in subsistence societies when the outcome is lower per capita resource availability.

Keywords: climate change | population pressure | warfare | lethal violence | Andes

Weston C. McCool, Brian F. Coddling, Kenneth B. Vernon, Kurt M. Wilson, Peter M. Yaworsky, Norbert Marwan & Douglas J. Kennett

Significance: Warfare and homicide are pervasive features of the human experience, yet scholars struggle to understand the conditions that promote violence. Climate and conflict research has revealed many linkages between climate change and human violence; however, studies often produce contrary findings, and the driving mechanisms remain difficult to identify. We suggest a solution is to identify conditions producing resource scarcity, which are necessarily a combination of climate and population dynamics. We examine patterns of lethal violence in the Prehispanic Andes and find that favorable climate conditions fostered rapid population growth within a circumscribed landscape, resulting in chronic warfare. Our work suggests that an increasingly unstable climate may promote future violence, where favorable climate regimes incentivize population growth and attendant resource strain.

Kupfer

TOLKSDORF 2020

Johann Friedrich Tolksdorf et al., *Evidence for Bronze Age and Medieval tin placer mining in the Erzgebirge mountains, Saxony (Germany)*. *Geoarchaeology* **35** (2020), 198–216.

Tin is an essential raw material both for the copper–tin alloys developed during the Early Bronze Age and for the casting of tableware in the Medieval period. Secondary geological deposits in the form of placers (cassiterite) provide easily accessible sources but have often been reworked several times during land-use history. In fact, evidence for the earliest phase of tin mining during the Bronze Age has not yet been confirmed for any area in Europe, stimulating an ongoing debate on this issue. For this study, a broad range of methods (sedimentology, pedology, palynology, anthracology, OSL/ ^{14}C -dating, and micromorphology) was applied both

within the extraction zone of placer mining and the downstream alluvial sediments at Schellerhau site in the upper eastern Erzgebirge (Germany). The results indicate that the earliest local removal of topsoil and processing of cassiterite-bearing weathered granite occurred already in the early second millennium BC, thus coinciding with the early and middle Bronze Age period. Placer mining resumed in this area during the Medieval period, probably as early as the 13th century AD. A peak of alluvial sedimentation during the mid-15th century AD is probably related to the acquisition of this region by the Elector of Saxony and the subsequent promotion of mining.

Keywords: alluvial sedimentation | anthracology | Bronze Age economy | micro-morphology | OSL | palaeoenvironmental reconstruction | tin mining

Johann Friedrich Tolksdorf, Frank Schröder, Libor Petr, Christoph Herbig, Knut Kaiser, Petr Koèár, Alexander Fülling, Susann Heinrich, Heide Hönig & Christiane Hemker

Metallzeiten

SCHURTZ 1890

Heinrich Schurtz, *Der Seifenbergbau im Erzgebirge und die Walensagen*. Forschungen zur deutschen Landes- und Volkskunde 5.3 (Stuttgart 1890).

Methoden

RIBEIRO 2021

Artur Ribeiro, *The Attitude Towards Science in the Changing Panorama of Archaeological Theory*. *Trabalhos de Antropologia – Etnologia* 61 (2021), 353–371.

As archaeology becomes more scientific, archaeological theory has remained antithetical to the practice of science. Additionally, as more scholars and funding are poured into the archaeological science, theory will become an obsolete practice unless we find a way to reach a consensus and an understanding of how science can be integrated with other aspects of archaeology. Part of the reason of this state-of-the-art is due to of theoretical influences in archaeology, which come from Continental Philosophy, a broad school of thought that developed largely as antithetical to science in specific, and to a crude and unrealistic view of “modernism” in general. This opposition to science and modernism has trapped scholars into a dialectic in which the pre-modern or pre-literate past (and present) societies are viewed in opposition to science and what is modern, but as anthropologists have come to recognize, this opposition makes little sense and obfuscates a richer and complex view of reality. This paper suggests moving beyond this dialectic and understanding how and in what ways science can operate alongside other agendas, namely those that prioritize the practical and historical views of past reality.

Keywords: Science | Methodology | Modernism | Dialectics | Pluralism.

Mittelalter

BARRETT 2022

James H. Barrett et al., *Walrus on the Dnieper, New evidence for the intercontinental trade of Greenlandic ivory in the Middle Ages*. [Proc. Royal Society B](#) **289** (2022), 20212773.

Mediaeval walrus hunting in Iceland and Greenland—driven by Western European demand for ivory and walrus hide ropes—has been identified as an important pre-modern example of ecological globalization. By contrast, the main origin of walrus ivory destined for eastern European markets, and then onward trade to Asia, is assumed to have been Arctic Russia. Here, we investigate the geographical origin of nine twelfth-century CE walrus specimens discovered in Kyiv, Ukraine—combining archaeological typology (based on chaîne opératoire assessment), ancient DNA (aDNA) and stable isotope analysis. We show that five of seven specimens tested using aDNA can be genetically assigned to a western Greenland origin. Moreover, six of the Kyiv rostra had been sculpted in away typical of Greenlandic imports to Western Europe, and seven are tentatively consistent with a Greenland origin based on stable isotope analysis. Our results suggest that demand for the products of Norse Greenland’s walrus hunt stretched not only to Western Europe but included Ukraine and, by implication given linked trade routes, also Russia, Byzantium and Asia. These observations illuminate the surprising scale of mediaeval ecological globalization and help explain the pressure this process exerted on distant wildlife populations and those who harvested them.

Keywords: ecological globalization | ancient DNA | stable isotopes | historical ecology | Middle Ages | *Odobenus rosmarus rosmarus*

James H. Barrett, Natalia Khamaiko, Giada Ferrari, Angélica Cuevas, Catherine Kneale, Anne Karin Hufthammer, Albína Hulda Pálsdóttir & Bastiaan Star

Neolithikum

RIVOLLAT 2022

Maïté Rivollat, Aline Thomas, Wolfgang Haak & Marie-France Deguiloux et al., *Ancient DNA gives new insights into a Norman Neolithic monumental cemetery dedicated to male elites*. [PNAS](#) **119** (2022), e2120786119.

[pnas119-e2120786119-Supplement.pdf](#)

The Middle Neolithic in western Europe is characterized by monumental funerary structures, known as megaliths, along the Atlantic façade. The first manifestations of this phenomenon occurred in modern-day France with the long mounds of the Cerny culture. Here, we present genome-wide data from the fifth-millennium BCE site of Fleury-sur-Orne in Normandy (France), famous for its impressively long monuments built for selected individuals. The site encompasses 32 monuments of variable sizes, containing the burials of 19 individuals from the Neolithic period. To address who was buried at the site, we generated genome-wide data for 14 individuals, of whom 13 are males, completing previously published data [M. Rivollat et al., *Sci. Adv.* **6**, eaaz5344 (2020)]. Population genetic and Y chromosome analyses show that the Fleury-sur-Orne group fits within western European Neolithic genetic diversity and that the arrival of a new group is detected after 4,000 calibrated BCE. The results of analyzing uniparentally inherited markers and an overall low number of long runs of homozygosity suggest a patrilineal group practicing female exogamy. We find two pairs of individuals to be father and son, buried together in the same monument/grave. No other biological relationship

can link monuments together, suggesting that each monument was dedicated to a genetically independent lineage. The combined data and documented father–son line of descent suggest a male-mediated transmission of sociopolitical authority. However, a single female buried with an arrowhead, otherwise considered a symbol of power of the male elite of the Cerny culture, questions a strictly biological sex bias in the burial rites of this otherwise “masculine” monumental cemetery.

Keywords: monumental graves | Middle Neolithic | ancient DNA | Normandy | patrilineality

Maïté Rivollat, Aline Thomas, Emmanuel Ghesquière, Adam Benjamin Rohrlach, Ellen Späth, Marie-Hélène Pemonge, Wolfgang Haak, Philippe Chambon & Marie-France Deguilloux

Significance: By integrating genomic and archaeological data, we provide new insights into the Neolithic French monumental site of Fleury-sur-Orne in Normandy, where a group of selected individuals was buried in impressively long monuments. The earliest individuals buried at Fleury-sur-Orne match the expected western European Neolithic genetic diversity, while three individuals, designated as genetic outliers, were buried after 4,000 calibrated BCE. We hypothesize that different, unrelated families or clans used the site over several centuries. Thirteen of 14 of the analyzed individuals were male, indicating an overarching patrilineal system. However, one exception, a female buried with a symbolically male artifact, suggests that the embodiment of the male gender in death was required to access burial at the monumental structures.

Politik

YASSIF 2021

Jaime M. Yassif, Kevin P. O’Prey & Christopher R. Isaac, *Strengthening Global Systems to Prevent and Respond to High-Consequence Biological Threats, Results from the 2021 Tabletop Exercise Conducted in Partnership with the Munich Security Conference*. Online 2021, Nov. 19. <http://www.nti.org/wp-content/uploads/2021/11/NTI_Paper_BIO-TTX_Final.pdf> (2022-07-26).

In March 2021, NTI partnered with the Munich Security Conference to conduct a tabletop exercise on reducing high-consequence biological threats. The exercise examined gaps in national and international biosecurity and pandemic preparedness architectures—exploring opportunities to improve prevention and response capabilities for high-consequence biological events. This report summarizes the exercise scenario, key findings from the discussion, and actionable recommendations for the international community.

Move 1 (occurring on June 5, 2022, in scenario time) starts with an unusual outbreak of monkeypox in Brinia (population 250 million), with reports of 1,421 cases and four fatalities. There is no immediate evidence of international spread, but the outbreak takes place during a national holiday with extensive domestic and international travel by Brinians. Because monkeypox is not naturally found in Brinia, local and international experts consider this outbreak to be unusual. The Brinian government welcomes international outbreak investigations and requests medical support from the WHO. Genome sequencing of monkeypox patient samples reveals that the strain in Brinia contains mutations that make it resistant to existing vaccines.

Religion

CZACHESZ 2020

István Czachesz, *Armaments and Ornaments, Mate-Guarding and the Evolutionary Roots of Religion*. *Religion, Brain & Behavior* 10 (2020), 132–150.

This article explores the connection between sexual selection and religion, locating the origins of religious behavior in mate guarding after the transition to terrestrial life in *Homo erectus* 1.8 million years ago. An important consequence of the transition was the emergence of a polygynous, multiple-family social structure, which gave rise to mate guarding as a successful strategy. Further, as a result of sleeping on the ground, REM (rapid-eye-movement) phases were substantially extended. This produced novel dream experiences in *Homo erectus*, which is identified as the origin of proto-religious traits. The article argues that proto-religious dream experiences and related behavioral expressions gave males psychological and strategic advantages in keeping competitors away from their females. Given the strong selective pressure of male competition in polygynous mating systems, biological traits underlying proto-religion were successful in natural selection. Finally, it is suggested how subsequent evolutionary leaps in human cognition shaped religious thought and behavior and their role in sexual selection. The article is concluded by outlining how elements of the mate-guarding hypothesis could be tested and improved using empirical methods.

Keywords: origins of religion | sexual selection | mate guarding | terrestrial life | ground sleep | dreams | *Homo erectus*

Sprachlehre

JOOSTEN 2012

Jan Joosten, *The Verbal System of Biblical Hebrew, A new synthesis elaborated on the basis of classical prose*. *Jerusalem Biblical Studies* 10 (Jerusalem 2012).

JOOSTEN 2020

Jan Joosten, *Das Verbalsystem des klassischen biblischen Hebräisch*. In: JOACHIM J. KRAUSE, WOLFGANG OSWALD & KRISTIN WEINGART (Hrsg.), *Eigensinn und Entstehung der Hebräischen Bibel, Erhard Blum zum siebzigsten Geburtstag*. (Tübingen 2020), 541–552.

Dieses Verfahren ist leider nicht sehr spektakulär. Es zeigt sich in der Forschungsgeschichte derzeit eine Tendenz zu neuen, “revolutionären” Theorien, die das Problem des hebräischen Verbalsystems über Nacht verschwinden lassen zu können meinen. Die meisten dieser Theorien sind der komplexen Lage der sprachlichen Phänomene aber völlig unangemessen. Stattdessen ist ein differenziertes Vorgehen erforderlich, das die Komplexität des Systems anerkennt.

Mein eigenes, oben umrissenes Vorgehen ist wenigstens in einem Punkt innovativ: Gegen die Mehrheit der Grammatiker behaupte ich, dass *yiqtol*, die Langform der Präfixkonjugation, nicht Ausdruck des Imperfekts ist, sondern eine Modalform mit prospektiver Funktion. Ich stehe nicht ganz allein mit dieser Ansicht. Beat Zuber hat Ähnliches schon 1985 vorgeschlagen, und auch Galia Hatav hat sich in ihrem beachtenswerten Buch von 1997 für diese Sicht ausgesprochen. Wir sind eine kleine Minderheit. Dennoch ist das Fazit unausweichlich: Wenn man Prosa und Poesie gesondert behandelt, wenn man konsequent synchron arbeitet

und wenn man mehr auf die Textbefunde achtet als auf die Lehrbücher, kommt man zu der Schlussfolgerung, dass *yiqtol* prospektiv ist, nicht imperfektivisch. Wie oben bemerkt, war das schon die Sicht der mittelalterlichen jüdischen Grammatiker, die *yiqtol* nicht für ein Präsens, sondern für ein Futurum, ‘atid, hielten. Es gibt eben nichts Neues unter der Sonne.

Wenn *yiqtol* nicht imperfektivisch ist, ist *qatal* auch nicht perfektivisch: Die Sprache bildet ein System.

KRAUSS 1898

Samuel Krauss, *Griechische und lateinische Lehnwörter im Talmud, Midrasch und Targum, Band 1: Grammatik.* (Berlin 1898).

KRAUSS 1899

Samuel Krauss, *Griechische und lateinische Lehnwörter im Talmud, Midrasch und Targum, Band 2: Wörterbuch.* (Berlin 1899).