

Literatur

Amerika

SISTIAGA 2014

A. Sistiaga, F. Berna, R. Laursen & P. Goldberg, *Steroid biomarker analysis of a 14,000 years old putative human coprolite from Paisley Cave, Oregon*. [Journal of Archaeological Science](#) **41** (2014), 813–817.

Lipid components of a putative human coprolite sample from the Paleoindian site of Paisley Cave, Oregon (12,300 14C yr BP) were analyzed using GC/MS to explore its origin in light of controversial data obtained from mitochondrial DNA, cross-immunoelectrophoresis, trisodium phosphate rehydration, and micromorphology analyses. Results show the predominant presence of 5b-stigmastanol, the biomarker of herbivore fecal matter, supporting micromorphological identification of the coprolite as herbivore. This study highlights the potential of the biomarker approach in coprolite studies devoted to research on the first presence of humans in North America.

Keywords: Coprolite | Fecal biomarkers | Sterols | Coprostanol | 5b-Stigmastanol | Paisley Cave | Pre-Clovis

Anthropologie

LIEBENBERG 2006

Louis Liebenberg, *Persistence Hunting by Modern Hunter-Gatherers*. [Current Anthropology](#) **47** (2006), 1017–1025.

Endurance running may be a derived capability of the genus Homo and may have been instrumental in the evolution of the human body form. Two hypotheses have been presented to explain why early Homo would have needed to run long distances: scavenging and persistence hunting. Persistence hunting takes place during the hottest time of the day and involves chasing an animal until it is run to exhaustion. A critical factor is the fact that humans can keep their bodies cool by sweating while running. Another critical factor is the ability to track down an animal. Endurance running may have had adaptive value not only in scavenging but also in persistence hunting. Before the domestication of dogs, persistence hunting may have been one of the most efficient forms of hunting and may therefore have been crucial in the evolution of humans.

LIEBENBERG 2008

Louis Liebenberg, *The relevance of persistence hunting to human evolution*. [Journal of Human Evolution](#) **55** (2008), 1156–1159.

As pointed out by Lieberman et al. (2007), Pickering and Bunn (2007) made several flawed assumptions. Persistence hunting may have been more common before the invention of the bow and arrow or the domestication of dogs and horses. The apparent scarcity of ethnographic records of PH does not imply that PH was rare. It could simply be that anthropologists who were able to observe PH were rare. Over the last 50 years, hunter-gatherers in the Kalahari have experienced

drastic changes, and the recent observations of PH may simply represent the tail-end of a dying tradition. In the absence of a better hypothesis, PH and scavenging remain plausible explanations for the evolution of ER.

Keywords: Endurance running | Foragers | Homo | Hunter-gatherers | Persistence hunting | Tracking

YOTOVA 2011

Vania Yotova et al., *An X-Linked Haplotype of Neandertal Origin Is Present Among All Non-African Populations*. [Molecular Biology and Evolution](#) **28** (2011), 1957–1962.

MolBiolEvol28-1957-Supplement.pdf

Vania Yotova, Jean-Francois Lefebvre, Claudia Moreau, Elias Gbeha, Kristine Hovhannesyan, Stephane Bourgeois, Sandra Bédarida, Luisa Azevedo, Antonio Amorim, Tamara Sarkisian, Patrice Hodonou Avogbe, Nicodeme Chabi, Mamoudou Hama Dicko, Emile Sabiba Kou' Santa Amouzou, Ambaliou Sanni, June Roberts-Thomson, Barry Boettcher, Rodney J. Scott & Damian Labuda

Recent work on the Neandertal genome has raised the possibility of admixture between Neandertals and the expanding population of *Homo sapiens* who left Africa between 80 and 50 Kya (thousand years ago) to colonize the rest of the world. Here, we provide evidence of a notable presence (9% overall) of a Neandertal-derived X chromosome segment among all contemporary human populations outside Africa. Our analysis of 6,092 X-chromosomes from all inhabited continents supports earlier contentions that a mosaic of lineages of different time depths and different geographic provenance could have contributed to the genetic constitution of modern humans. It indicates a very early admixture between expanding African migrants and Neandertals prior to or very early on the route of the out-of-Africa expansion that led to the successful colonization of the planet.

Keywords: human evolution, archaic lineages, Neandertal admixture, out-of-Africa migration, genetic diversity, X-linked lineage.

ZILHÃO 2006

João Zilhão, *Neandertals and Moderns Mixed, and It Matters*. [Evolutionary Anthropology](#) **15** (2006), 183–195.

Twenty-five years ago, the Middle-to-Upper Paleolithic transition in Europe could be represented as a straightforward process subsuming both the emergence of symbolic behavior and the replacement of Neandertals by modern humans. The Aurignacian was a proxy for the latter, during which enhanced cognitive capabilities explained ornaments and art. The few instances of Neandertal symbolism were deemed to long postdate contact and dismissed as “imitation without understanding,” if not geological contamination. Such views were strengthened by the recent finding that, in southern Africa, several features of the European Upper Paleolithic, including bone tools, ornaments, and microliths, emerged much earlier. Coupled with genetic suggestions of a recent African origin for extant humans, fossil discoveries bridging the transition between “archaics” and “moderns” in the realm of anatomy (Omo-Kibish, Herto) seemingly closed the case. Over the last decade, however, taphonomic critiques of the archeology of the transition have made it clear that, in Europe, fully symbolic sapiens behavior predates both the Aurignacian and moderns. And, in line with evidence from the nuclear genome rejecting strict replacement models based on mtDNA alone, the small number of early modern specimens that passed the test of direct dating present archaic features unknown in the African lineage, suggesting admixture at the time of contact. In the realm of culture, the archeological evidence also supports a Neandertal contribution to Europe’s earliest modern human societies, which feature perso-

nal ornaments completely unknown before immigration and are characteristic of such Neandertal-associated archeological entities as the Châtelperronian and the Uluzzian. The chronometric data suggest that, north of the Ebro divide, the entire interaction process may have been resolved within the millennium centered around 42,000 calendar years ago. Such a rapid absorption of the Neandertals is consistent with the size imbalance between the two gene reservoirs and further supports significant levels of admixture.

Bibel

CLINES 1979

David J. A. Clines, *The significance of the ‘sons of God’ episode (Genesis 6.1-4) in the context of the ‘primaeval history’ (Genesis 1–11)*. [Journal for the Study of the Old Testament](#) **13** (1979), 33–46.

Most studies of the ‘Sons of God’ pericope (Gen. 6.1-4) have busied themselves with the narrower exegetical problems within the pericope itself as an independent, not to say intrusive, piece of ‘heathen mythology’ or as a partly demythologized ‘foreign particle’ within the biblical text. My purpose here is to examine, via the exegetical problem of the identity of the ‘sons of God’ and via the backward and forward links between the material and its surroundings, the function of the pericope within the larger whole of the ‘Primaeval History’. Without calling into question the consensus of opinion that the material of the piece derives from a pre-Israelite myth, I am concerned here essentially with the ‘final form of the text’. Reprinted in *On the Way to the Postmodern: Old Testament Essays, 1967–1998*, vol. 1 (*Journal for the Study of the Old Testament Supplement Series*, 292; Sheffield: Sheffield Academic Press, 1998), pp. 337–50.

KLEIN 2014

Reuven Chaim (Rudolph) Klein, *Queen Athaliah, The daughter of Ahab or Omri?* [Jewish Bible Quarterly](#) **42** (2014), 11–20.

In the Books of Kings, Athaliah emerges as the most notable female character not only because she is the only queen who ruled alone, but also because she serves as a bridge between the royal families of Judah (the Davidic dynasty) and Israel (the Omride dynasty). That is, her lineage links her to the Omride dynasty and she reigned as the sovereign regent of Judah by virtue of her marriage to Jehoram, a scion of the Davidic line. However, due to an inconsistency in the Bible, there is a controversy over the exact placement of Athaliah in the genealogy of the Omride family: some passages in the Bible seem to imply that her father was Omri, yet in other passages it seems that Ahab was her father. The problem is compounded by her marriage into the Davidic family – a halakhic issue because of other marriages between members of the Davidic and Omride dynasties.

Datierung

RICHTER 2014

D. Richter et al., *Heated flint TL-dating for Gruta da Oliveira (Portugal), Dosimetric challenges and comparison of chronometric data*. [Journal of Archaeological Science](#) **41** (2014), 705–715.

D. Richter, D. E. Angelucci, M. I. Dias, M. I. Prudêncio, M. A. Gouveia, G. J. Cardoso, C. I. Burbidge & J. Zilhão

The Mousterian stratigraphy of Gruta da Oliveira (Torres Novas, Portugal) contains one of the latest occupations by Neanderthals on the Iberian Peninsula. Thermoluminescence (TL) dates on heated flints were obtained for layers 13 and 14, and compared with the radiocarbon (charcoal and burnt bone) and U/ Th (secondary carbonates) dating results available for those layers and the succession as a whole. As the internal dose rates are very low, the TL age estimates are very dependent on the external dose rates, which show significant variation, including indications of spatial patterning. Through close inspection of the radiation geometries of samples and dosimeters, the appropriate gamma dosimetry is identified and the weighted mean TL ages (1-s) calculated accordingly are 55 ± 7 ka for layer 13 and 77 ± 8 ka for layer 14. These ages are stratigraphically consistent with the radiocarbon chronology for layers 9–11 and with the *termini ante* and *post quem* provided by U-series dating for the beginning and end of the accumulation of the deposits. The TL results corroborate that all radiocarbon dates below layer 11 are minimum ages only and, given the constraints derived from the proxy data available, place layer 13 and 14 post MIS 5. Sample as well as dosimeter numbers are low at Gruta da Oliveira, which limits the precision of TL-dating of a prehistoric human activity. Further refinement of the chronostratigraphy will be based on U-series dating of non-human-related, interstratified secondary carbonates.
Keywords: Thermoluminescence dating | Heated flint | Mousterian | Middle Palaeolithic | Gruta da Oliveira | Portugal

Kultur

FROST 2008

Peter Frost, *The spread of alphabetical writing may have favored the latest variant of the ASPM gene*. [Medical Hypotheses 70 \(2008\), 17–20](#). ASPM, a gene that regulates brain growth, has evolved considerably in the primate lineage that leads to humans. It continued to evolve even after the emergence of modern humans, with the latest ASPM variant arising about 6000 years ago somewhere in the Middle East. The new variant then proliferated within and outside this region, reaching higher incidences in the Middle East (37–52%) and in Europe (38–50%) than in East Asia (0–25%). Despite its apparent selective advantage, this variant does not seem to improve cognitive performance, at least not on standard IQ tests. At present, we can only say that it probably assists performance on a task that exhibited the same geographic expansion from a Middle Eastern origin roughly 6000 years ago. The closest match seems to be the invention of alphabetical writing, specifically the task of transcribing speech and copying texts into alphabetical script. Though more easily learned than ideographs, alphabetical characters place higher demands on mental processing, especially under premodern conditions (continuous text with little or no punctuation, real-time stenography, absence of automated assistance for publishing or copying, etc.). This task was largely delegated to scribes of various sorts who enjoyed privileged status and probably superior reproductive success. Such individuals may have served as vectors for spreading the new ASPM variant.

LIEBENBERG 2013

Louis Liebenberg, *The Origin of Science, On the Evolutionary Roots of Science and its Implications for Self-Education and Citizen Science*. [\(Cape Town 2013\)](#). Scientific reasoning was part of hunter-gatherer culture, along with music, storytelling and other aspects of their culture. Science and art should be an integral part of human culture, as it has been for more than a hundred thousand years.

LIEBENBERG 2013

Louis Liebenberg, *Tracking Science, The Origin of Scientific Thinking in Our Paleolithic Ancestors*. [Skeptic 18 \(2013\), iii, 18–23](#).

There is a paradox in human evolution: It was once assumed not only that rational science originated with the ancient Greek philosophic schools, but that the belief systems of prehistoric huntergatherers were dominated by superstitions and irrational beliefs. If this was the case, then how did the human mind evolve the ability to do scientific reasoning if scientific reasoning was not required for hunter-gather survival?

Kupfer

LING 2014

Johan Ling, Zofia Stos-Gale, Lena Grandin, Kjell Billström, Eva Hjärthner-Holdar & Per-Olof Persson, *Moving metals II, Provenancing Scandinavian Bronze Age artefacts by lead isotope and elemental analyses*. [Journal of Archaeological Science 41 \(2014\), 106–132](#).

The first part of this research published previously proved without doubt that the metals dated to the Nordic Bronze Age found in Sweden were not smelted from the local copper ores. In this second part we present a detailed interpretation of these analytical data with the aim to identify the ore sources from which these metals originated. The interpretation of lead isotope and chemical data of 71 Swedish Bronze Age metals is based on the direct comparisons between the lead isotope data and geochemistry of ore deposits that are known to have produced copper in the Bronze Age. The presented interpretations of chemical and lead isotope analyses of Swedish metals dated to the Nordic Bronze Age are surprising and bring some information not known from previous work. Apart from a steady supply of copper from the Alpine ores in the North Tyrol, the main sources of copper seem to be ores from the Iberian Peninsula and Sardinia. Thus from the results presented here a new complex picture emerges of possible connectivities and flows in the Bronze Age between Scandinavia and Europe.

Keywords: Bronze objects | Copper ores | Lead isotopes | Trace elements | Nordic forms & foreign content | Flow of metal | Amber & metal networks

Mathematik

ISERN 2010

Neus Isern & Joaquim Fort, *Anisotropic dispersion, space competition and the slowdown of the Neolithic transition*. [New Journal of Physics 12 \(2010\), 123002](#). [DOI:10.1088/1367-2630/12/12/123002](#).

The front speed of the Neolithic (farmer) spread in Europe decreased as it reached Northern latitudes, where the Mesolithic (huntergatherer) population density was higher. Here, we describe a reaction–diffusion model with (i) an anisotropic dispersion kernel depending on the Mesolithic population density gradient and (ii) a modified population growth equation. Both effects are related to the space available for the Neolithic population. The model is able to explain the slowdown of the Neolithic front as observed from archaeological data.

ISERN 2014

Neus Isern, Joaquim Fort & Joaquim Pérez-Losada, *Realistic dispersion kernels applied to cohabitation reaction–dispersion equations*. [Journal](#)

of *Statistical Mechanics* **2008** (2014), P10012. DOI:10.1088/1742-5468/2008/10/P10012.

We develop front spreading models for several jump distance probability distributions (dispersion kernels). We derive expressions for a cohabitation model (cohabitation of parents and children) and a non-cohabitation model, and apply them to the Neolithic using data from real human populations. The speeds that we obtain are consistent with observations of the Neolithic transition. The correction due to the cohabitation effect is up to 38%.

Keywords: dynamics (theory), population dynamics (theory)

Neolithikum

CAI 2014

Dawei Cai, Yang Sun, Zhuowei Tang, Songmei Hu, Wenying Li, Xingbo Zhao, Hai Xiang & Hui Zhou, *The origins of Chinese domestic cattle as revealed by ancient DNA analysis*. *Journal of Archaeological Science* **41** (2014), 423–434.

JArchSci41-0423-Supplement1.xls, JArchSci41-0423-Supplement2.xlsx

Recent ancient DNA analyses have revealed the origins of European and Near Eastern domestic cattle. In East Asia, however, only a few ancient cattle remains from Korea have been studied. The origins of East Asian domestic cattle and the genetic contribution by ancient cattle to modern cattle are still unclear. To provide new insight into the early history of East Asian domestic cattle, we analyzed mitochondrial DNA (mtDNA) from 53 cattle remains, aged between 4500 and 2300 years, excavated from five archaeological sites in Northern China. All ancient Chinese cattle were identified as belonging to taurine cattle. On the one hand, the results support the previous hypothesis that taurine cattle spread into Northern China between 3000 and 2000 BC; on the other hand, the results suggest that zebu cattle did not spread into the Central Plains until at least 1500 BC. Three haplogroups T2, T3, and T4 were present in the ancient Chinese cattle, of which T3 was predominant (79.3%), while T2 and T4 were less common (9.4% and 11.3% respectively). Considering the geographic origin and estimated age of mtDNA haplogroups and the archaeological record of cattle remains in China, our results suggest that Chinese domestic cattle originated from the Near East and were already introduced into the Central Plains around 2500–1900 BC. Furthermore, phylogenetic network analysis indicates that the haplogroup distribution pattern of ancient Chinese cattle is similar to that of modern East Asian taurine cattle, suggesting a genetic continuity from the Bronze Age to present day. Lastly, population pairwise F_{ST} distance analysis and multidimensional scaling analysis also support close genetic relationship between ancient Chinese cattle and modern East Asian taurine cattle. All these results suggest that ancient Chinese cattle made an important contribution to the gene pool of modern East Asian taurine cattle.

Keywords: Domestic cattle | *Bos taurus* | Ancient DNA | Mitochondrial DNA | Haplogroup