

References

Anthropologie

BLAKE 2015

P. R. Blake et al., *The ontogeny of fairness in seven societies*. [nature](#) **528** (2015), 258–261.

[n528-0258-Supplement.pdf](#)

P. R. Blake, K. McAuliffe, J. Corbit, T. C. Callaghan, O. Barry, A. Bowie, L. Kleutsch, K. L. Kramer, E. Ross, H. Vongsachang, R. Wrangham & F. Warneken

A sense of fairness plays a critical role in supporting human cooperation^{1–3}. Adult norms of fair resource sharing vary widely across societies, suggesting that culture shapes the acquisition of fairness behaviour during childhood^{4,5}. Here we examine how fairness behaviour develops in children from seven diverse societies, testing children from 4 to 15 years of age (n = 866 pairs) in a standardized resource decision task^{6,7}. We measured two key aspects of fairness decisions: disadvantageous inequity aversion (peer receives more than self) and advantageous inequity aversion (self receives more than a peer). We show that disadvantageous inequity aversion emerged across all populations by middle childhood. By contrast, advantageous inequity aversion was more variable, emerging in three populations and only later in development. We discuss these findings in relation to questions about the universality and cultural specificity of human fairness.

SAMSON 2015

David R. Samson & Charles L. Nunn, *Sleep Intensity and the Evolution of Human Cognition*. [Evolutionary Anthropology](#) **24** (2015), 225–237.

In full-time terrestrial environments, hominins, sleeping in large, sentinelled groups on stable ground beds protected by fire, would have been uniquely positioned to capitalize on the adaptive advantage of deeper, more intense, REM-dominated sleep.

Over the past four decades, scientists have made substantial progress in understanding the evolution of sleep patterns across the Tree of Life.^{1,2} Remarkably, the specifics of sleep along the human lineage have been slow to emerge. This is surprising, given our unique mental and behavioral capacity and the importance of sleep for individual cognitive performance.^{3–5} One view is that our species' sleep architecture is in accord with patterns documented in other mammals.⁶ We promote an alternative view, that human sleep is highly derived relative to that of other primates. Based on new and existing evidence, we specifically propose that humans are more efficient in their sleep patterns than are other primates, and that human sleep is shorter, deeper, and exhibits a higher proportion of REM than expected. Thus, we propose the sleep intensity hypothesis: Early humans experienced selective pressure to fulfill sleep needs in the shortest time possible. Several factors likely served as selective pressures for more efficient sleep, including increased predation risk in terrestrial environments, threats from intergroup conflict, and benefits arising from increased social interaction. Less sleep would enable longer active periods in which to acquire and transmit new skills and knowledge, while deeper sleep may be critical for the consolidation of those skills, leading to enhanced cognitive abilities in early humans.

Bibel

HERR 1988

Larry G. Herr, *Tripartite Pillared Buildings and the Market Place in Iron Age Palestine*. [Bulletin of the American Schools of Oriental Research](#) **272** (1988), 47–67.

This article describes tripartite pillared buildings from nine sites in Iron Age Palestine (Tell Abu Hawam, Tell Qasile, Beth Shemesh, Hazor, Megiddo, Beer Sheba, Lachish, Tell el-Hesi, and Tel Malhata [fig. 1]), and presents three models that might explain their function in antiquity—as storehouses, stables, and barracks. All three models were proposed many years ago, but have received new impetus in more recent literature (Pritchard 1970; Yadin 1972a; 1976b; 1976c; Herzog 1973; Fritz 1977; Holladay 1986). However, significant problems remain with all three models. A fourth, that of a market place, is tested by ethnographic observations of market buildings and marketing systems in modern nonindustrial societies. Implications that arise from these observations are concerned with the archaeological remains of tripartite pillared buildings. In every case the implications confirm the model. The article presents excursions that deal with the special problems of Megiddo, activity patterns in a pillared market, and biblical terms for storehouses.

From the above discussion it can be concluded that the market model for pillared buildings has strong support in its favor. But because none of the implications clearly exclude other possible models, it cannot be proven that pillared buildings definitely functioned as markets. However, the circumstantial evidence from the quantity and variety of implications that fit the model makes a positive conclusion extremely probable. Perhaps at long last the market activity niche has been located for Iron Age Palestine.

WRIGHT 2015

Jacob L. Wright, *Urbicide, The ritualized killing of cities in the Ancient Near East*. In: SAUL M. OLYAN (Hrsg.), *Ritual Violence in the Hebrew Bible, New Perspectives*. (Oxford 2015), 147–166.

Biologie

CHEVALIER 2015

Claire Chevalier et al., *Gut Microbiota Orchestrates Energy*. [Cell](#) **163** (2015), 1360–1374.

Claire Chevalier, Ozren Stojanović, Didier J. Colin, Nicolas Suarez-Zamorano, Valentina Tarallo, Christelle Veyrat-Durebex, Dorothée Rigo, Salvatore Fabbi-ano, Ana Stevanović, Stefanie Hagemann, Xavier Montet, Yann Seimbille, Nicola Zamboni, Siegfried Hapfelmeier & Mirko Trajkovski

Microbial functions in the host physiology are a result of the microbiota-host co-evolution. We show that cold exposure leads to marked shift of the microbiota composition, referred to as cold microbiota. Transplantation of the cold microbiota to germ-free mice is sufficient to increase insulin sensitivity of the host and enable tolerance to cold partly by promoting the white fat browning, leading to increased energy expenditure and fat loss. During prolonged cold, however, the body weight loss is attenuated, caused by adaptive mechanisms maximizing caloric uptake and increasing intestinal, villi, and microvilli lengths. This increased absorptive surface is transferable with the cold microbiota, leading to altered intestinal gene expression promoting tissue remodeling and suppression of apoptosis—the effect

diminished by co-transplanting the most cold-downregulated strain *Akkermansia muciniphila* during the cold microbiota transfer. Our results demonstrate the microbiota as a key factor orchestrating the overall energy homeostasis during increased demand.

Grabung

CONARD 2015

Nicholas J. Conard et al., *Excavations at Schöningen and paradigm shifts in human evolution*. [Journal of Human Evolution 89 \(2015\), 1–17](#).

Nicholas J. Conard, Jordi Serangeli, Utz Böhner, Britt M. Starkovich, Christopher E. Miller, Brigitte Urban & Thijs Van Kolfschoten

The exceptional preservation at Schöningen together with a mixture of perseverance, hard work, and sheer luck led to the recovery of unique finds in an exceptional context. The 1995 discovery of numerous wooden artifacts, most notably at least 10 carefully made spears together with the skeletons of at least 20 to 25 butchered horses, brought the debate about hunting versus scavenging among late archaic hominins and analogous arguments about the purportedly primitive behavior of *Homo heidelbergensis* and Neanderthals to an end. Work under H. Thieme's lead from 1992 to 2008 and results from the current team since 2008 demonstrate that late *H. heidelbergensis* or early Neanderthals used sophisticated artifacts made from floral and faunal materials, in addition to lithic artifacts more typically recovered at Lower Paleolithic sites. The finds from the famous Horse Butchery Site and two dozen other archaeological horizons from the edges of the open-cast mine at Schöningen provide many new insights into the technology and behavioral patterns of hominins about 300 ka BP during MIS 9 on the Northern European Plain. An analysis of the finds from Schöningen and their contexts shows that the inhabitants of the site were skilled hunters at the top of the food chain and exhibited a high level of planning depth. These hominins had command of effective means of communication about the here and now, and the past and the future, that allowed them to repeatedly execute well-coordinated and successful group activities that likely culminated in a division of labor and social and economic patterns radically different from those of all non-human primates. The unique preservation and high quality excavations have led to a major paradigm shift or "Schöningen Effect" that changed our views of human evolution during the late Lower Paleolithic. In this respect, we can view the behaviors documented at Schöningen as a plausible baseline for the behavioral sophistication of archaic hominins of the late Middle Pleistocene and subsequent periods.

Keywords: Lower Paleolithic | Settlements dynamics | Butchery | Hunters and gatherers | Organic technology | Symbolic communication

Isotope

KUITEMS 2015

Margot Kuitems et al., *Carbon and nitrogen stable isotopes of well-preserved Middle Pleistocene bone collagen from Schöningen (Germany) and their paleoecological implications*. [Journal of Human Evolution 89 \(2015\), 105–113](#).

Margot Kuitems, Johannes van der Plicht, Dorothee G. Drucker, Thijs Van Kolfschoten, Sanne W.L. Palstra & Hervé Bocherens

Carbon and nitrogen stable isotopes in bone collagen can provide valuable information about the diet and habitat of mammal species. However, bone collagen degrades in normal circumstances very rapidly, and isotope analyses are therefore usually restricted to fossil material with a Late Pleistocene or Holocene age. The Middle Pleistocene site of Schöningen, dated to around 300,000 years ago, yielded bones and teeth with an exceptionally good state of collagen preservation. This allowed us to measure reliable biogenic carbon and nitrogen stable isotope ratios for different herbivorous taxa from the families Elephantidae, Rhinocerotidae, Equidae, Cervidae, and Bovidae. The results provide insights regarding the paleoenvironmental setting in which Middle Pleistocene hominins operated. The vegetation consumed by the herbivores from the famous spear horizon originates from open environments. During the climatic Reinsdorf Interglacial optimum, the landscape seems to have been relatively open as well, but certainly included parts that were forested. The results also indicate some niche partitioning; different herbivore species used different plant resources. For instance, the horses seem to have been predominantly browsers, while the straight-tusked elephants were feeding chiefly on grass.

Keywords: Paleoecology | ^{13}C | ^{15}N | Collagen preservation | Large herbivorous mammals

Klima

DEANGELIS 2015

Anthony M. DeAngelis, Xin Qu, Mark D. Zelinka & Alex Hall, *An observational radiative constraint on hydrologic cycle intensification.* [nature](#) **528** (2015), 249–253.

Intensification of the hydrologic cycle is a key dimension of climate change, with substantial impacts on human and natural systems^{1,2}. A basic measure of hydrologic cycle intensification is the increase in global-mean precipitation per unit surface warming, which varies by a factor of three in current-generation climate models (about 1–3 per cent per kelvin)^{3–5}. Part of the uncertainty may originate from atmosphere–radiation interactions. As the climate warms, increases in shortwave absorption from atmospheric moistening will suppress the precipitation increase. This occurs through a reduction of the latent heating increase required to maintain a balanced atmospheric energy budget^{6,7}. Using an ensemble of climate models, here we show that such models tend to underestimate the sensitivity of solar absorption to variations in atmospheric water vapour, leading to an underestimation in the shortwave absorption increase and an overestimation in the precipitation increase. This sensitivity also varies considerably among models due to differences in radiative transfer parameterizations, explaining a substantial portion of model spread in the precipitation response. Consequently, attaining accurate shortwave absorption responses through improvements to the radiative transfer schemes could reduce the spread in the predicted global precipitation increase per degree warming for the end of the twenty-first century by about 35 per cent, and reduce the estimated ensemble-mean increase in this quantity by almost 40 per cent.

SHERWOOD 2015

Steven Sherwood, *The Sun and the rain.* [nature](#) **528** (2015), 200–201.

A study shows that, as Earth warms, global precipitation will increase by less than many models predict, because of increases in the amount of near-infrared sunlight absorbed by water vapour.

Metallzeiten

CLINE 2007

Eric H. Cline & Assaf Yasur-Landau, *Musings from a Distant Shore: The nature and destination of the Uluburun ship and its cargo*. [Tel Aviv: Archaeology 34 \(2007\), 125–141.](#)

In the following article, using both the Amarna letters and the slightly later Egyptian story of Wenamun as comparanda, we suggest that the Uluburun ship's cargo may have been comprised of goods ordered, bought and paid for by an Aegean polity. The Uluburun and its cargo, accompanied by two Aegeans, perhaps Mycenaean, who may have served as the purchasing agents, were probably en route to their Aegean destination when the ship sank; this destination would most likely have been either Kommos on Crete or Tiryns on the Greek mainland, although Mycenae, Thebes, Pylos or Knossos are also possibilities.

Methoden

MENTZER 2014

Susan M. Mentzer, *Microarchaeological Approaches to the Identification and Interpretation of Combustion Features in Prehistoric Archaeological Sites*. [Journal of Archaeological Method and Theory 21 \(2014\), 616–668.](#)

Combustion features inform archaeologists about the prehistoric use of space, subsistence behaviors, and tempo of site visitation. Their study in the field is difficult because burned sediments are susceptible to reworking and diagenesis. Microarchaeological analyses, including micromorphology, are essential for documenting the composition, preservation, and function of hearths and other burned residues. These investigations focus on the description of fuels, depositional fabrics and structures, and mineralogy. As evidenced by a literature review, microarchaeological analyses have much to offer Paleolithic archaeologists, while applications of the techniques to Late Pleistocene and Early Holocene sites and in ethnographic or experimental contexts are presently rare.

Keywords: Hearth | Micromorphology | Ashes | Charcoal | Controlled use of fire

Neolithikum

BRODERICK 2016

Lee G. Broderick & Michael Wallace, *Manure, Valued by farmers, undervalued by zooarchaeologists*. In: LEE BRODERICK (Hrsg.), *People with Animals, Perspectives and Studies in Ethnozooarchaeology*. [\(2016\), 34–41.](#)

Manure is a crucially important animal product in many mixed and sustainable agricultural production systems but, despite this, it is frequently overlooked by zooarchaeologists who instead tend to focus on more widely recognised contributions of domestic livestock to human subsistence. The case is made here for the consideration of this secondary product in zooarchaeological palaeoeconomic interpretations through the presentation of an ethnographic case-study from work carried out in Ethiopia in 2008. Discussion then focuses on a review of the ways in which manuring practices may be identified in the archaeological record and the

importance of full integration of research through the collaboration of different specialists involved in a research project.

The interpretation of livestock being kept to maximise yields of dairy products, meat or wool/traction has been shown to be a product of models designed in a specific research framework related to the secondary products revolution paradigm. That zooarchaeologists are primarily concerned with information that they can derive directly from the material they study is understandable. On an interpretive level, however, when zooarchaeologists wish to engage with the wider discipline in debating human-animal relations they should not ignore the role of manuring simply because evidence of its practice cannot be derived from faunal remains. There is a clear need to work closely with other specialists when making interpretations so that the full range of animal uses can be considered. The weaving together of these multiple lines of evidence is crucial to the accurate and effective interpretation of the role of domestic livestock in past human societies.

McCLURE 2015

Sarah B. McClure, *The Pastoral Effect, Niche Construction, Domestic Animals, and the Spread of Farming in Europe*. [Current Anthropology](#) **56** (2015), 901–910.

The introduction of domesticated animals with the spread of farming during the Neolithic was the beginning of a complex web of new livelihood strategies in Europe. Domesticated animals and the manner in which people used them played a key role in this process and created the ecological foundations for the modern European landscape. Today, pastoralists live in a variety of ecological niches (Dahl 2001), and by taking a new look at domestic animals—their biology, management, and ecological histories—archaeologists are well positioned to explore the long-term effects of pastoral activities in modern landscapes as well as the history of coevolutionary dynamics.

Insights from NCT combined with archaeological data on livestock management may pose new questions and approaches in the archaeological record. A pastoral effect is not limited to Neolithic Europe. Domesticated herd animals spread throughout the world, and anthropologists, ecologists, and conservationists have an opportunity to examine their ecological roles in distinctive environmental and cultural settings. By examining these dynamics within an NCT framework, we will gain a better understanding of human ecosystem engineering through time and its legacies that shape our world today.

Story or Book

HEINTZ 2015

Taryn Heintz, *One Of Me, Unintended consequences*. [nature](#) **528** (2015), 300.

The day she was handed over to us, we decided to call her Lila after your grandmother. She didn't feel like a clone, she didn't look like a clone, because at the time she looked nothing like me. I was 42, after all. And during her childhood it was fun watching her grow, steering her away from my mistakes.