Liste erstellt am 2012-07-19

Literatur

Aktuell

Benítez-Burraco 2012

Antonio Benítez-Burraco & Víctor M. Longa, *Right-handedness, lateralization and language in Neanderthals, A comment on Frayer et al. (2010).* Journal of Anthropological Sciences (2012) preprint, 1–6.

To sum up, F's conclusion according to which Neanderthals had complex language is far from obvious.

Hermsen 2012

Rutger Hermsen, J. Barrett Deri & Terence Hwa, *On the rapidity of antibiotic resistance evolution facilitated by a concentration gradient.* PNAS **109** (2012), 10775–10780.

pnas109-10775-Supplement1.gif, pnas109-10775-Supplement2.gif, pnas109-10775-Supplement3.gif

The rapid emergence of bacterial strains resistant to multiple antibiotics is posing a growing public health risk. The mechanisms underlying the rapid evolution of drug resistance are, however, poorly understood. The heterogeneity of the environments in which bacteria encounter antibiotic drugs could play an important role. E.g., in the highly compartmentalized human body, drug levels can vary substantially between different organs and tissues. It has been proposed that this could facilitate the selection of resistant mutants, and recent experiments support this. To study the role of spatial heterogeneity in the evolution of drug resistance, we present a quantitative model describing an environment subdivided into relatively isolated compartments with various antibiotic concentrations, in which bacteria evolve under the stochastic processes of proliferation, migration, mutation and death. Analytical and numerical results demonstrate that concentration gradients can foster a mode of adaptation that is impossible in uniform environments. It allows resistant mutants to evade competition and circumvent the slow process of fixation by invading compartments with higher drug concentrations, where less resistant strains cannot subsist. The speed of this process increases sharply with the sensitivity of the growth rate to the antibiotic concentration, which we argue to be generic. Comparable adaptation rates in uniform environments would require a high selection coefficient ($s > 0.1$) for each forward mutation. Similar processes can occur if the heterogeneity is more complex than just a linear gradient. The model may also be applicable to other adaptive processes involving environmental heterogeneity and range expansion.

first passage processes | stochastic modeling | evolutionary ecology

Hodgson 2012

Derek Hodgson, *Accommodating Opposing Perspectives in the "Modern Human Behavior" Debate.* Current Anthropology **53** (2012), 358.

As most skills are difficult to acquire, not least because of the sophistication that accrues as a result of this effect, when population rates decline or become more dispersed, skills will be lost because of a lack of input on which the mirror/theory-of-mind system can act.

Jandó 2012

Gábor Jandó, Eszter Mikó-Baráth, Katalin Markó, Katalin Hollódy, Béla Török & Ilona Kovacs, *Early-onset binocularity in preterm infants reveals experience-dependent visual development in humans*. PNAS **109** (2012), 11049–11052.

Although there is a great deal of knowledge regarding the phylo- and ontogenetic plasticity of the neocortex, the precise nature of environmental impact on the newborn human brain is still one of the most controversial issues of neuroscience. The leading model-system of experience-dependent brain development is binocular vision, also called stereopsis. Here, we show that extra postnatal visual experience in preterm human neonates leads to a change in the developmental timing of binocular vision. The onset age of binocular function, as measured by the visual evoked response to dynamic random dot correlograms (DRDC-VEP), appears to be at around the same time after birth in preterm (4.07 mo) and full-term (3.78 mo) infants. To assess the integrity of the visual pathway in the studied infants, we also measured the latency of the visual-evoked response to pattern reversal stimuli (PR-VEP). PR-VEP latency is not affected by premature birth, demonstrating that the maturation of the visual pathway follows a preprogrammed developmental course. Despite the immaturity of the visual pathway, clearly demonstrated by the PR-VEP latencies, our DRCD-VEP data show that the visual cortex is remarkably ready to accept environmental stimulation right after birth. This early plasticity makes full use of the available extra stimulation time in pretermhuman infants and results in an early onset of cortical binocularity. According to our data, the developmental processes preceding the onset of binocular function are not preprogrammed, and the mechanisms turning on stereopsis are extremely experience-dependent in humans.
experience-dependent development | evoked potential

Shea 2012

John J. Shea, *Man in the Mirror, A Reply to Hodgson*. Current Anthropology **53** (2012), 359–360.

One reason for caution is that archaeology has no higherorder theories about human cognition of its own. Much of what passes for such theories are models borrowed wholesale from other fields and wiggle-matched to extant archaeological evidence. Memetics, dual-inheritance theory, the FOXP2 "language gene," integrated versus domain-specific intelligence, and enhanced working memory have all had their early exponents and their moments of popularity among archaeologists, until the caveats and cautionary notes from the field from which they were cherry-picked caught up with them and their popularity declined. Much of the archaeological evidence we already have about prehistoric human behavior is so malleable that it can be twisted to accommodate pretty much any model of prehistoric cognition. This process lends a "flavor of the month" character to archaeological debate about the evolution of human cognition. This is a pity, because archaeology has unique potential to actually test theories about this subject.

Simonsohn 2012

Uri Simonsohn, *The data detective*. nature **487** (2012), 18–19.

"A university's reputation suffers a lot when people fake data, but they don't have tools for preventing that — journals do. Journals should be embarrassed when they publish fake data, but there's no stigma. They're portrayed as the victims, but they're more like the facilitators, like a government that looks the other way. I'd like journals to take ownership of the problem and start working towards stopping it."

Psychology was already under scrutiny following a series of high-profile controversies. Now it faces fresh questions over research practices that can sometimes produce eye-catching – but irreproducible – results. Last week, Erasmus University Rotterdam in the

Netherlands said that social psychologist Dirk Smeesters had resigned after an investigation found that he had massaged data to produce positive outcomes in his research, such as the effect of colour on consumer behaviour1,2. Smeesters says the practices he used are common in the field. None of his co-authors is implicated. The university was tipped off by social psychologist Uri Simonsohn at the University of Pennsylvania in Philadelphia, who spoke exclusively to Nature about his investigation.

Skoyles 2012

John R. Skoyles, *Neurosignifier-Neurosignified, Symbols, and Anthropological Possibility, A Comment on Henshilwood and Dubreuil*. Current Anthropology **53** (2012), 356–357.

In a nutshell, (1) symbols recycle preexisting affective and cognitive neurological circuits through signifier-signified mapping, and (2) this results in a greatly expanded capacity in humans for culture and transmitted nonevolved behaviors.

The activation of neural circuits and the associated behavioral output is regulated by evolved sensory inputs. The inherent neural plasticity of neural circuits allows for these inputs to be replaced by inputs from physical entities and representations. Instead of these circuits being activated by evolved input, they are activated by inputs that are learned, including the affective reinforcements of ritual. Such acquired inputs are symbolic in that their association with neural circuits is arbitrary. In Saussurian terms, such symbols function as input signifiers for now-signified neural operations. For example, the symbols for radiation, biohazards, and poisons are arbitrary signifiers that recycle the fear-related neural circuitry that had evolved earlier to be triggered by threatening snakes and dangerous spiders.

Anthropologie

Estebaranz 2012

Ferran Estebaranz, Jordi Galbany, Laura M Martínez, Daniel Turbón & Alejandro Pérez-Pérez, *Buccal dental microwear analyses support greater specialization in consumption of hard foodstuffs for Australopithecus anamensis*. Journal of Anthropological Sciences (2012) preprint, 1–24. DOI:10.4436/jass.90006.

Molar occlusal microwear texture and anisotropy analyses of 3 Australopithecus anamensis fossil specimens have shown complexity values similar to those of Au. afarensis, indicating that neither of these hominin species had a diet dominated by hard food. However, many researchers have suggested that these were some of the earliest hominins to have such diets. Here we examine buccal microwear patterns of 5 Au. anamensis, 26 Au. afarensis, 48 Hominoidea and 80 Cercopithecoidea primate specimens for independent evidence of dietary adaptations of Au. anamensis. The buccal microwear results obtained suggest that the diet of Au. anamensis relied heavily on hard, brittle food, at least seasonally. This is similar to the diet of the extant Cercopithecoidea primates, including Papio anubis and Chlorocebus aethiops, both of which live in wooded, seasonal savannah environments and have diets that include fruit and grasses, but also underground storage organs (USOs), such as corms or blades, as well as leaves and seeds, and also Mandrillus and Cercocebus, from forested environments with frugivorous-granivorous diets. Furthermore, the buccal microwear patterns of Au. anamensis and Au. afarensis clearly differed – in clear contrast to occlusal enamel texture observations-, which support previous dietary interpretations based on both anatomical and palaeocological reconstructions.

Keywords – Hominin, Diet, Feeding ecology, Buccal microwear, Fallback food, Australopithecus anamensis.

Frayer 2010

David W. Frayer, Ivana Fiore, Carles Lalueza-Fox, Jakov Radovčić & Luca Bondioli, *Right handed Neandertals: Vindija and beyond*. Journal of Anthropological Sciences **88** (2010), 113–127.

JAnthSci88-113-Comment.pdf

Seven Vindija (Croatia) Neandertal teeth, dated ≈32,000 years ago, were analyzed to determine patterning of scratches on the anterior teeth. Oblique scratches exclusively on the labial faces of incisors and canines represent a distinctive pattern, characteristic of hand directed, non-masticatory activities. At Vindija and elsewhere these scratches reveal activities, which were performed primarily with the right hand. The late Neandertals from Vindija, combined with other studies, show that European Neandertals were predominately right-handed with a ratio 15:2 (88.2 %), a frequency similar to living people. Studies of teeth from Atapuerca extend this modern ratio to more than 500,000 years ago and increase the frequency of righthanders in the European fossil record to almost 94 %. Species-wide, preferential right-handedness is a defining feature of modern Homo sapiens, tied to brain laterality and language with the ≈9:1 ratio of right- to lefthanders – a reflection of the link between left hemispheric dominance and language. Up-to-date behavioral and anatomical studies of Neandertal fossils and the recent discovery of their possession of the FOXP2 gene indicate Neandertals (and, very likely, their European ancestors) had linguistic capacities similar to living humans.

Keywords – Handedness, Labial striations, Language capability, Croatia.

Hardy 2012

Karen Hardy et al., *Neanderthal medics? Evidence for food, cooking, and medicinal plants entrapped in dental calculus*. Naturwissenschaften (2012) preprint, 1–10. DOI:10.1007/s00114-012-0942-0.

Naturw2012-preprint-Supplement1.pdf, Naturw2012-preprint-Supplement2.pdf, Naturw2012-preprint-Supplement3.pdf, Naturw2012-preprint-Supplement4.pdf

Karen Hardy, Stephen Buckley, Matthew J. Collins, Almudena Estalrrich, Don Brothwell, Les Copeland, Antonio García-Tabernero, Samuel García-Vargas, Marco de la Rasilla, Carles Lalueza-Fox, Rosa Huguet, Markus Bastir, David Santamaría, Marco Madella, Julie Wilson, IJngel Fernández Cortés & Antonio Rosas

Neanderthals disappeared sometime between 30,000 and 24,000 years ago. Until recently, Neanderthals were understood to have been predominantly meat-eaters; however, a growing body of evidence suggests their diet also included plants. We present the results of a study, in which sequential thermal desorption-gas chromatography-mass spectrometry (TD-GC-MS) and pyrolysis-gas chromatographymass spectrometry (Py-GC-MS) were combined with morphological analysis of plant microfossils, to identify material entrapped in dental calculus from five Neanderthal individuals from the north Spanish site of El Sidrón. Our results provide the first molecular evidence for inhalation of wood-fire smoke and bitumen or oil shale and ingestion of a range of cooked plant foods. We also offer the first evidence for the use of medicinal plants by a Neanderthal individual. The varied use of plants that we have identified suggests that the Neanderthal occupants of El Sidrón had a sophisticated knowledge of their natural surroundings which included the ability to select and use certain plants.

Keywords Neanderthals . El Sidrón . Dental calculus .

Henry 2012

Amanda G. Henry et al., *The diet of Australopithecus sediba*. nature **487** (2012), 90–93.

n487-0090-Supplement.pdf

Amanda G. Henry, Peter S. Ungar, Benjamin H. Passey, Matt Sponheimer, Lloyd Rossouw, Marion Bamford, Paul Sandberg, Darryl J. de Ruiter and Lee Berger

Specimens of Australopithecus sediba from the site of Malapa, South Africa (dating from approximately 2 million years (Myr) ago) present a mix of primitive and derived traits that align the taxon with other Australopithecus species and with early Homo. Although much of the available cranial and postcranial material of Au. sediba has been described, its feeding ecology has not been investigated. Here we present results from the first extraction of plant phytoliths from dental calculus of an early hominin. We also consider stable carbon isotope and dental microwear texture data for Au. sediba in light of new palaeoenvironmental evidence. The two individuals examined consumed an almost exclusive C3 diet that probably included harder foods, and both dicotyledons (for example, tree leaves, fruits, wood and bark) and monocotyledons (for example, grasses and sedges). Like Ardipithecus ramidus (approximately 4.4 Myr ago) and modern savanna chimpanzees, Au. sedibaconsumed C3 foods in preference to widely available C4 resources. The inferred consumption of C3 monocotyledons, and wood or bark, increases the known variety of early hominin foods. The overall dietary pattern of these two individuals contrasts with available data for other hominins in the region and elsewhere.

Raihani 2012

N. J. Raihani & K. McAuliffe, *Human punishment is motivated by inequity aversion, not a desire for reciprocity*. Biology Letters (2012) preprint, 1–3. DOI:10.1098/rsbl.2012.0470.

BiolLett2012-preprint-Supplement1.docx, BiolLett2012-preprint-Supplement2.docx, BiolLett2012-preprint-Supplement3.csv

Humans involved in cooperative interactions willingly pay a cost to punish cheats. However, the proximate motives underpinning punitive behaviour are currently debated. Individuals who interact with cheats experience losses, but they also experience lower payoffs than the cheating partner. Thus, the negative emotions that trigger punishment may stem from a desire to reciprocate losses or from inequity aversion. Previous studies have not disentangled these possibilities. Here, we use an experimental approach to ask whether punishment is motivated by inequity aversion or by a desire for reciprocity. We show that humans punish cheats only when cheating produces disadvantageous inequity, while there is no evidence for reciprocity. This finding challenges the notion that punishment is motivated by a simple desire to reciprocally harm cheats and shows that victims compare their own payoffs with those of partners when making punishment decisions.

Keywords: punishment; inequity aversion; reciprocity

Schoeninger 2012

Margaret J. Schoeninger, *The ancestral dinner table*. nature **487** (2012), 42–43.

Fossils from a new South African site show that some human ancestors ate fruits and leaves, as do most primates today. The finding challenges ideas of why and how the human lineage split from the ancestors of extant apes.

More recently, however, an alternative hypothesis has taken precedence – that the human lineage split from the apes in part as a result of our ancestors' ability to obtain foods in open habitats, such as grasslands and savannah woodlands, that emerged in Africa following climatic changes during the Late Miocene epoch approximately 7 million years ago. These foods included grasses, sedge plants, grass-eating insects and small animals. On page 90 of this issue, Henry et al. present evidence that our early relatives had a more diverse diet, and ate items such as fruits, leaves and bark. The findings will trigger a rethink of the selective pressures that resulted in the separation of the ape and human lineages, and the traits we now consider to be unique to each.

Whitcome 2007

Katherine K. Whitcome, Liza J. Shapiro & Daniel E. Lieberman, *Fetal load*

and the evolution of lumbar lordosis in bipedal hominins. nature **450** (2007), 1075–1078.

n450-1075-Supplement.pdf

As predicted by Darwin1, bipedal posture and locomotion are key distinguishing features of the earliest known hominins. Hominin axial skeletons show many derived adaptations for bipedalism, including an elongated lumbar region, both in the number of vertebrae and their lengths, as well as a marked posterior concavity of wedged lumbar vertebrae, known as a lordosis. The lordosis stabilizes the upper body over the lower limbs in bipeds by positioning the trunk's centre of mass (COM) above the hips. However, bipedalism poses a unique challenge to pregnant females because the changing body shape and the extra mass associated with pregnancy shift the trunk's COM anterior to the hips. Here we show that human females have evolved a derived curvature and reinforcement of the lumbar vertebrae to compensate for this bipedal obstetric load. Similarly dimorphic morphologies in fossil vertebrae of Australopithecus suggest that this adaptation to fetal load preceded the evolution of Homo.

Judentum

Klausner 1955

Joseph Klausner, *The Messianic Idea in Israel, From its beginning to the completion of the Mishnah.* (New York 1955). Translated from the third Hebrew edition by W. F. Stinespring.

I was very young when the last and first parts of the book were written, and now old age has come upon me. During the twenty-five years which have passed since the first and third parts of the book were printed, the idea of redemption in Israel has spread and overflowed into many hearts like a flood of mighty waters. And to this idea there has become attached another idea, which has an organic connexion with it: viz., the idea of social equality and righteousness. For the idea of redemption is impossible without the positive element of the eternal vision of the prophets of truth and righteousness—the Messianic idea, the idea of the knowledge of God as revealed in the prophetic ethic, the idea of the brotherhood of man and the rule of righteousness in the world.

But alas! it is not the Hebraic, the prophetic, the Messianic-Israelitic social conception which has become a basis for bringing about redemption in the land of vision and promise, but a foreign social conception, linked up with economic and historical materialism, to which the prophetic idealism is a mockery. All this is not Jewish, not Palestinian, and therefore is not truly humanitarian either. Zionist social policy cannot be based on an authoritarian materialism, which brings about equality by deeds of violence; it must be prophetic, saturated with the Jewish Messianic idea, or else not be at all. If this book can succeed in giving an idea of the close connexion between the political redemption of Israel in its own land and the ideal of righteousness, peace, and brotherhood among all peoples; and if a prophetic social outlook can be gained from this idea, and can be laid as a foundation stone in the building of our politico-spiritual National Home, I shall know that my labor of many years has not been in vain.

J. K., Jerusalem-Talpioth, The day after Passover, 5687 [1927]

Jungpaläolithikum

Verpoorte 2012

Alexander Verpoorte, *Caching and retooling in Potočka zijalka (Slovenia), Implications for late Aurignacian land use strategies.* Archäologisches Korrespondenzblatt **42** (2012), 135–152.

The high alpine cave of Potočka zijalka in Slovenia is renowned for a large collection of Late Aurignacian bone points with a massive base. The function and cultural association of the site have been discussed since the first official excavations in 1928. This paper deals with the breakage patterns of the bone points. The study indicates that the front of the cave was mainly used for retooling activities whereas the rear part of the cave was used for implement caching. The comparison with other cave sites with bone points in Central and Eastern Europe shows a clear-cut pattern of assemblage variability with caches, retooling loci and small field processing sites in the Early as well as Late Aurignacian. The organization of the projectile technology suggests that the exploitation of mountainous regions in the Eastern Alps during the Early Upper Palaeolithic was more common than previously acknowledged.
Die hochalpine Höhlenfundstelle Potočka zijalka in Slowenien ist schon lange für ihre große Sammlung spätaurigna-cienzeitlicher Knochenspitzen mit massiver Basis (Typ Lautsch, Mladec oder Olseva) bekannt. Sowohl die Funktion als auch die kulturelle Zuweisung des Fundortes wurden nach den ersten offiziellen Grabungen im Jahr 1928 immer wieder diskutiert. Die vorliegende Studie beschreibt zunächst die unterschiedlichen Bruchmuster der Knochenspitzen aus Potocka zijalka. Die daran anschließende räumliche Analyse legt nahe, dass im vorderen Teil der Höhle primär die Reparatur von Waffen erfolgte, während Knochenspitzen im hinteren Teil vor allem bevorratet wurden. Ein Abgleich mit anderen ost- und mitteleuropäischen Fundplätzen des älteren und jüngeren Aurignacien zeigt, dass vergleichbare Verhältnisse immer wieder zu erkennen, aber auch nur kurzzeitig genutzte Höhlenfundstellen vorhanden sind. Anhand der Nutzungsweise der Knochenspitzen und der Organisation mancher Fundorte lässt sich nachweisen, dass die Hoch-gebirgsregionen der östlichen Alpen durch den frühen modernen Menschen viel regelmäßiger aufgesucht wurden als bisher zumeist erwartet.
Schlüsselwörter, Keywords: Slowenien / Ostalpen / Aurignacien / frühe moderne Menschen / Knochenspitzen / Werkzeug / Slovenia / Eastern Alps / Aurignacian / early modern humans / bone points / tool

Keramik

Boaretto 2009

Elisabetta Boaretto et al., *Radiocarbon dating of charcoal and bone collagen associated with early pottery at Yuchanyan Cave, Hunan Province, China.* PNAS **106** (2009), 9595–9600.

Elisabetta Boaretto, Xiaohong Wu, Jiarong Yuan, Ofer Bar-Yosef, Vikki Chu, Yan Pan, Kexin Liu, David Cohen, Tianlong Jiao, Shuicheng Li, Haibin Gu, Paul Goldberg and Steve Weiner

Yuchanyan Cave in Daoxian County, Hunan Province (People's Republic of China), yielded fragmentary remains of 2 or more ceramic vessels, in addition to large amounts of ash, a rich animal bone assemblage, cobble and flake artifacts, bone tools, and shell tools. The artifacts indicate that the cave was a Late Paleolithic foragers' camp. Here we report on the radiocarbon ages of the sediments based on analyses of charcoal and bone collagen. The best-preserved charcoal and bone samples were identified by prescreening in the field and laboratory. The dates range from around 21,000 to 13,800 cal BP. We show that the age of the ancient pottery ranges between 18,300 and 15,430 cal BP. Charcoal and bone collagen samples located above and below one of the fragments produced dates of around 18,000. These ceramic potsherds therefore provide some of the earliest evidence for pottery making in China.

ancient ceramics | archaeology | 14C | Yangzi River

Kuzmin 2006

Yaroslav V. Kuzmin, *Chronology of the earliest pottery in East Asia: progress and pitfalls*. Antiquity **80** (2006), 362–371.
The origin of pottery is among themost important questions inOldWorld archaeology. The author undertakes a critical review of radiocarbon dates associated with the earliest pottery-making and eliminates a number of them where the material or its context are unreliable. Using those that survive this process of 'chronometric hygiene', he proposes that food-containers made of burnt clay originated in East Asia in the Late Glacial, c. 13 700-13 300 BP, and appeared in three separate regions, in Japan, China and far eastern Russia, at about the same time.
Keywords: East Asia,Neolithic, Palaeolithic-Neolithic transition, pottery, radiocarbon dating

Shelach 2012

Gideon Shelach, *On the Invention of Pottery*. science **336** (2012), 1644–1645.
What was the function of early Asian pottery, which predates the invention of agriculture by about 10,000 years?
It is possible that pottery and other early technologies were invented independently in different places. However, the fact that early pottery is widely distributed in East Asia among different societies in many different environments, but not found among preagricultural societies elsewhere, suggests that it spread in East Asia through intersocietal interactions, perhaps along with other ideas and technologies.

Wu 2012

Xiaohong Wu, Chi Zhang, Paul Goldberg, David Cohen, Yan Pan, Trina Arpin & Ofer Bar-Yosef, *Early Pottery at 20,000 Years Ago in Xianrendong Cave, China*. science **336** (2012), 1696–1700.
s336-1696-Supplement.pdf
The invention of pottery introduced fundamental shifts in human subsistence practices and sociosymbolic behaviors. Here, we describe the dating of the early pottery from Xianrendong Cave, Jiangxi Province, China, and the micromorphology of the stratigraphic contexts of the pottery sherds and radiocarbon samples. The radiocarbon ages of the archaeological contexts of the earliest sherds are 20,000 to 19,000 calendar years before the present, 2000 to 3000 years older than other pottery found in East Asia and elsewhere. The occupations in the cave demonstrate that pottery was produced by mobile foragers who hunted and gathered during the Late Glacial Maximum. These vessels may have served as cooking devices. The early date shows that pottery was first made and used 10 millennia or more before the emergence of agriculture.

Klima

Esper 2012

Jan Esper et al., *Orbital forcing of tree-ring data*. nature climate change (2012) preprint, 1–5. DOI:10.1038/NCLIMATE1589.
NatClimCh2012-preprint-Supplement.pdf
Jan Esper, David C. Frank, Mauri Timonen, Eduardo Zorita, Rob J. S. Wilson, Jürg Luterbacher, Steffen Holzkämper, Nils Fischer, Sebastian Wagner, Daniel Nievergelt, Anne Verstege and Ulf Büntgen
Solar insolation changes, resulting from long-term oscillations of orbital configurations1, are an important driver of Holocene climate. The forcing is substantial over the past 2,000 years, up to four times as large as the 1.6 Wm-2 net anthropogenic forcing since

1750, but the trend varies considerably over time, space and with season. Using numerous high-latitude proxy records, slow orbital changes have recently been shown to gradually force boreal summer temperature cooling over the common era. Here, we present new evidence based on maximum latewood density data from northern Scandinavia, indicating that this cooling trend was stronger (-0.31 °C per 1,000 years, ±0.03 °C) than previously reported, and demonstrate that this signature is missing in published tree-ring proxy records. The long-term trend now revealed in maximum latewood density data is in line with coupled general circulation models indicating albedo-driven feedback mechanisms and substantial summer cooling over the past two millennia in northern boreal and Arctic latitudes. These findings, together with the missing orbital signature in published dendrochronological records, suggest that large-scale near-surface air-temperature reconstructions relying on tree-ring data may underestimate pre-instrumental temperatures including warmth during Medieval and Roman times.

Kultur

Kerig 2011

Tim Kerig, *„… und Eva spann …“, Zur Urgeschichte der geschlechtlichen Arbeitsteilung in arbeitswirtschaftlicher Perspektive.* In: Jana Esther Fries & Ulrike Rambuscheck (Hrsg.), *Von wirtschaftlicher Macht und militärischer Stärke – Beiträge zur archäologischen Geschlechterforschung, 4. S. d. AG Geschlechterforschung a. d. 79. Jahrestg. d. NWdt. V. f. Altertumsforschung e.V. in Detmold 2009.* Frauen – Forschung – Archäologie 9 (Münster 2011), 17–36.

It is maintained that there is a connection between agriculture and the division of labour between men and women. In contrast to the cultivation of plants on a simply horticultural level in the Early and Middle Neolithic in Central Europe, the Late Neolithic agricultural economies, with the use of ploughs, are characterised by a higher degree of physically separate activity, differentiating between domestic and non-domestic tasks. Based on archaeological finds and their contexts, estimates of the amount of labour required for each task provide unexpected insights into economic necessity. Everyday tasks are under constant pressure to optimise efficiency and the division of labour between men and women can also be understood as an optimisation of agricultural activity after the introduction of the plough.

Es wird ein Zusammenhang von Agrarproduktion und geschlechtlicher Arbeitsteilung behauptet. Gegenüber der gartenbauähnlichen Pflanzenproduktion des Alt- und Mittelneolithikums sind pflugbäuerliche Wirtschaften ab dem Spätneolithikum durch räumlich stärker getrennte Arbeitsfelder charakterisiert. Es differenzieren sich häusliche und außerhäusige Arbeiten. Die Darstellung archäologisch rekonstruierter Arbeitsvolumen erlaubt unerwartete Einblicke in die wirtschaftlichen Notwendigkeiten. Die täglichen Arbeiten unterliegen dabei stetigem Optimierungsdruck: die geschlechtliche Arbeitsteilung selbst kann als Optimierung unter pflugbäuerlichen Verhältnissen verstanden werden.

Methoden

Kerig 2007

Tim Kerig, *Towards an Econometrically Informed Archaeology: The Cologne Tableau (KöTa).* In: Axel Posluschny, Karsten Lambers & Irmela Herzog (Hrsg.), *Layers of perception, Proceedings of the 35th International Conference on Computer Applications and Quantitative*

Methods in Archaeology (CAA). Kolloquien zur Vor- und Frühgeschichte 10 (Bonn 2007), 1–7.

Economic archaeology is currently oriented toward either ecological approaches or aspects of handicrat and exchange. The Cologne Tableau is designed to represent total economies as well as diferent economic sectors for comparative purposes in order to stress the macroeconomic interdependency of production, exchange, and consumption. The tableau displays every imaginable good or service, and it is based on an open monohierarchichal system that assigns positions in the table. As for the actual production, the surpluses, and the demand for goods may be given in the cells of the Tableau. For econometric analyses all the goods must be valued using the same measure of value necessary for covering the demand, regardless of whether it is an amount of money, an expenditure in kilojoules or the hours of work. The later are used here. A case study of Early Neolithic Linear Potery economy shows that the female labour force was most likely the key resource of the analysed economic system.