Liste erstellt am 2013-10-14

Literatur

Aktuell

van Hoesel 2013

Annelies van Hoesel, Wim Z. Hoek, Johannes van der Plicht, Gillian M. Pennock & Martyn R. Drury, *Cosmic impact or natural fires at the Allerød–Younger Dryas boundary: A matter of dating and calibration.* PNAS **110** (2013), E3896.

Calibration increases the uncertainty of the timing of the YD because of a long-lasting "plateau" in the calibration curve for this time period. This aspect is why we directly compared the radiocarbon ages, showing that the charcoal in the UH at Aalsterhut is somewhat younger than the Allerød–YD boundary. When using the calibrated ages, as Wittke et al. did, it can indeed be argued that our data are consistent with the Allerød–YD boundary.

Ives 2013

John W. Ives & Duane Froese, *The Chobot site (Alberta, Canada) cannot provide evidence of a cosmic impact 12,800 y ago.* PNAS **110** (2013), E3899.

not applied at this site. The statement by Wittke et al. that there are abundant Clovis points is not accurate: The fluted point they illustrate is one of three known from the site. Similarly, the assertion that there are "tens of thousands of Clovis-age flakes and tools" is unsubstantiated.

Kletetschka 2013

Gunther Kletetschka, Allen West & Richard B. Firestone, *Regarding the impact-related Younger Dryas boundary layer at Chobot site, Alberta, Canada*, *Reply to Ives and Froese.* PNAS **110** (2013), E3900.

In summary, we agree with Ives and Froese that the Chobot site is challenging because it is undated. We also agree that some lithics at the site are non-Clovis, but Chobot has three acknowledged Clovis points, which are more than at many Clovis sites. The inferred YDB layer contains five key markers: Clovis points associated with a black mat, along with abundance peaks in magnetic spherules and carbon spherules, containing nanodiamonds. Few to none of those markers are found in strata above or below the YDB layer at Chobot or other YDB sites.

Kupferschmidt 2013

Kai Kupferschmidt, *Concentrating on Kindness.* science **341** (2013), 1336–1339.

Tania Singer helped found the field of social neuroscience. Now she wants to apply what has been learned—by training the world to be more compassionate through meditation.

[E]mpathy has other drawbacks, Harvard University psychologist Steven Pinker writes in an e-mail. Corruption, for instance, is basically a result of our natural tendency to empathize more with our friends and relatives than with strangers, and to favor them at the expense of others. "No amount of training is going to erase this difference," Pinker writes.

Indeed, studies have shown that people are more likely to empathize with others of their own race or supporters of their favorite football team; even rats show a stronger signature of empathy toward cagemates than to other rats. The world needs justifiable policies and a robust commitment to human rights rather than more empathy, Pinker argues. “Frankly, I don’t feel empathy for every one of the two billion Indians and Chinese—who has the time or energy? But I also feel very strongly that they should not be harmed, exploited, or killed. These aren’t the same thing.”

Wittke 2013

James H. Wittke et al., *Impact-related Younger Dryas boundary nanodiamonds from The Netherlands, Reply to van Hoesel et al.* PNAS **110** (2013), E3897.

James H. Wittke, Ted E. Bunch, James P. Kennett, Douglas J. Kennett, Brendan J. Culleton, Kenneth B. Tankersley, I. Randolph Danie, Jr., Johan B. Kloosterman, Gunther Kletetschka, Allen West & Richard B. Firestone

Van Hoesel et al. claim that the nanodiamond-rich layer at Aalsterhut postdates the YDB by 200 y. However, that claim is indefensible.

Anthropologie

Nettle 2013

Daniel Nettle, Katherine A. Cronin & Melissa Bateson, *Responses of chimpanzees to cues of conspecific observationq.* Animal Behaviour **86** (2013), 595–602.

Recent evidence has shown that humans are remarkably sensitive to artificial cues of conspecific observation when making decisions with potential social consequences. Whether similar effects are found in other great apes has not yet been investigated. We carried out two experiments in which individual chimpanzees, Pan troglodytes, took items of food from an array in the presence of either an image of a large conspecific face or a scrambled control image. In experiment 1 we compared three versions of the face image varying in size and the amount of the face displayed. In experiment 2 we compared a fourth variant of the image with more prominent coloured eyes displayed closer to the focal chimpanzee. The chimpanzees did not look at the face images significantly more than at the control images in either experiment. Although there were trends for some individuals in each experiment to be slower to take high-value food items in the face conditions, these were not consistent or robust. We suggest that the extreme human sensitivity to cues of potential conspecific observation may not be shared with chimpanzees.

Keywords: chimpanzee | cooperation | Pan troglodytes | reputation | social intelligence | watching eyes

Wynn 2012

Thomas Wynn & Frederick L. Coolidge, *How to think like a Neandertal.* (New York 2012).

In How to Think Like a Neandertal, archaeologist Thomas Wynn and psychologist Frederick L. Coolidge team up to provide a brilliant account of the mental life of Neandertals, drawing on the most recent fossil and archaeological remains. Indeed, some Neandertal remains are not fossilized, allowing scientists to recover samples of their genes—one specimen had the gene for red hair and, more provocatively, all had a gene called FOXP2, which is thought to be related to speech. Given the differences between their faces and ours, their voices probably sounded a bit different,

and the range of consonants and vowels they could generate might have been different. But they could talk, and they had a large (perhaps huge) vocabulary—words for places, routes, techniques, individuals, and emotions. Extensive archaeological remains of stone tools and living sites (and, yes, they did often live in caves) indicate that Neandertals relied on complex technical procedures and spent most of their lives in small family groups. The authors sift the evidence that Neandertals had a symbolic culture—looking at their treatment of corpses, the use of fire, and possible body coloring—and conclude that they probably did not have a sense of the supernatural. The book explores the brutal nature of their lives, especially in northwestern Europe, where men and women with spears hunted together for mammoths and wooly rhinoceroses. They were pain tolerant, very likely taciturn, and not easy to excite. Wynn and Coolidge offer here an eye-opening portrait of Neandertals, painting a remarkable picture of these long-vanished people and providing insight, as they go along, into our own minds and culture.

Judentum

Costa 2013

Marta D. Costa et al., *A substantial prehistoric European ancestry amongst Ashkenazi maternal lineages*. Nature Communications **4** (2013), 2543. DOI:10.1038/ncomms3543.

NatComm04-2543-Supplement1.pdf, NatComm04-2543-Supplement2.xls, NatComm04-2543-Supplement3.xls, NatComm04-2543-Supplement4.xls, NatComm04-2543-Supplement5.xls

Marta D. Costa, Joana B. Pereira, Maria Pala, Verónica Fernandes, Anna Olivieri, Alessandro Achilli, Ugo A. Perego, Sergei Rychkov, Oksana Naumova, Jiři Hatina, Scott R. Woodward, Ken Khong Eng, Vincent Macaulay, Martin Carr, Pedro Soares, Luísa Pereira & Martin B. Richards

The origins of Ashkenazi Jews remain highly controversial. Like Judaism, mitochondrial DNA is passed along the maternal line. Its variation in the Ashkenazim is highly distinctive, with four major and numerous minor founders. However, due to their rarity in the general population, these founders have been difcult to trace to a source. Here we show that all four major founders, ≈40 % of Ashkenazi mtDNA variation, have ancestry in prehistoric Europe, rather than the Near East or Caucasus. Furthermore, most of the remaining minor founders share a similar deep European ancestry. Thus the great majority of Ashkenazi maternal lineages were not brought from the Levant, as commonly supposed, nor recruited in the Caucasus, as sometimes suggested, but assimilated within Europe. These results point to a signicant role for the conversion of women in the formation of Ashkenazi communities, and provide the foundation for a detailed reconstruction of Ashkenazi genealogical history.

Klima

Alvarez-Solas 2013

Jorge Alvarez-Solas, Alexander Robinson, Marisa Montoya & Catherine Ritz, *Iceberg discharges of the last glacial period driven by oceanic circulation changes*. PNAS **110** (2013), 16350–16354.

pnas110-16350-Supplement1.mov, pnas110-16350-Supplement2.txt

Proxy data reveal the existence of episodes of increased deposition of ice-rafted detritus in the North Atlantic Ocean during the last glacial period interpreted as

massive iceberg discharges from the Laurentide Ice Sheet. Although these have long been attributed to self-sustained ice sheet oscillations, growing evidence of the crucial role that the ocean plays both for past and future behavior of the cryosphere suggests a climatic control of these ice surges. Here, we present simulations of the last glacial period carried out with a hybrid ice sheet–ice shelf model forced by an oceanic warming index derived from proxy data that accounts for the impact of past ocean circulation changes on ocean temperatures. The model generates a time series of iceberg discharge that closely agrees with ice-rafted debris records over the past 80 ka, indicating that oceanic circulation variations were responsible for the enigmatic ice purges of the last ice age.
glacial climate variability | climate modeling | abrupt changes

Kultur

Turchin 2013

Peter Turchin, Thomas E. Currie, Edward A. L. Turner & Sergey Gavrilets, *War, space, and the evolution of Old World complex societies*. PNAS **110** (2013), 16384–16389.
pnas110-16384-Supplement1.wmv
How did human societies evolve from small groups, integrated by face-to-face cooperation, to huge anonymous societies of today, typically organized as states? Why is there so much variation in the ability of different human populations to construct viable states? Existing theories are usually formulated as verbal models and, as a result, do not yield sharply defined, quantitative predictions that could be unambiguously tested with data. Here we develop a cultural evolutionary model that predicts where and when the largest-scale complex societies arose in human history. The central premise of the model, which we test, is that costly institutions that enabled large human groups to function without splitting up evolved as a result of intense competition between societies—primarily warfare. Warfare intensity, in turn, depended on the spread of historically attested military technologies (e.g., chariots and cavalry) and on geographic factors (e.g., rugged landscape). The model was simulated within a realistic landscape of the Afroeurasian landmass and its predictions were tested against a large dataset documenting the spatiotemporal distribution of historical large-scale societies in Afroeurasia between 1,500 BCE and 1,500 CE. The model-predicted pattern of spread of large-scale societies was very similar to the observed one. Overall, the model explained 65 % of variance in the data. An alternative model, omitting the effect of diffusing military technologies, explained only 16 % of variance. Our results support theories that emphasize the role of institutions in state-building and suggest a possible explanation why a long history of statehood is positively correlated with political stability, institutional quality, and income per capita.
cultural evolution | social complexity | ultrasociality

Neolithikum

Shennan 2013

Stephen Shennan et al., *Regional population collapse followed initial agriculture booms in mid-Holocene Europe*. Nature Communications **4** (2013), 2486. DOI:10.1038/ncomms3486.
NatComm04-2486-Supplement.pdf

Stephen Shennan, Sean S. Downey, Adrian Timpson, Kevan Edinborough, Sue Colledge, Tim Kerig, Katie Manning & Mark G. Thomas
Following its initial arrival in SE Europe 8,500 years ago agriculture spread throughout the continent, changing food production and consumption patterns and increasing population densities. Here we show that, in contrast to the steady population growth usually assumed, the introduction of agriculture into Europe was followed by a boom-and-bust pattern in the density of regional populations. We demonstrate that summed calibrated radiocarbon date distributions and simulation can be used to test the significance of these demographic booms and busts in the context of uncertainty in the radiocarbon date calibration curve and archaeological sampling. We report these results for Central and Northwest Europe between 8,000 and 4,000 cal. BP and investigate the relationship between these patterns and climate. However, we find no evidence to support a relationship. Our results thus suggest that the demographic patterns may have arisen from endogenous causes, although this remains speculative.

Tzarfati 2013

Raanan Tzarfati, Yehoshua Saranga, Vered Barak, Avi Gopher, Abraham B. Korol & Shahal Abbo, *Threshing efficiency as an incentive for rapid domestication of emmer wheat*. Annals of Botany **112** (2013), 829–837.
Background and Aims The harvesting method of wild and cultivated cereals has long been recognized as an important factor in the emergence of domesticated non-shattering ear genotypes. This study aimed to quantify the effects of spike brittleness and threshability on threshing time and efficiency in emmer wheat, and to evaluate the implications of post-harvest processes on domestication of cereals in the Near East.
Methods Adiverse collection of tetraploid wheat genotypes, consisting ofTriticum turgidum ssp. dicoccoides – the wild progenitor of domesticated wheat – traditional landraces, modern cultivars (T. turgidum ssp. durum) and 150 recombinant (wild × modern) inbred lines, was used in replicated controlled threshing experiments to quantify the effects of spike brittleness and threshability on threshing time and efficiency.
Key Results The transition from a brittle hulled wild phenotype to non-brittle hulled phenotype (landraces) was associated with an approx. 30 % reduction in threshing time, whereas the transition from the latter to non-brittle free-threshing cultivars was associated with an approx. 85 % reduction in threshing time. Similar trends were obtained with groups of recombinant inbred lines showing extreme phenotypes of brittleness and threshability.
Conclusions In tetraploid wheat, both non-brittle spike and free-threshing are labour-saving traits that increase the efficiency of post-harvest processing, which could have been an incentive for rapid domestication of the Near Eastern cereals, thus refuting the recently proposed hypothesis regarding extra labour associated with the domesticated phenotype (non-brittle spike) and its presumed role in extending the domestication episode time frame.
Key words: Triticum turgidum ssp. dicoccoides, T. turgidum ssp. durum, emmer wheat, conscious selection, labour trap, post-harvest processing, protracted domestication, spike brittleness (br), threshability.

Story or Book

Clegg 2013

Brian Clegg, *Quis custodiet? Complete control*. nature **502** (2013),

134.
What kind of perfect dictator would I be if I didn't give you choice?