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References

Aktuell

Breda 2016

Thomas Breda & Mélina Hillion, *Teaching accreditation exams reveal grading biases favor women in male-dominated disciplines in France.* science **353** (2016), 474–478.

s353-0474-Supplement.pdf

In many professions, getting ahead requires evidence of both effort and ability. This is especially true if one is not a member of the dominant group and thus surmounting social norms. Breda and Hillion show that oral examiners of candidates for teaching positions in the French education system reward such applicants. Specifically, women applying for high-level teaching positions in male-dominated fields, such as physics and philosophy, are favored, as are men who apply in female-dominated fields, such as literature and foreign languages.

Discrimination against women is seen as one of the possible causes behind their underrepresentation in certain STEM (science, technology, engineering, and mathematics) subjects. We show that this is not the case for the competitive exams used to recruit almost all French secondary and postsecondary teachers and professors. Comparisons of oral non–gender-blind tests with written gender-blind tests for about 100,000 individuals observed in 11 different fields over the period 2006–2013 reveal a bias in favor of women that is strongly increasing with the extent of a field's male-domination. This bias turns from 3 to 5 percentile ranks for men in literature and foreign languages to about 10 percentile ranks for women in math, physics, or philosophy. These findings have implications for the debate over what interventions are appropriate to increase the representation of women in fields in which they are currently underrepresented.

Callaway 2016

Ewen Callaway, *Coastal route for first Americans.* nature **536** (2016), 138.

Life in Canadian corridor was too late to sustain migrations of Clovis and pre-Clovis people.

Davis-Stober 2016

Clintin P. Davis-Stober, Sanghyuk Park, Nicholas Brown & Michel Regenwetter, *Reported violations of rationalitymay be aggregation artifacts.* PNAS **113** (2016), E4761–E4763.

Our analysis calls into question whether Tsetsos et al. found biologically plausible violations of rationality. The reported intransitivity appears to be a direct artifact of experimental design and data aggregation.

Lek 2016

Monkol Lek et al., *Analysis of protein-coding genetic variation in 60,706 humans.* nature **536** (2016), 285–291.

n536-0285-Supplement1.pdf, n536-0285-Supplement2.zip

Monkol Lek, Konrad J. Karczewski, Eric V. Minikel, Kaitlin E. Samocha, Eric Banks, Timothy Fennell, Anne H. O'Donnell-Luria, James S. Ware, Andrew J. Hill, Beryl B. Cummings, Taru Tukiainen, Daniel P. Birnbaum, Jack A. Kosmicki, Laramie E. Duncan, Karol Estrada, Fengmei Zhao, James Zou, Emma Pierce-Hoffman, Joanne Berghout, David N. Cooper, Nicole Deflaux, Mark Depristo, Ron Do, Jason Flannick, Menachem Fromer, Laura Gauthier, Jackie Goldstein, Namrata Gupta, Daniel Howrigan, Adam Kiezun, Mitja I. Kurki, Ami Levy Moonshine, Pradeep Natarajan, Lorena Orozco, Gina M. Peloso, Ryan Poplin, Manuel A. Rivas, Valentin Ruano-Rubio, Samuel A. Rose, Douglas M. Ruderfer, Khalid Shakir, Peter D. Stenson, Christine Stevens, Brett P. Thomas, Grace Tiao, Maria T. Tusie-Luna, Ben Weisburd, Hong-Hee Won, Dongmei Yu, David M. Altshuler, Diego Ardissino, Michael Boehnke, John Danesh, Stacey Donnelly, Roberto Elosua, Jose C. Florez, Stacey B. Gabriel, Gad Getz, Stephen J. Glatt, Christina M. Hultman, Sekar Kathiresan, Markku Laakso, Steven Mccarroll, Mark I. Mccarthy, Dermot Mcgovern, Ruth Mcpherson, Benjamin M. Neale, Aarno Palotie, Shaun M. Purcell, Danish Saleheen, Jeremiah M. Scharf, Pamela Sklar, Patrick F. Sullivan, Jaakko Tuomilehto, Ming T. Tsuang, Hugh C. Watkins, James G. Wilson, Mark J. Daly, Daniel G. Macarthur & Exome Aggregation Consortium

Large-scale reference data sets of human genetic variation are critical for the medical and functional interpretation of DNA sequence changes. Here we describe the aggregation and analysis of high-quality exome (protein-coding region) DNA sequence data for 60,706 individuals of diverse ancestries generated as part of the Exome Aggregation Consortium (ExAC). This catalogue of human genetic diversity contains an average of one variant every eight bases of the exome, and provides direct evidence for the presence of widespread mutational recurrence. We have used this catalogue to calculate objective metrics of pathogenicity for sequence variants, and to identify genes subject to strong selection against various classes of mutation; identifying 3,230 genes with near-complete depletion of predicted protein-truncating variants, with 72 % of these genes having no currently established human disease phenotype. Finally, we demonstrate that these data can be used for the efficient filtering of candidate disease-causing variants, and for the discovery of human 'knockout' variants in protein-coding genes.

Shendure 2016

Jay Shendure, *A deep dive into genetic variation*. nature **536** (2016), 277–278.

The exome is the portion of the genome that encodes proteins. Aggregation of 60,706 human exome sequences from 14 studies provides in-depth insight into genetic variation in humans.

If there is one take-home message, it is that there is incredible value in aggregating sequencing data across genomic studies. As the exomes aggregated by ExAC represent just a small fraction of the human samples that have been subjected to exome or genome sequencing so far, we can and should do better. In the coming decade, the number of human genomes that will be sequenced in some manner will grow to at least tens of millions and, by the end of this century, perhaps even billions. The beginnings of saturation seen here with CpG dinucleotides may eventually be observed deeply and at every site, providing a nucleotidelevel footprint of the human genome.

Tsetsos 2016

Konstantinos Tsetsos, Rani Moran, James C. Moreland, Nick Chater, Marius Usher & Christopher Summerfield, *Violations of rationality*

in a psychophysical task are not aggregation artifacts, *Reply to Davis-Stober et al.* PNAS **113** (2016), E4764–E4766.

We thank Davis-Stober et al. for drawing attention to a potentially important issue. However, we find their analysis to be misleading. Below, we comprehensively rebut their claims and present evidence that corroborates our original findings.

Anthropologie

Wynn 2016

Thomas Wynn & Frederick L. Coolidge, *Archeological Insights into Hominin Cognitive Evolution*. Evolutionary Anthropology **25** (2016), 200–213.

How did the human mind evolve? How and when did we come to think in the ways we do? The last thirty years have seen an explosion in research related to the brain and cognition. This research has encompassed a range of biological and social sciences, from epigenetics and cognitive neuroscience to social and developmental psychology. Following naturally on this efflorescence has been a heightened interest in the evolution of the brain and cognition. Evolutionary scholars, including paleoanthropologists, have deployed the standard array of evolutionary methods. Ethological and experimental evidence has added significantly to our understanding of nonhuman brains and cognition, especially those of nonhuman primates.1,2 Studies of fossil brains through endocasts and sophisticated imaging techniques have revealed evolutionary changes in gross neural anatomy.3,4 Psychologists have also gotten into the game through application of reverse engineering to experimentally based descriptions of cognitive functions. For hominin evolution, there is another rich source of evidence of cognition, the archeological record. Using the methods of Paleolithic archeology and the theories and models of cognitive science, evolutionary cognitive archeology documents developments in the hominin mind that would otherwise be inaccessible.

Bibel

Maeir 2016

Aren M. Maeir & Itzhaq Shai, *Reassessing the Character of the Judahite Kingdom, Archaeological Evidence for Non-Centralized, Kinship-Based Components*. In: Saar Ganor, Igor Kreimerman, Katharina Streit & Madeleine Mumcuoglu (Hrsg.), *From Sha'ar Hagolan to Shaaraim, Essays in Honor of Prof. Yosef Garfinkel*. (Jerusalem 2016), 323–340.

In this study we reassess the character of the Judahite Kingdom during the Iron Age. As opposed to most past discussions of this monarchy, which def©ªine it as a highly centralized political structure, we suggest to identify various facets indicating that local elites played a major role in the societal and leadership structure of the Judahite Kingdom. We suggest that many of the supposed indices of centralized bureaucratic control that have been previously identif©ªied may in fact reflect the influence and control of local elites within the kingdom. We likewise believe that patronage-based relations, at diffferent levels of society, were of central importance in the social and economic structure of the kingdom.

Biologie

Graham 2016

Russell W. Graham et al., *Timing and causes of mid-Holocene mammoth extinction on St. Paul Island, Alaska*. PNAS **113** (2016), 9310–9314.

Russell W. Graham, Soumaya Belmecheri, Kyungcheol Choy, Brendan J. Culleton, Lauren J. Davies, Duane Froese, Peter D. Heintzman, Carrie Hritz, Joshua D. Kapp, Lee A. Newsom, Ruth Rawcliffe, Émilie Saulnier-Talbot, Beth Shapiro, Yue Wang, John W. Williams & Matthew J. Wooller

Relict woolly mammoth (Mammuthus primigenius) populations survived on several small Beringian islands for thousands of years after mainland populations went extinct. Here we present multiproxy paleoenvironmental records to investigate the timing, causes, and consequences of mammoth disappearance from St. Paul Island, Alaska. Five independent indicators of extinction show that mammoths survived on St. Paul until $5{,}600 \pm 100$ y ago. Vegetation composition remained stable during the extinction window, and there is no evidence of human presence on the island before 1787 CE, suggesting that these factors were not extinction drivers. Instead, the extinction coincided with declining freshwater resources and drier climates between 7,850 and 5,600 y ago, as inferred from sedimentary magnetic susceptibility, oxygen isotopes, and diatom and cladoceran assemblages in a sediment core from a freshwater lake on the island, and stable nitrogen isotopes from mammoth remains. Contrary to other extinction models for the St. Paul mammoth population, this evidence indicates that this mammoth population died out because of the synergistic effects of shrinking island area and freshwater scarcity caused by rising sea levels and regional climate change. Degradation of water quality by intensified mammoth activity around the lake likely exacerbated the situation. The St. Paul mammoth demise is now one of the best-dated prehistoric extinctions, highlighting freshwater limitation as an overlooked extinction driver and underscoring the vulnerability of small island populations to environmental change, even in the absence of human influence.

Keywords: mammoth | extinction | Holocene | St. Paul Island | ancient DNA

Significance: St. Paul Island, Alaska, is famous for its late-surviving population of woolly mammoth. The puzzle of mid-Holocene extinction is solved via multiple independent paleoenvironmental proxies that tightly constrain the timing of extinction to $5{,}600 \pm 100$ y ago and strongly point to the effects of sea-level rise and drier climates on freshwater scarcity as the primary extinction driver. Likely ecosystem effects of themega-herbivore extinction include reduced rates of watershed erosion by elimination of crowding around water holes and a vegetation shift toward increased abundances of herbaceous taxa. Freshwater availability may be an underappreciated driver of island extinction. This study reinforces 21st-century concerns about the vulnerability of island populations, including humans, to future warming, freshwater availability, and sea level rise.

Tenaillon 2016

Olivier Tenaillon et al., *Tempo and mode of genome evolution in a 50,000-generation experiment*. nature **536** (2016), 165–170.

Olivier Tenaillon, Jeffrey E. Barrick, Noah Ribeck, Daniel E. Deatherage, Jeffrey L. Blanchard, Aurko Dasgupta, Gabriel C. Wu, Sébastien Wielgoss, Stéphane Cruveiller, Claudine Médigue, Dominique Schneider & Richard E. Lenski

Adaptation by natural selection depends on the rates, effects and interactions of many mutations, making it difficult to determine what proportion of mutations in an evolving lineage are beneficial. Here we analysed 264 complete genomes

from 12 Escherichia coli populations to characterize their dynamics over 50,000 generations. The populations that retained the ancestral mutation rate support a model in which most fixed mutations are beneficial, the fraction of beneficial mutations declines as fitness rises, and neutral mutations accumulate at a constant rate. We also compared these populations to mutation-accumulation lines evolved under a bottlenecking regime that minimizes selection. Nonsynonymous mutations, intergenic mutations, insertions and deletions are overrepresented in the long-term populations, further supporting the inference that most mutations that reached high frequency were favoured by selection. These results illuminate the shifting balance of forces that govern genome evolution in populations adapting to a new environment.

Grabung

Uthmeier 2010

Thorsten Uthmeier & Jürgen Richter, *Die Ausgrabungen der Universität zu Köln an der Magdalénien-Freilandfundstelle Bad Kösen-Lengefeld, Ein Vorbericht.* Archäologie in Sachsen-Anhalt **2010**, Sonderband 13, 101–113.

Im Rahmen des Projektes wird die MagdalénienFreilandstation Bad Kösen-Lengefeld nahe Naumburg/ Saale durch Lehrgrabungen des Institutes für Ur- und Frühgeschichte der Universität zu Köln untersucht. Parallel hierzu sollen Daten sowohl aus der Literatur als auch aus Prospektionsmaßnahmen des Landesamtes für Denkmalpflege und Archäologie Sachsen-Anhalt im Saale-UnstrutGebiet dazu beitragen, den räumlich-funktionalen Kontext des Platzes zu erklären.

Judentum

Stemberger 1989

Günter Stemberger, *Midrasch, Vom Umgang der Rabbinen mit der Bibel.* (München 1989).

Stemberger 1992

Günter Stemberger, *Einleitung in Talmud und Midrasch.* (München ^{8}1992).

Stemberger 1994

Günter Stemberger, *Der Talmud, Einführung, Texte, Erläuterungen.* (München ^{3}1994).

Stemberger 2002

Günter Stemberger, *Einführung in die Judaistik.* (München 2002).

Jungpaläolithikum Energie

Pryor 2016

A. J. E. Pryor, A. Pullen, D. G. Beresford-Jones, J. A. Svoboda & C. S. Gamble, *Reflections on Gravettian firewood procurement near the*

Pavlov Hills, Czech Republic. Journal of Anthropological Archaeology **43** (2016), 1–12.

This paper draws attention to firewood as a natural resource that was gathered, processed and consumed on a daily basis by Palaeolithic groups. Using Gravettian occupation of the Pavlovské Hills as a case study (dated to around 30,000 years BP), we investigate firewood availability using archaeological, palaeoenvironmental and ecological data, including making inferences from charcoal in Pavlovian hearths. The collated evidence suggests that while dead wood was likely readily available in woodland areas where humans had not recently foraged, longer term occupations – or repeated occupation of the same area by different groups – would have quickly exhausted naturally occurring supplies. Once depleted, the deadwood pool may have taken several generations (≈40–120 years) to recover enough to provide fuel for another base camp occupation. Such exhaustion of deadwood supplies is well attested ethnographically. Thus, we argue that Pavlovian groups likely managed firewood supplies using methods similar to those used by recent hunter-gatherers: through planned geographic mobility and by deliberately killing trees years in advance of when wood was required, so leaving time for the wood to dry out. Such management of fuel resources was, we argue, critical to human expansion into these cold, hitherto marginal, ecologies of the Upper Palaeolithic.

Keywords: Gravettian | Firewood | Fire | Charcoal | Resource management | Upper Paleolithic

Klima

Henry 2016

L. G. Henry, J. F. McManus, W. B. Curry, N. L. Roberts, A. M. Piotrowski & L. D. Keigwin, *North Atlantic ocean circulation and abrupt climate change during the last glaciation*. science **353** (2016), 470–474.

s353-0470-Supplement.pdf

Large decreases in Atlantic meridional overturning circulation accompanied every one of the cold Northern Hemispheric stadial events that occurred during the heart of the last glacial period. These events, lasting on average around 1000 years each, have long been thought to result from changes in used a suite of geochemical proxies from marine sediments to et al. deep ocean circulation. Henry show that reductions in the export of northern deep waters occurred before and during stadial periods (see the Perspective by Schmittner). This observation firmly establishes the role of ocean circulation as a cause of abrupt glacial climate change during that interval.

The most recent ice age was characterized by rapid and hemispherically asynchronous climate oscillations, whose origin remains unresolved. Variations in oceanic meridional heat transport may contribute to these repeated climate changes, which were most pronounced during marine isotope stage 3, the glacial interval 25 thousand to 60 thousand years ago. We examined climate and ocean circulation proxies throughout this interval at high resolution in a deep North Atlantic sediment core, combining the kinematic tracer protactinium/thorium (Pa/Th) with the deep water-mass tracer, epibenthic d13C. These indicators suggest reduced Atlantic overturning circulation during every cool northern stadial, with the greatest reductions during episodic Hudson Strait iceberg discharges, while sharp northern warming followed reinvigorated overturning. These results provide direct evidence for the ocean's persistent, central role in abrupt glacial climate change.

Schmittner 2016

Andreas Schmittner, *The smoking gun for Atlantic circulation changes*. science **353** (2016), 445–446.

Deep-sea sediments record changes in ocean circulation during the last glacial age.

Thus, if secondary processes dominated the variations of Pa/Th and/or d13CBF, we would not expect to see any correlation between them. However, Henry et al.'s Pa/Th and d13CBF records are highly correlated both with each other and with sea surface temperature (SST) variations in a nearby sediment core. This agreement indicates that at least some of the ice age D-O events, particularly those accompanied by massive ice berg rafting, were associated with large AMOC changes and perhaps even AMOC collapses. But Henry et al.'s data also indicate a variety of responses, with other events showing smaller changes.

Kultur

Ferrara 2016

Silvia Ferrara & Carol Bell, *Tracing copper in the Cypro-Minoan script*. Antiquity **90** (2016), 1009–1021.

The Cypro-Minoan script was in regular use on the island of Cyprus, and by Cypriot merchants overseas, during the Late Bronze Age. Although still undeciphered, sign-sequences inscribed on miniature copper 'oxhide' ingots and on associated clay labels may hold a clue to their purpose. The ingots were previously interpreted as votive offerings inscribed with dedications. Here, it is suggested instead that these extremely pure copper miniatures were produced as commercial samples, and were marked with a brand denoting their high quality and provenance, such as 'pure Cypriot copper'.

Keywords: Cyprus | Late Bronze Age | writing | epigraphy | copper | ingot

Jennings 2016

Justin Jennings & Timothy Earle, *Urbanization, State Formation, and Cooperation, A Reappraisal*. Current Anthropology **57** (2016), 474–493.

Since at least the Enlightenment, scholars have linked urbanization to state formation in the evolution of complex societies. We challenge this assertion, suggesting that the cooperative units that came together in the earliest cities were premised on limiting outside domination and thus usually acted to impede efforts to create more centralized structures of control. Although cities often became the capitals of states, state formation was quicker and more effective where environments kept people more dispersed. Data from the Andes and Polynesia are used to support this argument. In the Lake Titicaca Basin, household- and lineage-based groups living in the city of Tiahuanaco structured urban dynamics without the state for the settlement's first 300 years, while similarly organized Hawaiian groups that were isolated in farmsteads were quickly realigned into a state structure. By decoupling urbanization from state formation, we can better understand the interactions that created the world's first cities.

Mattison 2016

Siobhán M. Mattison, Eric A. Smith, Mary K. Shenk & Ethan E. Cochrane, *The Evolution of Inequality*. Evolutionary Anthropology **25** (2016), 184–199.

Understanding how systems of political and economic inequality evolved from relatively egalitarian origins has long been a focus of anthropological inquiry. Many hypotheses have been suggested to link socio-ecological features with the rise and spread of inequality, and empirical tests of these hypotheses in prehistoric and extant societies are increasing. In this review, we synthesize several streams of theory relevant to understanding the evolutionary origins, spread, and adaptive significance of inequality. We argue that while inequality may be produced by a variety of localized processes, its evolution is fundamentally dependent on the economic defensibility and transmissibility of wealth. Furthermore, these properties of wealth could become persistent drivers of inequality only following a shift to a more stable climate in the Holocene. We conclude by noting several key areas for future empirical research, emphasizing the need for more analyses of contemporary shifts toward institutionalized inequality as well as prehistoric cases.

Meller 2015

Harald Meller & Michael Schefzik (Hrsg.), *Krieg – eine Archäologische Spurensuche, Begleitband zur Sonderausstellung im Landesmuseum für Vorgeschichte Halle (Saale), 6. November 2015 bis 22. Mai 2016*. (Darmstadt 2015).

Monnier 2016

Franck Monnier & Alexander Puchkov, *The Construction Phases of the Bent Pyramid at Dahshur, A Reassessment*. Égypte nilotique et méditerranéenne **9** (2016), 15–36.

The architectural peculiarities of the Bent pyramid built by Snefru at South Dahshur are the subject of two currents of interpretation. The first one consists of seeing the symbolic and deliberate expression of a duality in the design, and the second one, modifications due to structural problems that occurred during the construction work. This article reviews the archaeological situation by bringing unpublished and additional observations into the discussion. Some details that have been unnoticed by commentators so far, as well as a structural pathology of the building, lead to confirmation that the builders changed their project several times, but also reveal the reasons for these changes. A complete revision of the history of the monument is then suggested as a conclusion.

Pásztor 2015

Emília Pásztor, *Nebra Disk*. In: C. L. N. Ruggles (Hrsg.), *Handbook of Archaeoastronomy and Ethnoastronomy*. (New York 2015), 1349–1356.

An important archaeological find from the Bronze Age has come to light in Germany. It is a round bronze disk adorned with gold figures that might be interpreted as symbols for stars, the sun, and the moon, making the disk the oldest known surviving depiction of celestial objects in Europe. By comparing the iconography and ideography of the disk with archaeological finds, ethnographic material, and historical notes of different cultures and periods, the conclusion has been reached that the compositional elements might be understood as the depiction of a traditional folk worldview.

There is no compelling evidence that the Nebra disk ever served as a precision instrument for astronomical observations or was intended to depict celestial events with any demand for scientific accuracy. Presumptuous statements about the disk as proof of Bronze Age peoples' advanced astronomical knowledge are unfounded.

It is easy to forgo scientific skepticism in the enthusiasm over the finding of such an extraordinary object as the Nebra disk.

It is more likely that the disk is a representation of the essential elements of the cosmos for traditional peoples. From an anthropological point of view, it could be even considered to be scientific as the celestial entities are depicted as they were seen in the sky. No abstract symbols or anthropomorphic figures are on it, which are so characteristic on Near Eastern religious objects and whose absence is so characteristic of traditional peoples.

It might have been produced in a Northern region. Such an outstanding object usually has a long history and as a gift passed from one owner to another over large distances.

Metallzeiten

Horejs 2016

Barbara Horejs & Bernhard Weninger, *Early Troy and its significance for the Early Bronze Age in Western Anatolia*. In: Ernst Pernicka, Sinan Ünlüsoy & Stephan W. E. Blum (Hrsg.), *Early Bronze Age Troy: Chronology, Cultural Development and Interregional Contacts*, *Proceedings of an International Conference held at the University of Tübingen May 8–10, 2009*. Studia Troica Monographien 8 (Bonn 2016), 123–145.

The impact of early Troy on Western Anatolia is discussed by presenting the problems and opportunities experienced while attempting to establish a relative and absolute chronology for Çukuriçi Höyük, a site recently excavated in the lower Kaystros Valley. Following a short description of the settlement and its stratigraphic sequence, the discussion focuses on selected pottery assemblages from rooms 19 (phase ÇuHö IV) and 1 (phase ÇuHö III), and from parallel sites. The result of the analysis is a synchronisation of both settlement phases with Troy I, Beycesultan XIX–XVII, Aphrodisias Pekmez LC4–EB1/2, Yortan, Emporio V–IV, Thermi and Poliochni blue and the relative dating of Çukuriçi Höyük IV–III to EBA 1. An independent absolute chronology for this site is possible thanks to 10 radiocarbon dates presented here. The actual date for both phases can be ixed between 2900 and 2750 calBC, which corresponds to Troy I early in particular. In a next step, the results are used as a basis for the re-evaluation of surveys previously carried out in the Kaystros valley. Finally, the possible consequences for the chronological integration of the so-called Yortan group are discussed with the addition of recent indings from surveys conducted in the lower Kaykos Valley.

Methoden

Pargeter 2016

Justin Pargeter et al., *Primordialism and the 'Pleistocene San' of southern Africa*. Antiquity **90** (2016), 1072–1089.

Justin Pargeter, Alex MacKay, Peter Mitchell, John Shea, Brian A. Stewart & Francesco d'Errico, Paola Villa, Ilaria Degano, Jeanette Lucejko, Maria Perla Colombini, Peter Beaumont & H. Martin Wobst & Alan Barnard & James Denbow

Analogies are an important tool of archaeological reasoning. The Kalahari San are frequently depicted in introductory texts as archetypal, mobile hunter-gatherers, and they have influenced approaches to archaeological, genetic and

linguistic research. But is this analogy fundamentally flawed? Recent arguments have linked the San populations of southern Africa with the late Pleistocene Later Stone Age (c. 44 kya) at Border Cave, South Africa. The authors argue that these and other claims for the Pleistocene antiquity of modern-day cultures arise from a fundamental misunderstanding of the nature of cultural and archaeological taxonomies, and that they are a misuse of analogical reasoning.

ROSEN 2016

Julia Rosen, *A forest of hypotheses*. nature **536** (2016), 239–241.

Falling in love with a single theory can cut off fruitful avenues of enquiry. Here's how to keep your mind open.

It can be challenging to put the method into practice because researchers must battle their own natural enthusiasm for an alluring idea. The first step is to set aside time to articulate other hypotheses before one starts to gain traction. If not, a favoured hypothesis might skew the process of data collection or analysis when one heads out into the field, starts an experiment or dives into a data set. "If you have a hypothesis or you're looking for a pattern, sometimes you won't actually honour what pattern is there.

In many cases the method produces more insightful results than testing null hypotheses, which reveals only whether a specific factor has a discernible effect. Multiple hypotheses, by contrast, can help scientists to work out whether that effect is important, and whether several factors might be at play.

Neolithikum

BROUSHAKI 2016

Farnaz Broushaki et al., *Early Neolithic genomes from the eastern Fertile Crescent*. science **353** (2016), 499–503.

s353-0499-Supplement.pdf

Farnaz Broushaki, Mark G. Thomas, Vivian Link, Saioa López, Lucy van Dorp, Karola Kirsanow, Zuzana Hofmanová, Yoan Diekmann, Lara M. Cassidy, David Díez-del-Molino, Athanasios Kousathanas, Christian Sell, Harry K. Robson, Rui Martiniano, Jens Blöcher, Amelie Scheu, Susanne Kreutzer, Ruth Bollongino, Dean Bobo, Hossein Davoudi, Olivia Munoz, Mathias Currat, Kamyar Abdi, Fereidoun Biglari, Oliver E. Craig, Daniel G. Bradley, Stephen Shennan, Krishna R. Veeramah, Marjan Mashkour, Daniel Wegmann, Garrett Hellenthal & Joachim Burger

The genetic composition of populations in Europe changed during the Neolithic transition from et hunting and gathering to farming. To better understand the origin of modern populations, Broushaki sequenced ancient DNA from four individuals from the Zagros region of present-day Iran, al. representing the early Neolithic Fertile Crescent. These individuals unexpectedly were not ancestral to early European farmers, and their genetic structures did not contribute significantly to those of present-day Europeans. These data indicate that a parallel Neolithic transition probably resulted from structured farming populations across southwest Asia.

We sequenced Early Neolithic genomes from the Zagros region of Iran (eastern Fertile Crescent), where some of the earliest evidence for farming is found, and identify a previously uncharacterized population that is neither ancestral to the first European farmers nor has contributed substantially to the ancestry of modern Europeans. These people are estimated to have separated from Early Neolithic farmers in Anatolia some 46,000 to 77,000 years ago and show affinities to modern-day Pakistani and Afghan populations, but particularly to Iranian Zoroastrians.

We conclude that multiple, genetically differentiated hunter-gatherer populations adopted farming in southwestern Asia, that components of pre-Neolithic population structure were preserved as farming spread into neighboring regions, and that the Zagros region was the cradle of eastward expansion.

Dietrich 2016

Oliver Dietrich, *Out for a beer at the dawn of agriculture*. Tepe Telegrams **2016**, Apr. 24. <http://tepetelegrams.wordpress.com/2016/04/24/>.

Already during excavations it was noted that some vessels carried greyblack adhesions. A first set of analyses made on these substances returned partly positive for calcium oxalate, which develops in the course of the soaking, mashing and fermenting of grain. Although these intriguing results are only preliminary, they provide initial indications for the brewing of beer at Göbekli Tepe, thus provoking renewed discussions relating to the production and consumption of alcoholic beverages at this early time.

Jacomet 2016

Stefanie Jacomet et al., *On-site data cast doubts on the hypothesis of shifting cultivation in the late Neolithic (c. 4300–2400 cal. BC), Landscape management as an alternative paradigm*. The Holocene (2016), preprint, 1–17. DOI:10.1177/0959683616645941.

Stefanie Jacomet, Renate Ebersbach, Örni Akeret, Ferran Antolín, Tilman Baum, Amy Bogaard, Christoph Brombacher, Niels K. Bleicher, Annekäthi Heitz-Weniger, Heide Hüster-Plogmann, Eda Gross, Marlu Kühn, Philippe Rentzel, Bigna L. Steiner, Lucia Wick & Jörg M. Schibler

This article brings together in a comprehensive way, and for the first time, on- and off-site palaeoenvironmental data from the area of the Central European lake dwellings (a UNESCO World Cultural Heritage Site since 2011). The types of data considered are as follows: high-resolution off-site pollen cores, including micro-charcoal counts, and on-site data, including botanical macro- and micro-remains, hand-collected animal bones, remains of microfauna, and data on woodland management (dendrotypology). The period considered is the late Neolithic (c. 4300–2400 cal. BC). For this period, especially for its earlier phases, discussions of land-use patterns are contradictory. Based on off-site data, slash-and-burn – as known from tropical regions – is thought to be the only possible way to cultivate the land. On-site data however show a completely different picture: all indications point to the permanent cultivation of cereals (Triticum spp., Hordeum vulgare), pea (Pisum sativum), flax (Linum usitatissimum) and opium-poppy (Papaver somniferum). Cycles of landscape use are traceable, including coppicing and moving around the landscape with animal herds. Archaeobiological studies further indicate also that hunting and gathering were an important component and that the landscape was manipulated accordingly. Late Neolithic land-use systems also included the use of fire as a tool for opening up the landscape. Here we argue that bringing together all the types of palaeoenvironmental proxies in an integrative way allows us to draw a more comprehensive and reliable picture of the land-use systems in the late Neolithic than had been reconstructed previously largely on the basis of off-site data.

Keywords: archaeobotany | archaeozoology | Central Europe | niche construction | type of farming | use of fire | wetland settlements

Story or Book

VAN SCHAIK 2016

Carel van Schaik, *On the Shoulders of a Very Large Pyramid of Hobbits, or Why We Are Not Just Very Smart Chimps*. Evolutionary Anthropology **25** (2016), 214–217.

The Secret of Our Success: How Culture is Driving Human Evolution, Domesticating Our Species, and Making Us Smarter. By Joseph Henrich (2016). Princeton: Princeton University Press. 445 p. $29.95. ISBN 978-0-691-16685-8

Unfortunately, the mainstream of cultural anthropology, with its rich tradition and concepts, did not participate, because right at that time it was entering its postmodernist torpor. Now, some 30 years later, this serious attempt to integrate culture into the scientific study of behavior is bearing abundant fruit. Joseph Henrich has written a highly accessible book on this endeavor.

Henrich makes three strict assumptions, in my mind not entirely necessary, that are all related to the process of cultural evolution: that actors are not very clever and do not really understand why their own inventions work, that because people do not think for themselves, prestige-based and conformist copying prevail, and that all major changes arise through cultural or classic group selection.

Children and adults alike, over-imitate, copying all details of actions, relevant or not. The explanation is both informational ("the majority surely knows better than I do, naEýve as I am") and normative ("I'd better do exactly what the others do, so as to maintain my reputation and not be shunned or even evicted"). In a world full of complex cumulative techniques and institutions, individuals do better not to try and understand every last detail.