Liste erstellt am 2012-06-16

Literatur

Aktuell

Astronomy 2012

Robert Coontz, Adrian Cho, Yudhijit Bhattacharjee, Edwin Cartlidge, Daniel Clery & Richard A. Kerr, *Mysteries of Astronomy*. science **336** (2012), 1090–1099.

Adrian Cho: What Is Dark Energy?
Adrian Cho: How Hot Is Dark Matter?
Yudhijit Bhattacharjee: Where Are the Missing Baryons?
Yudhijit Bhattacharjee: How Do Stars Explode?
Edwin Cartlidge: What Reionized the Universe?
Daniel Clery: What's the Source of the Most Energetic Cosmic Rays?
Richard A. Kerr: Why Is the Solar System So Bizarre?
Richard A. Kerr: Why Is the Sun's Corona So Hot?

Balter 2012

Michael Balter, *Early Dates for Artistic Europeans*. science **336** (2012), 1086–1087.

That means that the Aurignacians were making art while Neandertals were still in Europe. Neandertals themselves began making personal ornaments and other symbolic objects in France and Spain about 40,000 years ago, shortly before they went extinct.
But Zilhão doesn't see it that way, citing what he says are inconsistencies in the dating at Geissenklösterle, and saying that layers in the cave may have been mixed. "There is a group of colleagues on a mission from God to put modern humans in Europe early enough to be the authors" of early symbolism, "thereby putting Neandertals back where they 'deserve' to be," Zilhão complains.

Bhattacharjee 2012

Yudhijit Bhattacharjee, *NSF's 'Big Pitch' Tests Anonymized Grant Reviews*. science **336** (2012), 969–970.

The two lists were almost entirely different, with only three proposals in common. According to a comparative analysis prepared by NSF, there was only "a weak correlation" between the two panels' ratings. In other words, the panels' assessments strongly diverged. The experiment was not designed to separate out the effect of anonymity, but it may have been a factor.
Taylor had failed twice to win funding from the National Institutes of Health to study the role of an enzyme in modifying mitochondrial DNA. Both times, she says, reviewers questioned the validity of her preliminary results because she had few publications to her credit. Some reviews of her full proposal to NSF expressed the same concern. Without a biographical sketch, Taylor says, reviewers of the anonymous proposal could "focus on the novelty of the science, and this is what allowed my proposal to be funded."

Dulik 2012

Matthew C. Dulik et al., *Y-chromosome analysis reveals genetic divergence and new founding native lineages in Athapaskan- and Eskimoan-speaking populations*. PNAS **109** (2012), 8471–8476.

pnas109-08471-Supplement1.xlsx, pnas109-08471-Supplement2.xlsx, pnas109-08471-Supplement3.docx, pnas109-08471-Supplement4.docx
Matthew C. Dulik, Amanda C. Owings, Jill B. Gaieski, Miguel G. Vilar, Alestine Andre, Crystal Lennie, Mary Adele Mackenzie, Ingrid Kritsch, Sharon Snowshoe, Ruth Wright, James Martin, Nancy Gibson, Thomas D. Andrews, Theodore G. Schurr and The Genographic Consortium
For decades, the peopling of the Americas has been explored through the analysis of uniparentally inherited genetic systems in Native American populations and the comparison of these genetic data with current linguistic groupings. In northern North America, two language families predominate: Eskimo-Aleut and Na-Dene. Although the genetic evidence from nuclear and mtDNA loci suggest that speakers of these language families share a distinct biological origin, this model has not been examined using data from paternally inherited Y chromosomes. To test this hypothesis and elucidate the migration histories of Eskimoan- and Athapaskanspeaking populations, we analyzed Y-chromosomal data from Inuvialuit, Gwich'in, and T^{32}ich ^{2} o populations living in the Northwest Territories of Canada. Over 100 biallelic markers and 19 chromosome short tandem repeats (STRs) were genotyped to produce a high-resolution dataset of Y chromosomes from these groups. Among these markers is an SNP discovered in the Inuvialuit that differentiates them from other Aboriginal and Native American populations. The data suggest that Canadian Eskimoan- and Athapaskanspeaking populations are genetically distinct from one another and that the formation of these groups was the result of two population expansions that occurred after the initial movement of people into the Americas. In addition, the population history of Athapaskan speakers is complex, with the T^{32}ich ^{2} o being distinct from other Athapaskan groups. The high-resolution biallelic data also make clear that Y-chromosomal diversity among the first Native Americans was greater than previously recognized.
haplogroup | haplotype | Arctic | Inuit | Thule

Frank 2012

Michael C. Frank & Noah D. Goodman, *Predicting Pragmatic Reasoning in Language Games*. science **336** (2012), 998.

Gibbons 2012

Ann Gibbons, *An Evolutionary Theory of Dentistry*. science **336** (2012), 973–975.
Why are our teeth so rotten? Biologists point to a mismatch between our diets and lifestyles and those of our ancestors
Roughly 9 % of Neolithic people—the first farmers-had cavities, as they began to consume cereal grains rich in carbohydrates, Ungar says. Even so, many millennia elapsed before dietary changes resulted in serious oral damage. For example, the skeletons of 93 commoners excavated at Amarna, Egypt, who apparently died between about 1330 B.C.E. and 1350 B.C.E., had surprisingly good teeth, says UA anthropologist Jerome Rose. These Egyptians ate more carbohydrates than hunter-gatherers did, in the form of coarse bread, but they also ate so much grit and fiber that the surfaces of their teeth-including any cavities-wore down rapidly. "The wear was fast enough to erase decay until late in life when decay showed up between teeth," Rose says.
In Europe, less than 10 % of individuals had cavities until Alexander the Great brought sugar to Greece in the 4th century B.C.E., according to earlier studies, says pediatric dentist Kevin Boyd of Children's Memorial Hospital in Chicago, Illinois. Cavities increased first in Greece, then Rome; their incidence also rose throughout Europe in the Middle Ages. But the biggest spike was from 1800 to 1850, when Britain took control of the West Indies and imported far more sugar than previously.

Hoekstra 2012

Arjen Y. Hoekstra & Mesfin M. Mekonnen, *Reply to Ridoutt and Huang: From water footprint assessment to policy*. PNAS **109** (2012), E1425.

Kemp 2012

Charles Kemp & Terry Regier, *Kinship Categories Across Languages Reflect General Communicative Principles*. science **336** (2012), 1049–1054.
s336-1049-Supplement.pdf
Languages vary in their systems of kinship categories, but the scope of possible variation appears to be constrained. Previous accounts of kin classification have often emphasized constraints that are specific to the domain of kinship and are not derived from general principles. Here, we propose an account that is founded on two domain-general principles: Good systems of categories are simple, and they enable informative communication. We show computationally that kin classification systems in the world's languages achieve a near-optimal trade-off between these two competing principles. We also show that our account explains several specific constraints on kin classification proposed previously. Because the principles of simplicity and informativeness are also relevant to other semantic domains, the trade-off between them may provide a domain-general foundation for variation in category systems across languages.

Lager 2012

Anton Carl Jonas Lager & Jenny Torssanderd, *Causal effect of education on mortality in a quasi-experiment on 1.2 million Swedes*. PNAS **109** (2012), 8461–8466.
In 1949-1962, Sweden implemented a 1-y increase in compulsory schooling as a quasi-experiment. Each year, children in a number of municipalities were exposed to the reform and others were kept as controls, allowing us to test the hypothesis that education is causally related to mortality. We studied all children born between 1943 and 1955, in 900 Swedish municipalities, with control for birth-cohort and area differences. Primary outcome measures are all-cause and cause-specific mortality until the end of 2007. The analyses include 1,247,867 individuals, of whom 92,351 died. We found lower all-cause mortality risk in the experimental group after age 40 [hazard ratio (HR) = 0.96, 95 % confidence interval (CI) 0.93-0.99] but not before (HR = 1.03, 95 % CI 0.98-1.07) or during the whole follow-up (HR = 0.98, 95 % CI 0.95-1.01). After age 40, the experimental group had lower mortality from overall cancer, lung cancer, and accidents. In addition, exposed women had lower mortality from ischemic heart disease, and exposed men lower mortality from overall external causes. In analyses stratified for final educational level, we found lower mortality in the experimental group within the strata that settled for compulsory schooling only (HR = 0.94, 95 % CI 0.89-0.99) and compulsory schooling plus vocational training (HR = 0.92, 95 % CI 0.88-0.97). Thus, the experimental group had lower mortality from causes known to be related to education. Lower mortality in the experimental group was also found among the least educated, a group that clearly benefited from the reform in terms of educational length. However, all estimates are small and there was no evident impact of the reform on all-cause mortality in all ages.
epidemiology | natural experiment

Levinson 2012

Stephen C. Levinson, *Kinship and Human Thought*. science **336** (2012), 988–989.
Language and communication are central to shaping concepts such as kinship categories.

Lockyer 1906

Norman Lockyer, *Some questions for archaeologists*. nature **73** (1906), 280–282.

Ridoutt 2012

Bradley G. Ridoutt & Jing Huang, *Environmental relevance—the key to understanding water footprints*. PNAS **109** (2012), E1424.

Elsewhere Mekonnen and Hoekstra (ref. 2, p. 413) used the same kind of virtual water assessment to argue that the "... water footprint of any animal product is larger than the water footprint of crop products with equivalent nutritional value." However, by our reasoning, livestock raised on nonarable land and without irrigation have a negligible impact on water resources (except perhaps through erosion and sedimentation if overgrazing is permitted), despite making a substantial contribution to global food production. To replace these livestock products with crop products produced elsewhere would create additional pressure on both land and water resources. Globally, the majority of beef cattle are raised in nonirrigated mixed farming and grazing systems (3).

The need to include environmental relevance in water footprint calculations is most critical when considering large countries where variation in local water stress can be extreme. In China, the virtual water content of wheat grown in the highly water-stressed northern Huang basin is 800 m3 • tonne (t)-1, compared with 1,031 m3 • t-1 in the water-rich southern Chang basin (4). However, these statistics, of the kind used by Hoekstra and Mekonnen (1) and that suggest a greater water efficiency of wheat production in the north, disguise the fact that wheat production in the north is highly dependent on irrigation abstracted from highly stressed systems.

The need to reduce humanity's water footprint does not arise from an absolute shortage of freshwater in the world. It is the result of the current pattern of freshwater use, which is greatly skewed toward highly stressed watersheds.

Roenneberg 2012

Till Roenneberg, Karla V. Allebrandt, Martha Merrow & Céline Vetter, *Social Jetlag and Obesity*. Current Biology **22** (2012), 939–943.

CurrBiol22-0939-Supplement1.pdf, CurrBiol22-0939-Supplement2.mp4

Obesity has reached crisis proportions in industrialized societies [1]. Many factors converge to yield increased body mass index (BMI). Among these is sleep duration [2-10]. The circadian clock controls sleep timing through the process of entrainment. Chronotype describes individual differences in sleep timing, and it is determined by genetic background, age, sex, and environment (e.g., light exposure) [11-14]. Social jetlag quantifies the discrepancy that often arises between circadian and social clocks, which results in chronic sleep loss [11, 15]. The circadian clock also regulates energy homeostasis [16], and its disruption-as with social jetlag-may contribute to weight-related pathologies [17-19]. Here, we report the results from a large-scale epidemiological study, showing that, beyond sleep duration, social jetlag is associated with increased BMI. Our results demonstrate that living "against the clock" may be a factor contributing to the epidemic of obesity. This is of key importance in pending discussions on the implementation of Daylight Saving Time and on work or school times, which all contribute to the amount of social jetlag accrued by an individual. Our data suggest that improving the correspondence between biological and social clocks will contribute to the management of obesity.

Werren 2012

John H. Werren, *Symbionts provide pesticide detoxification*. PNAS **109** (2012), 8364–8365.

Organophosphorus (OP) compounds are extensively used in agriculture, accounting for ≈38 % of total pesticide use (7). These compounds inhibit the activity of acetylcholine

esterase, resulting in neurotoxic effects in both insects and mammals. Hence, OPs are common causes of poisoning in people and livestock. Because of their heavy use, OP compounds are also signicant contaminants in terrestrial and aquatic ecosystems. Although FEN-degrading Burkholderia were uncommon in local bean fields, treatment of field soil brought to the laboratory with FEN greatly enhanced frequency of FEN-degrading Burkholderia, and the stinkbugs reared on soybeans from these soils showed elevated levels of FEN-degrading activity.

Anthropologie

Falk 2012

Dean Falk, Christoph P. E. Zollikofer, Naoki Morimoto & Marcia S. Ponce de León, *Metopic suture of Taung (Australopithecus africanus) and its implications for hominin brain evolution*. PNAS **109** (2012), 8467–8470.

The type specimen for Australopithecus africanus (Taung) includes a natural endocast that reproduces most of the external morphology of the right cerebral hemisphere and a fragment of fossilized face that articulates with the endocast. Despite the fact that Taung died between 3 and 4 y of age, the endocast reproduces a small triangular-shaped remnant of the anterior fontanelle, from which a clear metopic suture (MS) courses rostrally along the midline [Hrdlicka A (1925) Am J Phys Anthropol 8:379–392]. Here we describe and interpret this feature of Taung in light of comparative fossil and actualistic data on the timing of MS closure. In great apes, the MS normally fuses shortly after birth, such that unfused MS similar to Taung's are rare. In humans, however, MS fuses well after birth, and partially or unfused MS are frequent. In gracile fossil adult hominins that lived between ≈3.0 and 1.5 million y ago, MS are also relatively frequent, indicating that the modern human-like pattern of late MS fusion may have become adaptive during early hominin evolution. Selective pressures favoring delayed fusion might have resulted from three aspects of perinatal ontogeny: (i) the difculty of giving birth to large-headed neonates through birth canals that were recongured for bipedalism (the "obstetric dilemma"), (ii) high early postnatal brain growth rates, and (iii) reorganization and expansion of the frontal neocortex. Overall, our data indicate that hominin brain evolution occurred within a complex network of fetopelvic constraints, which required modication of frontal neurocranial ossication patterns.

brain size evolution | virtual endocast | fossil hominins | frontal cortex | obstetrics

Roberts 2012

Richard G. Roberts & Michael I. Bird, *Homo 'incendius'*. nature **485** (2012), 586–587.

An analysis of microscopic and spectroscopic features of sediments deposited in a South African cave one million years ago suggests that human ancestors were using fire much earlier than had been thought.

Tague 2012

Robert G. Tague, *Small anatomical variant has profound implications for evolution of human birth and brain development*. PNAS **109** (2012), 8360–8361.

The suggestion by Falk et al. (1) that late closure of MS and anterior fontanelle is a result of reorganization of the frontal cortex is provocative. The frontal cortex is involved in how humans are distinctly different from other mammals. A nonexhaustive list of traits associated with the frontal cortex includes language, memory, judgment, problem solving, socialization, and motor function. Interestingly, the white matter of our prefrontal cortex

increases in volume faster than that of chimpanzees during infancy (11). Perhaps later fusion of MS in humans compared with chimpanzees is related not just to our larger brain or larger frontal cortex, but rather to our fastdeveloping prefrontal cortex. The prefrontal cortex is related to abstract thinking, anticipation of outcomes from particular behaviors, motivation, and social behavior. Size may not be the principal distinguishing feature between humans and apes in the frontal and prefrontal cortices; rather, cytoarchitectonic differences between the species may be more important (10).

Bibel

Levinson 2012

Bernard M. Levinson, *Die neuassyrischen Ursprünge der Kanonformel in Deuteronomium 13,1.* In: Stefan Beyerle, Axel Graupner & Udo Rüterswörden (Hrsg.), *Viele Wege zu dem Einen*, *Historische Bibelkritik – Die Vitalität der Glaubensüberlieferung in der Moderne.* Biblisch-Theologische Studien 121 (Neukirchen-Vluyn 2012), 23–59.

Biologie

Dai 2012

Lei Dai, Daan Vorselen, Kirill S. Korolev & Jeff Gore, *Generic Indicators for Loss of Resilience Before a Tipping Point Leading to Population Collapse.* science **336** (2012), 1175–1177.

s336-1175-Supplement.pdf

Theory predicts that the approach of catastrophic thresholds in natural systems (e.g., ecosystems, the climate) may result in an increasingly slow recovery from small perturbations, a phenomenon called critical slowing down. We used replicate laboratory populations of the budding yeast Saccharomyces cerevisiae for direct observation of critical slowing down before population collapse. We mapped the bifurcation diagram experimentally and found that the populations became more vulnerable to disturbance closer to the tipping point. Fluctuations of population density increased in size and duration near the tipping point, in agreement with the theory. Our results suggest that indicators of critical slowing down can provide advance warning of catastrophic thresholds and loss of resilience in a variety of dynamical systems.

Energie

Yoshida 2012

Naohiro Yoshida & Jota Kanda, *Tracking the Fukushima Radionuclides.* science **336** (2012), 1115–1116.

Ongoing radionuclide monitoring and tracking efforts are required following the nuclear accident at the Fukushima Daiichi Nuclear Power Plant.

Jungpaläolithikum

Azéma 2012

Marc Azéma & Florent Rivère, *Animation in Palaeolithic art: a pre-echo of cinema.* Antiquity **86** (2012), 316–324.

Antiquity086-0316-Supplement.flv
Marc Azéma a Palaeolithic researcher and film maker has been exploring the representation of animal movement in cave art for more than 20 years, and here shares with us his latest examples, culled from the parietal art in the Chauvet Cave (Ardèche) and La Baume Latrone (Gard). Here he has shown that Palaeolithic artists have invented systems of breaking down movement and graphic narrative. His co-author, Florent Rivère, discovered that animal movement was also represented in more dynamic ways—with the use of animals drawn on a spinning disc. In these flickering images created by Palaeolithic people, the authors suggest, lie the origins of cinema.
Keywords: France, Chauvet, La Baume Latrone, Trois Frères, Palaeolithic, cave art, bone discs, lion, bison, mammoth, chamois

White 2012

Randall White et al., *Context and dating of Aurignacian vulvar representations from Abri Castanet, France*. PNAS **109** (2012), 8450–8455.
Randall White, Romain Mensan, Raphaëlle Bourrillon, Catherine Cretin, Thomas F. G. Higham, Amy E. Clark, Matthew L. Sisk, Elise Tartar, Philippe Gardère, Paul Goldberg, Jacques Pelegrin, Hélène Valladas, Nadine Tisnérat-Laborde, Jacques de Sanoit, Dominique Chambellan and Laurent Chiotti
We report here on the 2007 discovery, in perfect archaeological context, of part of the engraved and ocre-stained undersurface of the collapsed rockshelter ceiling from Abri Castanet, Dordogne, France. The decorated surface of the 1.5-t roof-collapse block was in direct contact with the exposed archaeological surface onto which it fell. Because there was no sedimentation between the engraved surface and the archaeological layer upon which it collapsed, it is clear that the Early Aurignacian occupants of the shelter were the authors of the ceiling imagery. This discovery contributes an important dimension to our understanding of the earliest graphic representation in southwestern France, almost all of which was discovered before modern methods of archaeological excavation and analysis. Comparison of the dates for the Castanet ceiling and those directly obtained from the Chauvet paintings reveal that the "vulvar" representations from southwestern France are as old or older than the very different wall images from Chauvet.
Paleolithic art | Vézère Valley | vulva | rock engravings

Klima

Gräslund 2012

Bo Gräslund & Neil Price, *Twilight of the gods? The 'dust veil event' of AD 536 in critical perspective*. Antiquity **86** (2012), 428–443.
The popular notion of social collapse consequent on natural catastrophe is here elegantly disentangled in a study of the dark summer of AD 536. Leaving aside the question of its cause, the authors show there is good scientific evidence for a climatic downturn, contemporary with good archaeological evidence for widespread disruption of settlement and population displacement in the northern latitudes. They then navigate through the shifting shadows of myth, and emerge with a welcome prize: strong circumstantial reasons for recognising that this widespread horror, like so many others, did leave its imprint on Scandinavian poetry and sculpture.
Keywords: early medieval Europe, AD 536, climate failure, dust veil, famine, epidemic, plague, myth, settlement, migration, Fimbulwinter, Ragnarök

Schmidt 2012

Isabell Schmidt et al., *Rapid climate change and variability of settlement patterns in Iberia during the Late Pleistocene*. Quaternary International (2012) preprint, 1–26. DOI:10.1016/j.quaint.2012.01.018.

Isabell Schmidt, Marcel Bradtmöller, Martin Kehl, Andreas Pastoors, Yvonne Tafelmaier, Bernhard Weninger & Gerd-Christian Weniger

Due to its diverse geographic and climatic conditions, the Iberian Peninsula is well suited for studies into the relationship between climate, environment and hunter-gatherer adaptation. With focus on the archaeological record, this paper examines to what extent diachronic variations in site density on the Iberian Peninsula are related to climate variability and cultural change. Studies are based on a comprehensive record of technocomplexes that date from the late Middle Palaeolithic, early Upper Palaeolithic, Gravettian and Solutrean. The record comprises altogether 152 archaeological cave sites and rock shelters. Analysis reveals strong regional differences between Northern and Southern Iberia, both in isochronic and in diachronic perspective. This is expressed by the strongly different patterns of human presence in these regions. In particular, within both regions major cultural changes coincide with the environmental impact of North Atlantic Heinrich Events (HE). From previous studies, it is known that the human population on the Iberian Peninsula (IP) must have suffered strongly under the extremely variable climate conditions during the Late Pleistocene. Based on extensive site-mapping, the hypothesis is that during HE a major disintegration of habitats must have occurred, with various but strongly isolated patchy refugia remaining. Further, during HE, Southern Iberia could not uphold its previous function in providing a reliable refuge for humans. Not only does climatic deterioration during the different HE repeatedly lead to a near-complete breakdown of settlement patterns, but following each HE there is a major reorganization in settlement patterns on the IP.

Neolithikum

Schyle 2006

Daniel Schyle, *Die spätneolithische Beilproduktion auf dem Lousberg in Aachen, Eine Hochrechnung von Angebot und Nachfrage und Rückschlüsse auf die spätneolithische Bevölkerungsdichte.* Archäologische Informationen **29** (2006), 35–50.

The tabular flint seams within the cretaceous limestone slab once covering the Lousberg in Aachen (Germany) were completely exploited by systematic open air mining between approximately 3800 and 3000 years CalBC. The Lousberg-flint, easily identifiable by its tabular shape and its characteristic colours, was processed on-site almost exclusively for the production of axe-roughouts, which were distributed over distances up to 280 km mainly to Westphalia, but also to Hessen, Rheinland-Pfalz and into Belgium and the Netherlands.

An attempt was made to estimate the Late Neolithic population density during exploitation of the opencast mine by extrapolating the total output of axe-roughouts, the Neolithic consumption of axes and the size of the distribution area of the polished axes.

Keywords – Flint, Mining, Axes, Population size

Auf dem Lousberg in Aachen wurde zwischen etwa 3800 and 3000 calBC im Tagebau Feuerstein abgebaut und zu Beilrohlingen verarbeitet. Die Beilklingen aus dem leicht zu identifizierenden plattenförmigen, grobkörnigen und grau bis dunkelbraun gefärbten Lousberg-Feuerstein fanden ihre Abnehmer über Entfernungen von bis zu 280 km vor allem im Rheinland, in Westfalen, aber auch in Hessen, Rheinland-Pfalz und sogar in Belgien und den Niederlanden. Anhand der auf dem Lousberg ausgegrabenen Produktionsabfälle und einer aktualisierten Verbreitungskarte wurden die Gesamtproduktionsmenge und die Fläche des Absatzgebiets hochgerechnet. Bei bekannter Abbaudauer lassen sich schließlich mit einer Schätzung des neolithischen Beilbedarfs auch Aussagen zur gleichzeitigen Bevölkerungsdichte im Absatzgebiet machen.

Schlüsselwörter – Feuerstein, Bergbau, Beile, Bevölkerungsdichte

Vigne 2012

Jean-Denis Vigne et al., *First wave of cultivators spread to Cyprus at least 10,600 y ago*. PNAS **109** (2012), 8445–8449.

Jean-Denis Vigne, François Briois, Antoine Zazzo, George Willcox, Thomas Cucchi, Stéphanie Thiébault, Isabelle Carrère, Yodrik Franel, Régis Touquet, Chloé Martin, Christophe Moreau, Clothilde Comby and Jean Guilaine

Early Neolithic sedentary villagers started cultivating wild cereals in the Near East 11,500 y ago [Pre-Pottery Neolithic A (PPNA)]. Recent discoveries indicated that Cyprus was frequented by Late PPNA people, but the earliest evidence until now for both the use of cereals and Neolithic villages on the island dates to 10,400 y ago. Here we present the recent archaeological excavation at Klimonas, whichdemonstrates that established villagers were living on Cyprus between 11,100 and 10,600 y ago. Villagers had stone artifacts and buildings (including a remarkable 10-m diameter communal building) that were similar to those found on Late PPNA sites on the mainland. Cereals were introduced from the Levant, and meat was obtained by hunting the only ungulate living on the island, a small indigenous Cypriot wild boar. Cats and small domestic dogs were brought from the mainland. This colonization suggests well-developed maritime capabilities by the PPNA period, but also that migration from the mainland may have occurred shortly after the beginning of agriculture.

domestication | Sus scrofa | food production | prehistoric seafaring | Neolithic mobility

Politik

Atran 2008

Scott Atran & Robert Axelrod, *Reframing Sacred Values*. Negotiation Journal **24** (2008), 221–246.

Sacred values differ from material or instrumental values in that they incorporate moral beliefs that drive action in ways dissociated from prospects for success. Across the world, people believe that devotion to essential or core values — such as the welfare of their family and country, or their commitment to religion, honor, and justice — are, or ought to be, absolute and inviolable.

Counterintuitively, understanding an opponent's sacred values, we believe, offers surprising opportunities for breakthroughs to peace. Because of the emotional unwillingness of those in conflict situations to negotiate sacred values, conventional wisdom suggests that negotiators should either leave sacred values for last in political negotiations or should try to bypass them with sufficient material incentives. Our empirical findings and historical analysis suggest that conventional wisdom is wrong.In fact, offering to provide material benefits in exchange for giving up a sacred value actually makes settlement more difficult because people see the offering as an insult rather than a compromise. But we also found that making symbolic concessions of no apparent material benefit might open the way to resolving seemingly irresolvable conflicts.

We offer suggestions for how negotiators can reframe their position by demonstrating respect and/or by apologizing for what they sincerely regret. We also offer suggestions for how to overcome barriers by refining sacred values to exclude outmoded claims, exploiting the inevitable ambiguity of sacred values, shifting the context, provisionally prioritizing values, and reframing responsibility.

Key words: conflict resolution, sacred values, framing, negotiation, Israel, Palestine.

Ginges 2011

Jeremy Ginges, Scott Atran, Sonya Sachdeva & Douglas Medin, *Psychology Out of the Laboratory, The Challenge of Violent Extremism*. American Psychologist **66** (2011), 507–519.

The idea that people inevitably act in accordance with their self-interest on the basis of a calculation of costs and benefits does not constitute an adequate framework for understanding political acts of violence and self-sacrifice. Recent research suggests that a better understanding is needed of how sacred values and notions of self and group identity lead people to act in terms of principles rather than prospects when the two come into conflict. Perhaps the greatest challenge is to better understand how sacred causes and moral imperatives diffuse through a population and motivate some (usually small) segment of it to commit violent actions. The challenge to psychology is to adopt an interdisciplinary focus drawing on a range of research methods and to become bolder in its choices of study populations if it is to be relevant to real-world problems.
Keywords: suicide terrorism, sacred values, moral virtue, group sacrifice

Religion

Atran 2010

Scott Atran & Joseph Henrich, *The Evolution of Religion: How Cognitive By-Products, Adaptive Learning Heuristics, Ritual Displays, and Group Competition Generate Deep Commitments to Prosocial Religions*. Biological Theory **5** (2010), 18–30.

Understanding religion requires explaining why supernatural beliefs, devotions, and rituals are both universal and variable across cultures, and why religion is so often associated with both large-scale cooperation and enduring group conflict. Emerging lines of research suggest that these oppositions result from the convergence of three processes. First, the interaction of certain reliably developing cognitive processes, such as our ability to infer the presence of intentional agents, favors—as an evolutionary by-product-the spread of certain kinds of counterintuitive concepts. Second, participation in rituals and devotions involving costly displays exploits various aspects of our evolved psychology to deepen people's commitment to both supernatural agents and religious communities. Third, competition among societies and organizations with different faith-based beliefs and practices has increasingly connected religion with both within-group prosociality and between-group enmity. This connection has strengthened dramatically in recent millennia, as part of the evolution of complex societies, and is important to understanding cooperation and conflict in today's world.
Keywords: by-product hypothesis, credibility enhancing displays, cultural transmission, cooperation, group competition, high gods, minimally counterintuitive, morality, religion, rise of civilization

Story or Book

Tugendhaft 2011

Aaron Tugendhaft, *The Invention of Hebrew*. Journal of the American Oriental Society **131** (2011), 143–144.

The Invention of Hebrew. By Seth L. Sanders. Urbana: University of Illinois Press. Pp. xvii + 259. $50.

The core of Sanders' study begins in chapter two: "What Was the Alphabet For?" Debunking the prejudice that nations naturally write in their own language and their own script, Sanders rightly treats the adoption of vernacular writing and the alphabet—first at Ugarit, then among Israel and her neighbors—as a deliberate choice that must be explained "neither as a fraud without existing basis, nor as an effortless, natural reflection of culture, but as a historical process that created new historical possibilities".

With the collapse of Egyptian imperial control, the situation reflected in the epigraphic record begins to shift. The alphabetic writing that had been in existence for centuries begins to be harnessed to produce complex literary expressions in the vernacular. It is not the state that established vernacular, alphabetic writing—it had been around for centuries—but rather vernacular, alphabet writing that was recruited to aid the state in establishing itself.