Liste erstellt am 2015-02-07

References

Aktuell

Creanza 2015

Nicole Creanza, Merritt Ruhlen, Trevor J. Pemberton, Noah A. Rosenberg, Marcus W. Feldman & Sohini Ramachandran, *A comparison of worldwide phonemic and genetic variation in human populations*. PNAS **112** (2015), 1265–1272.

pnas112-01265-Supplement1.txt, pnas112-01265-Supplement2.txt, pnas112-01265-Supplement3.xls

Worldwide patterns of genetic variation are driven by human demographic history. Here, we test whether this demographic history has left similar signatures on phonemes—sound units that distinguish meaning between words in languages—to those it has left on genes. We analyze, jointly and in parallel, phoneme inventories from 2,082 worldwide languages and microsatellite polymorphisms from 246 worldwide populations. On a global scale, both genetic distance and phonemic distance between populations are significantly correlated with geographic distance. Geographically close language pairs share significantly more phonemes than distant language pairs,whether or not the languages are closely related. The regional geographic axes of greatest phonemic differentiation correspond to axes of genetic differentiation, suggesting that there is a relationship between human dispersal and linguistic variation. However, the geographic distribution of phoneme inventory sizes does not follow the predictions of a serial founder effect during human expansion out of Africa. Furthermore, although geographically isolated populations lose genetic diversity via genetic drift, phonemes are not subject to drift in the same way: within a given geographic radius, languages that are relatively isolated exhibit more variance in number of phonemes than languages with many neighbors. This finding suggests that relatively isolated languages are more susceptible to phonemic change than languages with many neighbors. Within a language family, phoneme evolution along genetic, geographic, or cognate-based linguistic trees predicts similar ancestral phoneme states to those predicted from ancient sources. More genetic sampling could further elucidate the relative roles of vertical and horizontal transmission in phoneme evolution.

cultural evolution | human migration | languages | population genetics

Everett 2015

Caleb Everett, Damián E. Blasi & Seán G. Roberts, *Climate, vocal folds, and tonal languages, Connecting the physiological and geographic dots*. PNAS **112** (2015), 1322–1327.

We summarize a number of findings in laryngology demonstrating that perturbations of phonation, including increased jitter and shimmer, are associated with desiccated ambient air. We predict that, given the relative imprecision of vocal fold vibration in desiccated versus humid contexts, arid and cold ecologies should be less amenable,when contrasted to warm and humid ecologies, to the development of languages with phonemic tone, especially complex tone. This prediction is supported by data fromtwo large independently coded databases representing 3,700+ languages. Languages with complex tonality have generally not developed in very cold or otherwise desiccated climates, in accordance with the physiologically based

predictions. The predicted global geographic –linguistic association is shown to operate within continents, within major language families, and across language isolates. Our results offer evidence that human sound systems are influenced by environmental factors.

climate | language | adaptation | tone

Leslie 2015

Sarah-Jane Leslie, Andrei Cimpian, Meredith Meyer & Edward Freeland, *Expectations of brilliance underlie gender distributions across academic disciplines*. science **347** (2015), 262–265.

s347-0262-Supplement.pdf

The gender imbalance in STEM subjects dominates current debates about women's underrepresentation in academia. However, women are well represented at the Ph.D. level in some sciences and poorly represented in some humanities (e.g., in 2011, 54 % of U.S. Ph.D.'s in molecular biology were women versus only 31 % in philosophy). We hypothesize that, across the academic spectrum, women are underrepresented in fields whose practitioners believe that raw, innate talent is the main requirement for success, because women are stereotyped as not possessing such talent. This hypothesis extends to African Americans' underrepresentation as well, as this group is subject to similar stereotypes. Results from a nationwide survey of academics support our hypothesis (termed the field-specific ability beliefs hypothesis) over three competing hypotheses.

McIntyre 2015

Patrick J. McIntyre et al., *Twentieth-century shifts in forest structure in California*, *Denser forests, smaller trees, and increased dominance of oaks*. PNAS **112** (2015), 1458–1463.

Patrick J. McIntyre, James H. Thorne, Christopher R. Dolanc, Alan L. Flint, Lorraine E. Flint, Maggi Kelly & David D. Ackerly

We document changes in forest structure between historical (1930s) and contemporary (2000s) surveys of California vegetation through comparisons of tree abundance and size across the state and within several ecoregions. Across California, tree density in forested regions increased by 30 % between the two time periods, whereas forest biomass in the same regions declined, as indicated by a 19 % reduction in basal area. These changes reflect a demographic shift in forest structure: larger trees (>61 cm diameter at breast height) have declined, whereas smaller trees (<30 cm) have increased. Large tree declines were found in all surveyed regions of California, whereas small tree increases were found in every region except the south and central coast. Large tree declines were more severe in areas experiencing greater increases in climaticwater deficit since the 1930s, based on a hydrologicmodel of water balance for historical climates through the 20th century. Forest composition in California in the last century has also shifted toward increased dominance by oaks relative to pines, a pattern consistent with warming and increased water stress, and also with paleohistoric shifts in vegetation in California over the last 150,000 y.

global change | forest | historical ecology | climatic water deficit

Petroutsa 2010

Eirini I. Petroutsa & Sotiris K. Manolis, *Reconstructing Late Bronze Age diet in mainland Greece using stable isotope analysis*. Journal of Archaeological Science **37** (2010), 614–620.

The Late Bronze Age is a period of great importance in prehistoric Greece, due to the rise of the Mycenaean and Minoan civilizations. Settlements, palatial complexes and cemeteries have been excavated whilst a plethora of findings among which wall paintings and artifacts provided a large amount of information regarding the period. In this paper we examine the sources of dietary protein of four populations, from mainland Greece, in light of documentary and archaeological evidence in an effort to identify dietary trends within and between groups that reflect everyday behavior. These are being studied with the aid of biomolecular archaeology using stable isotope analysis in human and faunal remains. Isotopic data to date suggests a rather homogeneous diet mainly based on C3 plant and animal protein. There are no individuals with d13C and d15N values that could represent important marine protein intake, despite proximity to the Aegean Sea.

Keywords: Stable isotope | Carbon | Nitrogen | Bone collagen | Diet | Late Bronze Age | Greece

Bibel

Clines 1990

David J. A. Clines, *What does Eve do to help? And other irredeemably androcentric orientations in Genesis 1–3*. In: David Clines (Hrsg.), *What does Eve do to help? And other readerly questions to the Old Testament*. JSOT Supplement 94 (Sheffield 1990), 25–48.

A feminist critique, as we have seen, directly raises the question of Biblical authority. If I am right in my understanding of the text, the text is in conflict with a principle that is not a passing fashion of the modern world, but has become a fundamental way of looking at the world. It is not only people who would call themselves feminists who want to insist that women are fully human, in every sense that men are, that the issue of the equality of the sexes is not a joke but something we really have to get right if we want to be serious people.

Middleton 2015

Guy D. Middleton, *Telling Stories, The Mycenaean origins of the Philistines*. Oxford Journal of Archaeology **34** (2015), 45–65.

The story of the Philistines as Mycenaean or Aegean migrants, refugees who fled the Aegean after the collapse of the palace societies c.1200 BC, bringing an Aegean culture and practices to the Eastern Mediterranean, is well known. Accepted as essentially true by some, yet rejected as little more than a modern myth by others, the migration narrative retains a central place in the archaeology and historiography of the Eastern Mediterranean in the Late Bronze Age/Early Iron Age (LBA/EIA). In recent years, and despite an increasingly shaky theoretical basis, the migration hypothesis has nevertheless seemed to drown out other interpretations and characterizations of the period, claiming a normative position that is undeserved. In this paper I explore the continuing power of this nineteenth century narrative and seek to show why it is less convincing than its prominent status would suggest.

To those used to working within the migrationist framework, the views represented here may seem isolated and revisionist, but in fact the burden of proof lies with those who believe in some kind of Mycenaean/Aegean migration and transformation into 'Philistines', since the material can be explained in more simple ways (albeit ways that represent complex processes and relationships, which probably remain largely unknowable).Writing of the Sea Peoples, and the Philistines

in particular, Sandars (1978, 201) stated decades ago that 'the most controversial group of all is that of the Peleset ... who have sometimes been brought in ships from the Aegean and mainland Greece ... but who appear in fact to be more landsmen than any of the others... Their cities in southern Palestine were not harbours, and there is very little to connect them with the sea at all.' Drews (1998) also argued that Peleset were local Canaanites. Others also doubt that the Philistines were Mycenaeans (Vanschoonwinkel 1999).

Energie

Smith 2015

John N. Smith, Robin M. Brown, William J. Williams, Marie Robert, Richard Nelson & S. Bradley Moran, *Arrival of the Fukushima radioactivity plume in North American continental waters.* PNAS **112** (2015), 1310–1315.

The large discharge of radioactivity into the northwest Pacific Ocean from the 2011 Fukushima Dai-ichi nuclear reactor accident has generated considerable concern about the spread of this material across the ocean to North America. We report here the first systematic study to our knowledge of the transport of the Fukushima marine radioactivity signal to the eastern North Pacific. Time series measurements of 134Cs and 137Cs in seawater revealed the initial arrival of the Fukushima signal by ocean current transport at a location 1,500 km west of British Columbia, Canada, in June 2012, about 1.3 y after the accident. By June 2013, the Fukushima signal had spread onto the Canadian continental shelf, and by February 2014, it had increased to a value of 2 Bq/m3 throughout the upper 150 m of the water column, resulting in an overall doubling of the fallout background from atmospheric nuclear weapons tests. Ocean circulation model estimates that are in reasonable agreement with our measured values indicate that future total levels of 137Cs (Fukushimaderived plus fallout 137Cs) off the North American coast will likely attain maximum values in the 3–5 Bq/m3 range by 2015–2016 before declining to levels closer to the fallout background of about 1 Bq/m3 by 2021. The increase in 137Cs levels in the eastern North Pacific from Fukushima inputs will probably return eastern North Pacific concentrations to the fallout levels that prevailed during the 1980s but does not represent a threat to human health or the environment.

oceanography | tracer | Fukushima | 137Cs

Grundlagen

Brandt 2015

Guido Brandt, Anna Szécsényi-Nagy, Christina Roth, Kurt Werner Alt & Wolfgang Haak, *Human paleogenetics of Europe – The known knowns and the known unknowns.* Journal of Human Evolution **79** (2015), 73–92.

The number of ancient human DNA studies has drastically increased in recent years. This results in a substantial record of mitochondrial sequences available from many prehistoric sites across Western Eurasia, but also growing Y-chromosome and autosomal sequence data. We review the current state of research with specific emphasis on the Holocene population events that likely have shaped the presentday genetic variation in Europe. We reconcile observations from the

genetic data with hypotheses about the peopling and settlement history from anthropology and archaeology for various key regions, and also discuss the data in light of evidence from related disciplines, such as modern human genetics, climatology and linguistics.

Keywords: Ancient DNA | Paleolithic | Mesolithic | Neolithic | Archaeology

Ostasien

Chen 2015

F. H. Chen et al., *Agriculture facilitated permanent human occupation of the Tibetan Plateau after 3600 B.P.* science **347** (2015), 248–250.

s347-0248-Supplement.pdf

F. H. Chen, G. H. Dong, D. J. Zhang, X. Y. Liu, X. Jia, C. B. An, M. M. Ma, Y. W. Xie, L. Barton, X. Y. Ren, Z. J. Zhao, X. H. Wu & M. K. Jones

Our understanding of when and how humans adapted to living on the Tibetan Plateau at altitudes above 2000 to 3000 meters has been constrained by a paucity of archaeological data. Here we report data sets from the northeastern Tibetan Plateau indicating that the first villages were established only by 5200 calendar years before the present (cal yr B.P.). Using these data, we tested the hypothesis that a novel agropastoral economy facilitated year-round living at higher altitudes since 3600 cal yr B.P.This successful subsistence strategy facilitated the adaptation of farmers-herders to the challenges of global temperature decline during the late Holocene.

Religion

Ashrafian 2012

Hutan Ashrafian, *Familial epilepsy in the pharaohs of ancient Egypt's eighteenth dynasty*. Epilepsy & Behavior **25** (2012), 23–31.

The pharaohs of Egypt's famous eighteenth dynasty all died early of unknown causes. This paper comprehensively reviews and analyses the medical literature and current evidence available for the New Kingdom rulers — Tuthmosis IV, Amenhotep III, Akhenaten, Smenkhkare and Tutankhamun. The integration of these sources reveals that the eighteenth dynasty rulers may have suffered from an inherited condition that may explain their untimely deaths. The description of recurring strong religious visions, likely neurological disease and gynecomastia, supports the theory that these pharaohs may have suffered from a familial temporal epilepsy syndrome that ultimately led to their early downfall.

Keywords: Familial | Temporal | Lobe | Epilepsy | Pharaohs | Religiosity | Akhenaten | Tutankhamun

Wunn 2015

Ina Wunn, Patrick Urban & Constantin Klein, *Götter – Gene – Genesis, Die Biologie der Religionsentstehung*. (Berlin 2015).

Ist Religion göttlichen Ursprungs – oder doch ein natürliches, also biologisches Phänomen? Und wenn Religion in unserer Biologie angelegt ist, wie und warum ist sie entstanden? Wie sehen ihre Anfänge aus, die ja sehr einfach gewesen sein müssen – Religion im Einzellerstadium sozusagen! Wie entwickelte sie sich dann weiter, und lassen sich in dieser Entwicklung, wie bei der biologischen Evolution, Gesetzmäßigkeiten feststellen? Anders ausgedrückt: Gibt es eine Biologie der Religionen beziehungsweise eine Biologie der Religionsentstehung?

Dieses Buch unternimmt erstmalig den Versuch einer umfassenden Antwort auf diese Fragen. Die Autoren – Experten aus Biologie, Paläontologie, Psychologie, Religionswissenschaft und Theologie – entwerfen auf der Basis fächerübergreifender wissenschaftlicher Befunde ein Modell der Religionsentstehung, das das Aufkommen religiöser Verhaltensweisen schlüssig aus dem natürlichen Verhaltensrepertoire des Menschen erklärt. So wird die menschheitsgeschichtliche Entwicklung von Religiosität plausibel und nachvollziehbar. Wer wissen will, wie Religion entstanden ist, wird in diesem breiten und sachkundigen Überblick die Antwort finden.