Liste erstellt am 2017-08-11

References

Afrika

Dunne 2017

J. Dunne, S. di Lernia, M. Chłodnicki, F. Kherbouche & R. P. Evershed, *Timing and pace of dairying inception and animal husbandry practices across Holocene North Africa*. Quaternary International (2017), preprint, 1–13. DOI:10.1016/j.quaint.2017.06.062.

The timing and extent of the adoption and exploitation of domesticates and their secondary products, across Holocene North Africa, has long been the subject of debate. The three distinct areas within the region, Mediterranean north Africa, the Nile Valley and the Sahara, each with extremely diverse environments and ecologies, demonstrate differing trajectories to pastoralism. Here, we address this question using a combination of faunal evidence and organic residue analyses of c. 300 archaeological vessels from sites in Algeria, Libya and Sudan. This synthesis of new and published data provides a broad regional and chronological perspective on the scale and intensity of domestic animal exploitation and the inception of dairying practices in Holocene North Africa. Following the introduction of domesticated animals into the region our results confirm a hiatus of around one thousand years before the adoption of a full pastoral economy, which appears first in the Libyan Sahara, at c. 5200 BCE, subsequently appearing at c. 4600 BCE in the Nile Valley and at 4400–3900 BCE in Mediterranean north Africa.

Keywords: Neolithic | Holocene North Africa | Organic residue analyses | Dairying | Archaeozoology

Aktuell

Ahmadi 2017

M. Ahmadi et al., *Observation of the hyperfine spectrum of antihydrogen*. nature **548** (2017), 66–69.

M. Ahmadi, B. X. R. Alves, C. J. Baker, W. Bertsche, E. Butler, A. Capra, C. Carruth, C. L. Cesar, M. Charlton, S. Cohen, R. Collister, S. Eriksson, A. Evans, N. Evetts, J. Fajans, T. Friesen, M. C. Fujiwara, D. R. Gill, A. Gutierrez, J. S. Hangst, W. N. Hardy, M. E. Hayden, C. A. Isaac, A. Ishida, M. A. Johnson, S. A. Jones, S. Jonsell, L. Kurchaninov, N. Madsen, M. Mathers, D. Maxwell, J. T. K. McKenna, S. Menary, J. M. Michan, T. Momose, J. J. Munich, P. Nolan, K. Olchanski, A. Olin, P. Pusa, C. Ø. Rasmussen, F. Robicheaux, R. L. Sacramento, M. Sameed, E. Sarid, D. M. Silveira, S. Stracka, G. Stutter, C. So, T. D. Tharp, J. E. Thompson, R. I. Thompson, D. P. van der Werf & J. S. Wurtele

The observation of hyperfine structure in atomic hydrogen by Rabi and coworkers1–3 and the measurement4 of the zero-field groundstate splitting at the level of seven parts in 1013 are important achievements of mid-twentieth-century physics. The work that led to these achievements also provided the first evidence for the anomalous magnetic moment of the electron5–8, inspired Schwinger's relativistic theory of quantum electrodynamics9,10 and gave rise to the hydrogen maser11, which is a critical component of modern navigation, geo-positioning

and very-long-baseline interferometry systems. Research at the Antiproton Decelerator at CERN by the ALPHA collaboration extends these enquiries into the antimatter sector. Recently, tools have been developed that enable studies of the hyperfine structure of antihydrogen12—the antimatter counterpart of hydrogen. The goal of such studies is to search for any differences that might exist between this archetypal pair of atoms, and thereby to test the fundamental principles on which quantum field theory is constructed. Magnetic trapping of antihydrogen atoms13,14 provides a means of studying them by combining electromagnetic interaction with detection techniques that are unique to antimatter12,15. Here we report the results of a microwave spectroscopy experiment in which we probe the response of antihydrogen over a controlled range of frequencies. The data reveal clear and distinct signatures of two allowed transitions, from which we obtain a direct, magneticfieldindependent measurement of the hyperfine splitting. From a set of trials involving 194 detected atoms, we determine a splitting of $1{,}420.4 \pm 0.5$ megahertz, consistent with expectations for atomic hydrogen at the level of four parts in 104. This observation of the detailed behaviour of a quantum transition in an atom of antihydrogen exemplifies tests of fundamental symmetries such as charge–parity–time in antimatter, and the techniques developed here will enable more-precise such tests.

Blank 1945

F. Blank, *Alkaloidbildung in der Pflanzenwurzel.* Experientia **1** (1945), iv, 111–115.

Graftings between alkaloid-producing and non-alkaloid plants of the Solanacea family have indicated the importance of the root and other subterraneous plant organs for the formation of alkaloids. If, for example, black nightshade (Solarium nigrum) is grafted on tobacco (Nicotiana Tabacum), the otherwise non-nicotinous scions of Solanum nigrum contain considerable quantities of nicotine. If on the other hand the black nightshade is used as stock and the tobacco as scion, the nicotine completely disappears from the graftings. Similar results have been obtained from experiments with tomatoes (Solanum Lycopersicum) on one hand and thorn-apples (Datura Stramonium) and deadly nightshades (Atropa Belladonna) on the other.

Catalini 2017

Christian Catalini & Catherine Tucker, *When early adopters don't adopt, How do bitcoin early adopters seed the adoption S curve?* science **357** (2017), 135–136.

The decision by NEAs to abandon technology may have spillovers on NLAs if NLAs rely on NEAs to learn about technology or simply follow NEAs' lead in technology matters. Consistent with the presence of such spillovers, the percentage of adopters in dorms with a larger share of delayed NEAs decayed at a faster rate over time than those with a lower share (see the graph, center). Results are magnified when students are geographically proximate in the same dorm and floor (fig. S10) or in small dorms (fig. S11).

A final question is whether this behavior also translates to patterns of usage over time—not just the discrete decision to accept or reject the technology within the first 2 weeks. In the graph, right, we plot the share of active users, defined as students who add new bitcoin over time to their wallets. After 225 days, dorms where the share of delayed NEAs was above the median share of delayed NEAs had 45 % fewer active users than other dorms: Higher exit by NEAs corresponds to lower bitcoin activity by NLAs not just to lower perseverance.

Dawson 1942

Ray F. Dawson, *Accumulation of Nicotine in Reciprocal Grafts of Tomato and Tobacco*. American Journal of Botany **29** (1942), 66–71.

The distribution of nicotine between stock and scion in reciprocal grafts of tobacco and tomato has been studied.

When tobacco scions were grown upon tomato stocks no appreciable accumulation of nicotine occurred in the tobacco leaves or stems. In fact, the nicotine which was originally present in the scion remained in the lower leaves and stem, and the leaves and stem tissues which subsequently developed were nicotine free.

When tomato scions were grown upon tobacco stocks nicotine was found in small quantities in the tomato stems and fruits, and large quantities of the alkaloid accumulated in the leaves. Nicotine accumulation in the leaves of tomato shoots was sectoral when tobacco stems were decapitated and inserted into the tomato stems unilaterally.

Growth, including both mitosis and cell enlargement, occurred quite normally in the absence of detectable amounts of nicotine when tobacco shoots were grafted upon tomato stocks. It appears, therefore, that nicotine, in appreciable quantities at least, is not essential for the development of the aerial portions of the tobacco plant.

Frey-Wyssling 1954

Albert Frey-Wyssling, *Die Wanderung des Nikotins in der Tabakpflanze*. Du: kulturelle Monatsschrift **14** (1954), ii, 34.

Mendelson 2017

Joseph R. Mendelson III, *The call of the wild*. science **357** (2017), 326.

"Would you like to move to Atlanta?" asked the voice on the phone. Just a few months earlier, I had earned tenure—my primary goal for decades—at Utah State University. But rather than basking in my promotion, I was thinking, "So, this is what I do for the rest of my career?" Lecturing to huge auditoriums of freshman nonmajors exhausted me. Encouraging my graduate students to publish, only to send them into a dismal job market, felt duplicitous. Because my university's administration seemed to value funding more than publications, I found myself pursuing easy-to-get grants, sometimes on topics of only marginal interest to me. My tenure committee had pushed me to articulate a single central research theme, while I wanted to explore broadly in my area of amphibian and reptile studies. I was experiencing academic burnout.

Soon after my transition, I noticed colleagues assuming I had been denied tenure and that this zoo gig was the fallback option. Over time, though, the conversations have turned to requests for career advice, particularly from graduate students. I don't have a ready line of advice; I certainly did not plan this route. But I can attest that rewarding career options in science can be found outside of the ivory tower, and to the value of having an open mind so that when serendipity knocks, you at least notice it.

Schmid 1948

Helmut Schmid von Olten, *Über die Nikotinbildung in der Tabakpflanze*. Dissertation, ETH Zürich (Zürich 1948). <http://doi.org/10.3929/ethz-a-000092008>.

Ferner ist die Verteilung des Nikotins in der Pflanze, weil durch die Transpiration bedingt, mehr oder weniger zufällig. Dieses ganze Verhalten deutet eher auf ein Exkret hin.

Das für die Wurzel wertlose Abfallprodukt wird, weil gut wasserlöslich, vom aufsteigenden Wasserstrom ausgespült und in den oberirdischen Teilen abgelagert, wo es als physiologisch unwirksamer Stoff liegen bleibt und allen äußeren Einwirkungen gegenüber mehr oder weniger indifferent bleibt.

Anthropologie

Haber 2017

Marc Haber et al., *Continuity and Admixture in the Last Five Millennia of Levantine History from Ancient Canaanite and Present-Day Lebanese Genome Sequences*. American Journal of Human Genetics **101** (2017), 274–282.

Marc Haber, Claude Doumet-Serhal, Christiana Scheib, Yali Xue, Petr Danecek, Massimo Mezzavilla, Sonia Youhanna, Rui Martiniano, Javier Prado-Martinez, Micha1 Szpak, Elizabeth Matisoo-Smith, Holger Schutkowski, Richard Mikulski, Pierre Zalloua, Toomas Kivisild & Chris Tyler-Smith

The Canaanites inhabited the Levant region during the Bronze Age and established a culture that became influential in the Near East and beyond. However, the Canaanites, unlike most other ancient Near Easterners of this period, left few surviving textual records and thus their origin and relationship to ancient and present-day populations remain unclear. In this study, we sequenced five whole genomes from ≈3,700-year-old individuals from the city of Sidon, a major Canaanite city-state on the Eastern Mediterranean coast. We also sequenced the genomes of 99 individuals from present-day Lebanon to catalog modern Levantine genetic diversity. We find that a Bronze Age Canaanite-related ancestry was widespread in the region, shared among urban populations inhabiting the coast (Sidon) and inland populations (Jordan) who likely lived in farming societies or were pastoral nomads. This Canaanite-related ancestry derived from mixture between local Neolithic populations and eastern migrants genetically related to Chalcolithic Iranians. We estimate, using linkage-disequilibrium decay patterns, that admixture occurred 6,600–3,550 years ago, coinciding with recorded massive population movements in Mesopotamia during the mid-Holocene. We show that present-day Lebanese derive most of their ancestry from a Canaanite-related population, which therefore implies substantial genetic continuity in the Levant since at least the Bronze Age. In addition, we find Eurasian ancestry in the Lebanese not present in Bronze Age or earlier Levantines. We estimate that this Eurasian ancestry arrived in the Levant around 3,750–2,170 years ago during a period of successive conquests by distant populations.

Jin 2017

Kyong-sun Jin & Renée Baillargeon, *Infants possess an abstract expectation of ingroup support*. PNAS **114** (2017), 8199–8204.

pnas114-08199-Supplement.xlsx

One pervasive facet of human interactions is the tendency to favor ingroups over outgroups. Remarkably, this tendency has been observed evenwhen individuals are assigned to minimal groups based on arbitrary markers. Why is mere categorization into a minimal group sufficient to elicit some degree of ingroup favoritism? We consider several accounts that have been proposed in answer to this question and then test one particular account, which holds that ingroup favoritism reflects in part an abstract and early-emerging sociomoral expectation of ingroup support. In violation-of-expectation experiments with 17-mo-old infants, unfamiliar women were first identified (using novel labels) as belonging to the same group, to

different groups, or to unspecified groups. Next, one woman needed instrumental assistance to achieve her goal, and another woman either provided the necessary assistance (help event) or chose not to do so (ignore event). When the two women belonged to the same group, infants looked significantly longer if shown the ignore as opposed to the help event; when the two women belonged to different groups or to unspecified groups, however, infants looked equally at the two events. Together, these results indicate that infants view helping as expected among individuals from the same group, but as optional otherwise. As such, the results demonstrate that from an early age, an abstract expectation of ingroup support contributes to ingroup favoritism in human interactions.

Keywords: infant cognition | sociomoral reasoning | ingroup support | ingroup favoritism | minimal groups

Significance: We examined whether one mechanism contributing to ingroup favoritism might be an abstract and early-emerging sociomoral expectation of ingroup support. In violation-of-expectation experiments, 17-mo-old infants first watched third-party interactions among unfamiliar adults identified (using novel labels) as belonging to the same group, to different groups, or to unspecified groups. Next, one adult needed help, and another adult either did or did not provide it. Infants expected help to be provided when the two adults belonged to the same group, but held no expectation when the adults belonged to different groups or to unspecified groups. Infants thus already possess an abstract expectation of ingroup support, and this finding sheds light on one of the mechanisms underlying ingroup favoritism in human interactions.

Lazaridis 2017

Iosif Lazaridis et al., *Genetic origins of the Minoans and Mycenaeans*. nature **548** (2017), 214–218.

n548-0214-Supplement1.pdf, n548-0214-Supplement2.docx, n548-0214-Supplement3.docx

Iosif Lazaridis, Alissa Mittnik, Nick Patterson, Swapan Mallick, Nadin Rohland, Saskia Pfrengle, Anja Furtwängler, Alexander Peltzer, Cosimo Posth, Andonis Vasilakis, P. J. P. Mcgeorge, Eleni Konsolaki-Yannopoulou, George Korres, Holley Martlew, Manolis Michalodimitrakis, Mehmet Özsait, Nesrin Özsait, Anastasia Papathanasiou, Michael Richards, Songül Alpaslan Roodenberg, Yannis Tzedakis, Robert Arnott, Daniel M. Fernandes, Jeffery R. Hughey, Dimitra M. Lotakis, Patrick A. Navas, Yannis Maniatis, John A. Stamatoyannopoulos, Kristin Stewardson, Philipp Stockhammer, Ron Pinhasi, David Reich, Johannes Krause & George Stamatoyannopoulos

The origins of the Bronze Age Minoan and Mycenaean cultures have puzzled archaeologists for more than a century. We have assembled genome-wide data from 19 ancient individuals, including Minoans from Crete, Mycenaeans from mainland Greece, and their eastern neighbours from southwestern Anatolia. Here we show that Minoans and Mycenaeans were genetically similar, having at least three-quarters of their ancestry from the first Neolithic farmers of western Anatolia and the Aegean1,2, and most of the remainder from ancient populations related to those of the Caucasus3 and Iran4,5. However, the Mycenaeans differed from Minoans in deriving additional ancestry from an ultimate source related to the hunter–gatherers of eastern Europe and Siberia6–8, introduced via a proximal source related to the inhabitants of either the Eurasian steppe1,6,9 or Armenia4,9. Modern Greeks resemble the Mycenaeans, but with some additional dilution of the Early Neolithic ancestry. Our results support the idea of continuity but not isolation in the history of populations of the Aegean, before and after the time of its earliest civilizations.

Bibel

Eichler 2015

Raanan Eichler, *When God Abandoned the Garden of Eden, A Forgotten Reading of Genesis 3:24*. Vetus Testamentum **65** (2015), 1–13.

Genesis 3:24, the final verse in the Eden Narrative, states that God stationed "the cherubim and the spinning-sword-flame" east of the garden of Eden, from which he had recently expelled Man. Or so it does in its masoretic version. Four Targumim, however, reflect an ancient, divergent vocalization of the verse's fourth word. In this vocalization, the verse must be read as stating that God himself settled east of the garden. This divergence profoundly affects the meaning of the entire Eden Narrative. The targumic reading is grammatically and stylistically sound, and, conceptually, it fits well in the verse's textual setting. Moreover, a deliberate alteration from it to the masoretic reading would fall squarely into an independently identified pattern of theologically-driven changes in vocalization. The targumic reading may therefore be closest to the original authorial intent.

Keywords: textual criticism | Targumim | vocalization | Genesis | Eden | cherubim

Friedlaender 1943

Henri Freidlaender, *Der Knecht Gottes, Schicksal / Aufgabe / Trost*. Pulvis Viarum (Den Haag 1947). Exemplar 158 von 500.

Koller 2017

Aaron Koller, *Pornography or Theology? The Legal Background, Psychological Realism, and Theological Import of Ezekiel 16*. Catholic Biblical Quarterly **79** (2017), 402–421.

The description of the relationship between Yhwh and Jerusalem in Ezekiel 16 has troubled readers, ancient and modern. Here I argue that the problems are actually more severe than has been realized in recent scholarship. Against many readings, there is no "adoption" in this text, and Yhwh does nothing for Jerusalem's benefit at all; instead, Yhwh is depicted as saving Baby Jerusalem for his own sexual and emotional benefit. The revulsion that readers feel is Ezekiel's intention, and sensitivity to the rhetoric of the chapter shows that the (male) Israelite audience was meant to identify emotionally with the victim, Jerusalem, against Yhwh. The crucial interpretive question is why Ezekiel would describe the deity thus, I suggest that this is one part of Ezekiel's radical exilic theology, in which the obligations Israel has toward Yhwh are due not to love and mutual admiration but to an emotionless but overwhelming debt.

Keywords: Ezekiel | theology | adoption | gender | feminist criticism

Quick 2017

Laura Quick, *Laying Og to Rest, Deuteronomy 3 and the making of a myth*. Biblica **98** (2017), 161–172.

This paper explores the interpretative decisions which have allowed commentators to connect King Og and his iron bed in Deuteronomy 3 to the underworld, and hence to interpret Og as an underworld deity and his iron bed as a sarcophagus or tomb. Ultimately, it is shown that this interpretation rests on an insufficient understanding of the extra-biblical sources, while the Bible itself never connects Og to a chthonic context. The interpretation of Og as an underworld deity is thus a scholarly construct which must be laid to rest, and with it Og, into his iron bed.

Grabung

Harrison 2004

Timothy P. Harrison, *Megiddo 3, Final report of the stratum VI excavations*. Oriental Institute Publications 127 (Chicago 2004).

The extensive history of excavations at Megiddo (Tell el-Mutesellim) attests to the site's cultural and historical significance and effectively chronicles the disciplinary development of archaeological research in the region. Virtually every generation has left its mark, and a vast portion of the site was excavated in the process. This is particularly true of Stratum VI. While this report is concerned primarily with the results of the Oriental Institute excavations, any attempt to reconstruct the stratum, and the cultural and historical information that it contains, must incorporate the results of other projects that have excavated at the site as well with the aim of assembling a composite record of those projects that have produced published remains of Stratum VI. Ever since its discovery, there has been considerable debate and speculation both about the cultural character of Stratum VI, and the cause and date of its destruction. Whatever the precise historical case, it is clear nevertheless that Stratum VI represents the initial Iron Age (or Iron I) settlement at Megiddo.

Judentum

Nodet 2011

Etienne Nodet, *Israelites, Samaritans, Temples, Jews*. In: József Zsengellér (Hrsg.), *Samaria, Samarians, Samaritans, Studies on Bible, History and Linguistics*. (Berlin 2011), 121–171.

Some recent discoveries at the Mount Gerizim excavations, together with the documents unearthed at W. Daliyeh (Samaria) and Elephantine (Egypt), provide significant clues on the Israelite history in the Persian period (5th and 4th cent. BCE), which collide with the narratives of Ezra-Nehemiah and Flavius Josephus because of their Judean and anti-Samaritan biases. This paper aims at a reassessment by showing that the Samaritans of Shechem reflect the most ancient Yahwist monotheism outside of the city of Samaria, founded in the 9th cent.

The first part focuses on the Persian period: there was first a common Israelite cult at the precincts of Gerizim and Jerusalem, and later two novelties came in Judea: some prophets wanted and obtained a temple (God's dwelling place), and a group of reformers came from Babylonia (Josephus' "Elders", Ezra, Nehemiah) and built up a somewhat sectarian party. These conclusions involve major biblical problems.

The second part of the study examines the adjacent periods: later, the relationship between the Jews and Shechemites after Alexander, focusing especially on the period around the Maccabean crisis and the erection of the Onias Temple in Egypt; preceding this time, some biblical portions dealing with Solomon's temple and some pre-exilic features.

Xeravits 2017

Géza G. Xeravits, *Temple and Synagogue in Late Antiquity*. In: Géza G. Xeravits, József Zsengellér & Ibolya Balla (Hrsg.), *Various Aspects of Worship in Deuterocanonical and Cognate Literature*. Deuterocanonical and Cognate Literature 2016/17 (Berlin 2017), 341–364.

The synagogue—an institution which can be traced back archaeologically and textually to as early as the turn of the second century BCE Egypt—was not intended to substitute for the Jerusalem Temple in any way. This is clear from the basic differences in the cultic activities, which were performed in them. However, it seems that after the fall of the Temple in 70 CE the synagogue remained the sole place of Jewish communitarian worship. What sort of connections can we discover between the synagogue and the only legitimate cultic place, the Temple, which was eventually destroyed? This paper touches upon the following aspects: alternative places of worship; the synagogue during the time of the Temple; Temple and synagogue: written sources and archaeological remains.

Keywords: Temple of Jerusalem | ancient synagogue | ancient Jewish art | Late Antiquity Judaism

Klima

Rubin 2017

Charles M. Rubin, Benjamin P. Horton, Kerry Sieh, Jessica E. Pilarczyk, Patrick Daly, Nazli Ismail & Andrew C. Parnell, *Highly variable recurrence of tsunamis in the 7,400 years before the 2004 Indian Ocean tsunami*. Nature Communications **8** (2017), 16019. DOI:10.1038/ncomms16019.

The devastating 2004 Indian Ocean tsunami caught millions of coastal residents and the scientific community off-guard. Subsequent research in the Indian Ocean basin has identified prehistoric tsunamis, but the timing and recurrence intervals of such events are uncertain. Here we present an extraordinary 7,400 year stratigraphic sequence of prehistoric tsunami deposits from a coastal cave in Aceh, Indonesia. This record demonstrates that at least 11 prehistoric tsunamis struck the Aceh coast between 7,400 and 2,900 years ago. The average time period between tsunamis is about 450 years with intervals ranging from a long, dormant period of over 2,000 years, to multiple tsunamis within the span of a century. Although there is evidence that the likelihood of another tsunamigenic earthquake in Aceh province is high, these variable recurrence intervals suggest that long dormant periods may follow Sunda megathrust ruptures as large as that of the 2004 Indian Ocean tsunami.

Kultur Anthropologie

Zhou 2017

Tingting Zhou et al., *History of winning remodels thalamo-PFC circuit to reinforce social dominance*. science **357** (2017), 162–168.

Tingting Zhou, Hong Zhu, Zhengxiao Fan, Fei Wang, Yang Chen, Hexing Liang, Zhongfei Yang, Lu Zhang, Longnian Lin, Yang Zhan, Zheng Wang & Hailan Hu

Mental strength and history of winning play an important role in the determination of social dominance. However, the neural circuits mediating these intrinsic and extrinsic factors have remained unclear. Working in mice, we identified a dorsomedial prefrontal cortex (dmPFC) neural population showing "effort"-related firing during moment-to-moment competition in the dominance tube test. Activation or inhibition of the dmPFC induces instant winning or losing, respectively. In vivo optogenetic-based long-term potentiation and depression experiments establish that the mediodorsal thalamic input to the dmPFC mediates long-lasting changes in the social dominance status that are affected by history of winning. The same

neural circuit also underlies transfer of dominance between different social contests. These results provide a framework for understanding the circuit basis of adaptive and pathological social behaviors.

Metallzeiten

PRICE 2017

T. Douglas Price, Robert Frei, Ute Brinker, Gundula Lidke, Thomas Terberger, Karin Margarita Frei & Detlef Jantzen, *Multi-isotope proveniencing of human remains from a Bronze Age battlefield in the Tollense Valley in northeast Germany*. Archaeological and Anthropological Sciences (2017), preprint, 1–17. DOI:10.1007/s12520-017-0529-y.

Although the Bronze Age is best known for its remarkable metal weapons, there is little evidence of conflict. Traumatic wounds in human skeletal remains are rare, and there have been few recognized scenes of warfare such as those known from later periods. Recent discoveries, however, have revealed evidence of a major battle in a small valley in the northeast of Germany, some 3250 years ago. Both military equipment and human and animal remains have been encountered in surveys and excavations along almost 3 km of the Tollense Valley. More than 130 human individuals have been recovered in the investigations, for the most, part young men between 20 and 40 years of age. In addition, horse bones have been found among the human remains in the riverbed and banks. This study reports on the isotopic proveniencing of the excavated remains utilizing strontium, lead, oxygen, and carbon isotopes to learn about place of origin and past diet. Two major groups can be distinguished in the isotope data, along with evidence for different homelands for some of the individuals who died in the Tollense Valley.

Keywords: BronzeAge | Isotopic proveniencing | Strontium | Lead | Oxygen | Carbon | Battlefield

Methoden

DIEKMANN 2017

Yoan Diekmann et al., *Accurate age estimation in small-scale societies*. PNAS **114** (2017), 8205–8210.

Yoan Diekmann, Daniel Smith, Pascale Gerbault, Mark Dyble, Abigail E. Page, Nikhil Chaudhary, Andrea Bamberg Migliano & Mark G. Thomas

Precise estimation of age is essential in evolutionary anthropology, especially to infer population age structures and understand the evolution of human life history diversity. However, in small-scale societies, such as hunter-gatherer populations, time is often not referred to in calendar years, and accurate age estimation remains a challenge. We address this issue by proposing a Bayesian approach that accounts for age uncertainty inherent to fieldwork data. We developed a Gibbs sampling Markov chain Monte Carlo algorithm that produces posterior distributions of ages for each individual, based on a ranking order of individuals from youngest to oldest and age ranges for each individual. We first validate our method on 65 Agta foragers from the Philippines with known ages, and show that our method generates age estimations that are superior to previously published regression-based approaches. We then use data on 587 Agta collected during recent fieldwork to demonstrate how multiple partial age ranks coming from multiple camps of hunter-gatherers can be integrated. Finally, we exemplify how the distributions generated by our method can be used to estimate important demographic parameters in

small-scale societies: here, age-specific fertility patterns. Our flexible Bayesian approach will be especially useful to improve cross-cultural life history datasets for small-scale societies for which reliable age records are difficult to acquire.

Keywords: Gibbs sampler | Bayesian age estimation | hunter-gatherers | fertility | life history

Significance: Understanding demographic and evolutionary processes shaping human life history diversity depends on precise age estimations. Inferring age is a challenge in small-scale societies, and especially in those societies that do not follow a calendar year. Our method opens possibilities in demographic and life history studies allowing cross-sectional data to be incorporated in cross-cultural comparisons and a better understanding of the adaptive importance of human life history variation.

Ozeanien

Gibbons 2017

Ann Gibbons, *The first Australians arrived early, 65,000-year-old tools suggest very ancient migration out of Africa.* science **357** (2017), 238–239.

Because people must have traveled across the islands of Southeast Asia to get to Australia, the date suggests humans were moving through Indonesia at the same time as Homo floresiensis, the tiny extinct human nicknamed "the hobbit," was living on the island of Flores; the last date for that species is 60,000 years ago, although so far there's no evidence of encounters between humans and hobbits.

The authors also suggest the new date of 65,000 years for the peopling of Australia pushes back the time when modern humans coming out of Africa mated with archaic species in Asia, such as Neandertals and Denisovans. Living Aborigines carry traces of those two species' DNA, which their ancestors must have acquired by mixing somewhere in Asia before they reached Australia.

But such early mixing with Denisovans and Neandertals is at odds with genetic evidence from living Aborigines and nearby Melanesians, says population geneticist David Reich of Harvard University. Analyses of these people's DNA "confidently" suggests that the interbreeding happened only 45,000 to 53,000 years ago (Science, 22 May 2015, p. 847), Reich says. "If these [new] dates are correct, they must be from a human population that was largely replaced by the people who are the primary ancestors of today's Australians and New Guineans," he says. If so, today's Mirarr descend from a later migration.

Ozeanien Afrika

Pierron 2017

Denis Pierron et al., *Genomic landscape of human diversity across Madagascar.* PNAS **114** (2017), E6498–E6506.

pnas114-E6498-Supplement1.pdf, pnas114-E6498-SupplementF1.pdf, pnas114-E6498-SupplementF2.pdf, pnas114-E6498-SupplementF3.pdf, pnas114-E6498-SupplementF4.pdf, pnas114-E6498-SupplementF5.pdf, pnas114-E6498-SupplementF6.pdf, pnas114-E6498-SupplementF7.pdf, pnas114-E6498-SupplementT1.xlsx, pnas114-E6498-SupplementT2.xlsx, pnas114-E6498-SupplementT3.xls

Denis Pierron, Margit Heiske, Harilanto Razafindrazaka, Ignace Rakoto, Nelly Rabetokotany, Bodo Ravololomanga, Lucien M.-A. Rakotozafy, Mireille Mialy

Rakotomalala, Michel Razafiarivony, Bako Rasoarifetra, Miakabola Andriamampianina Raharijesy, Lolona Razafindralambo, Ramilisonina, Fulgence Fanony, Sendra Lejamble, Olivier Thomas, Ahmed Mohamed Abdallah, Christophe Rocher, Amal Arachiche, Laure Tonaso, Veronica Pereda-loth, Stéphanie Schiavinato, Nicolas Brucato, Francois-Xavier Ricaut, Pradiptajati Kusuma, Herawati Sudoyo, Shengyu Ni, Anne Boland, Jean-Francois Deleuze, Philippe Beaujard, Philippe Grange, Sander Adelaar, Mark Stoneking, Jean-Aimé Rakotoarisoa, Chantal Radimilahy & Thierry Letellier

Although situated ≈400 km from the east coast of Africa, Madagascar exhibits its cultural, linguistic, and genetic traits from both Southeast Asia and Eastern Africa. The settlement history remains contentious; we therefore used a grid-based approach to sample at high resolution the genomic diversity (including maternal lineages, paternal lineages, and genome-wide data) across 257 villages and 2,704 Malagasy individuals. We find a common Bantu and Austronesian descent for all Malagasy individuals with a limited paternal contribution from Europe and the Middle East. Admixture and demographic growth happened recently, suggesting a rapid settlement of Madagascar during the last millennium. However, the distribution of African and Asian ancestry across the island reveals that the admixture was sex biased and happened heterogeneously across Madagascar, suggesting independent colonization of Madagascar from Africa and Asia rather than settlement by an already admixed population. In addition, there are geographic influences on the present genomic diversity, independent of the admixture, showing that a few centuries is sufficient to produce detectable genetic structure in human populations.

Keywords: Indian Ocean | proto-globalization | genetics | Malagasy origins | genome-wide data

Significance: The origins of the Malagasy raise questions about ancient connections between continents;moreover, because ancestors are fundamental to Malagasy society, Malagasy origins is also a heated topic around the country, with numerous proposed hypotheses. This study provides a comprehensive view of genomic diversity (including maternal lineages, paternal lineages, and genome-wide data) based on a sampling of 257 villages across Madagascar. The observed spatial patterns lead to a scenario of a recent and sex-biased admixture between Bantu and Austronesian ancestors across the island. Moreover, we find geographical influences creating subtle signals of genetic structure that are independent of the Bantu/Austronesian admixture, suggesting that recent history has a role in the genomic diversity of the Malagasy.

Physik

Gibney 2017

Elizabeth Gibney, *The Antimatter Race*. nature **548** (2017), 20–23.

Competing experiments are hunting for new physics in the shadow of the Large Hadron Collider.

LHC experiments have been hunting more such biases, and even a raft of as-yet-undiscovered particles whose behaviour in the early Universe could have accounted for the huge matter– antimatter imbalance that remains. There has been good reason to suspect such particles exist: they were predicted by supersymmetry, a theory that was proposed to tie up some troubling loose ends in particle physics. But no such particles have turned up in eight years of searching. Now, the simplest, most elegant versions of supersymmetry — the ones that made the idea appealing in the first place — have been largely ruled out.

Physicists generally expect antimatter to fall just like matter. But some fringe theories predict that it has 'negative mass' — it would be repelled by, rather than attracted to, matter. Antimatter with this property might account for the effects of dark energy and dark matter, the identities of which are still unknown. But most mainstream theorists say such a Universe would be inherently unstable.

Politik

Sznycer 2017

Daniel Sznycer et al., *Support for redistribution is shaped by compassion, envy, and self-interest, but not a taste for fairness.* PNAS **114** (2017), 8420–8425.

pnas114-08420-Supplement.xlsx

Daniel Sznycer, Maria Florencia Lopez Seal, Aaron Sell, Julian Lim, Roni Porat, Shaul Shalvi, Eran Halperin, Leda Cosmides & John Tooby

Why do people support economic redistribution? Hypotheses include inequity aversion, a moral sense that inequality is intrinsically unfair, and cultural explanations such as exposure to and assimilation of culturally transmitted ideologies. However, humans have been interacting with worse-off and better-off individuals over evolutionary time, and our motivational systems may have been naturally selected to navigate the opportunities and challenges posed by such recurrent interactions. We hypothesize that modern redistribution is perceived as an ancestral scene involving three notional players: the needy other, the better-off other, and the actor herself. We explore how three motivational systems—compassion, self-interest, and envy—guide responses to the needy other and the better-off other, and how they pattern responses to redistribution. Data from the United States, the United Kingdom, India, and Israel support this model. Endorsement of redistribution is independently predicted by dispositional compassion, dispositional envy, and the expectation of personal gain from redistribution. By contrast, a taste for fairness, in the sense of (i) universality in the application of laws and standards, or (ii) low variance in group-level payoffs, fails to predict attitudes about redistribution.

Keywords: inequality | redistribution | emotion | fairness | morality

Significance: Markets have lifted millions out of poverty, but considerable inequality remains and there is a large worldwide demand for redistribution. Although economists, philosophers, and public policy analysts debate the merits and demerits of various redistributive programs, a parallel debate has focused on voters' motives for supporting redistribution. Understanding these motives is crucial, for the performance of a policy cannot be meaningfully evaluated except in the light of intended ends. Unfortunately, existing approaches pose ill-specified motives. Chief among them is fairness, a notion that feels intuitive but often rests on multiple inconsistent principles. We show that evolved motives for navigating interpersonal interactions clearly predict attitudes about redistribution, but a taste for procedural fairness or distributional fairness does not.

Sprachlehre

Clines 2017

David J. A. Clines, *Classical Hebrew, Interchange of Consonants Table.* unknown (2017), preprint, 1–5.

Wilhelm Gesenius in the early nineteenth century was alr eady conscious, to some extent, of what he called the permutatio (interchange) of consonants, but his examples of permutatio drew more on interchange across the Semitic languages than within Hebrew itself. The current descendants of Gesenius's dictionaries, HALAT and HALOT,3 follow Gesenius in their articles on the letters of the Hebrew alphabet, but, like Gesenius, they confusingly fail to discriminate between interchange across the Semitic languages and interchange within Hebrew. In general, like all modern lexica their reference to byforms is both rare and quite random. Furthermore, some of the articles they refer to are roots that are not actually attested in Hebrew, and of course they d o not generally refer to words that are outside the corpus of Biblical Hebrew.

The table below is by no means exhaustive, but it is a fuller list than I have used in my paper on byforms mentioned above.

Clines 2017

David J. A. Clines, *Byforms in Classical Hebrew*. unknown (2017), preprint, 1–15.

Does the identification of byforms concern the typical biblical scholar, or is it no more than a curiosity for Hebrew linguists?

Perhaps we should rather think of it as a new opportunity, analogous to the discovery of new texts. For now, every time we involve ourselves with one of the 3309 byforms, we find we have a wider range of texts and references to consider, just as if we had unearthed a new cache of Hebrew documents.