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References

Aktuell

Albright 2017

Thomas D. Albright, *Why eyewitnesses fail*. PNAS **114** (2017), 7758–7764.

Eyewitness identifications play an important role in the investigation and prosecution of crimes, but it is well known that eyewitnesses make mistakes, often with serious consequences. In light of these concerns, the National Academy of Sciences recently convened a panel of experts to undertake a comprehensive study of current practice and use of eyewitness testimony, with an eye toward understanding why identification errors occur and what can be done to prevent them. The work of this committee led to key findings and recommendations for reform, detailed in a consensus report entitled Identifying the Culprit: Assessing Eyewitness Identification. In this review, I focus on the scientific issues that emerged from this study, along with brief discussions of how these issues led to specific recommendations for additional research, best practices for law enforcement, and use of eyewitness evidence by the courts.

Keywords: forensic science | visual perception | memory | lineup | criminal justice

Tam 2017

Charmaine Tam, *Reprogramming my career*. science **356** (2017), 102.

As I stood at the whiteboard with a marker in my hand and a five-person interview panel of industry experts watching me, I realized I had no idea how to perform the "simple" coding required to solve the question that was asked. I was about to be exposed as a fraud. What had ever made me think that I would be able to transition from medical research to data science? That was 6 months ago. Even though that initial interview was a disaster, I have since made the leap, and I now spend my days coding and performing data analysis to generate insights from millions of electronic medical records. Although I still have a lot to learn, it has been an exciting and liberating transition.

Tollefson 2017

Jeff Tollefson, *Satellite error hid rising seas*. nature **547** (2017), 265–266.

Revised tallies confirm that the rate of sea-level increase is accelerating as Earth warms and ice sheets thaw.

The team eventually identified a minor calibration that had been built into TOPEX/ Poseidon's altimeter to correct any flaws in its data that might be caused by problems with the instrument, such as ageing electronics. Nerem and his colleagues weren't sure that the calibration was necessary — and when they removed it, early satellite figures of sea-level rise aligned more closely with the tide-gauge data. The adjusted data showed the rate of sea-level rise increasing over time.

Volz 2017

Lukas J. Volz, B. Locke Welborn, Matthias S. Gobel, Michael S. Gazzaniga & Scott T. Grafton, *Harm to self outweighs benefit to others in moral decision making*. PNAS **114** (2017), 7963–7968.

How we make decisions that have direct consequences for ourselves and others forms the moral foundation of our society. Whereas economic theory contends that humans aim at maximizing their own gains, recent seminal psychological work suggests that our behavior is instead hyperaltruistic: We are more willing to sacrifice gains to spare others from harm than to spare ourselves from harm. To investigate how such egoistic and hyperaltruistic tendencies influence moral decision making, we investigated trade-off decisions combining monetary rewards and painful electric shocks, administered to the participants themselves or an anonymous other. Whereas we replicated the notion of hyperaltruism (i.e., the willingness to forego reward to spare others from harm), we observed strongly egoistic tendencies in participants' unwillingness to harm themselves for others' benefit. The moral principle guiding intersubject trade-off decision making observed in our study is best described as egoistically biased altruism, with important implications for our understanding of economic and social interactions in our society.

Keywords: morality | decision making | altruism | egoism | social cognition

Significance: Principles guiding decisions that affect both ourselves and others are of prominent importance for human societies. Previous accounts in economics and psychological science have often described decision making as either categorically egoistic or altruistic. Instead, the present work shows that genuine altruism is embedded in context-specific egoistic bias. Participants were willing to both forgo monetary reward to spare the other from painful electric shocks and also to suffer painful electric shocks to secure monetary reward for the other. However, across all trials and conditions, participants accrued more reward and less harm for the self than for the other person. These results characterize human decision makers as egoistically biased altruists, with important implications for psychology, economics, and public policy.

Anthropologie

d'Errico 2017

Francesco d'Errico et al., *Identifying early modern human ecological niche expansions and associated cultural dynamics in the South African Middle Stone Age.* PNAS **114** (2017), 7869–7876.

Francesco d'Errico, William E. Banks, Dan L. Warren, Giovanni Sgubin, Karen van Niekerk, Christopher Henshilwood, Anne-Laure Daniau & María Fernanda Sánchez Goñi

The archaeological record shows that typically human cultural traits emerged at different times, in different parts of the world, and among different hominin taxa. This pattern suggests that their emergence is the outcome of complex and nonlinear evolutionary trajectories, influenced by environmental, demographic, and social factors, that need to be understood and traced at regional scales. The application of predictive algorithms using archaeological and paleoenvironmental data allows one to estimate the ecological niches occupied by past human populations and identify niche changes through time, thus providing the possibility of investigating relationships between cultural innovations and possible niche shifts. By using such methods to examine two key southern Africa archaeological cultures, the Still Bay [76–71 thousand years before present (ka)] and the Howiesons Poort (HP; 66–59 ka), we identify a niche shift characterized by a significant expansion in the breadth of the HP ecological niche. This expansion is coincident with aridification occurring across Marine Isotope Stage 4 (ca. 72–60 ka) and especially pronounced at 60 ka. We argue that this niche shift was made possible by the development of a flexible technological system, reliant on composite tools and cultural transmission strategies based more on "product copying" rather than "process copying."

These results counter the one niche/one human taxon equation. They indicate that what makes our cultures, and probably the cultures of other members of our lineage, unique is their flexibility and ability to produce innovations that allow a population to shift its ecological niche.

Keywords: Middle Stone Age | Still Bay | Howiesons Poort | ecological niche modeling | paleoclimate

Gibbons 2017

Ann Gibbons, *Neandertals mated early with modern humans*. science **356** (2017), 14.

Ancient encounter may have completely replaced Neandertals' mitochondrial DNA

Using modern humans' mtDNA mutation rate to calculate the timing, the researchers conclude that the HST mtDNA split from that of all other Neandertals at least 220,000 years ago. The ancient H. sapiens' mtDNA must have entered the Neandertal lineage before this time, but after 470,000 years ago, the earliest date for when modern human and Neandertal mtDNA diverged. That's early enough for the new form of mtDNA to have spread among Neandertals and replaced all their mtDNA.

Jones 2015

Eppie R. Jones et al., *Upper Palaeolithic genomes reveal deep roots of modern Eurasians*. Nature Communications **6** (2015), 8912. DOI:10.1038/ncomms9912.

Eppie R. Jones, Gloria Gonzalez-Fortes, Sarah Connell, Veronika Siska, Anders Eriksson, Rui Martiniano, Russell L. McLaughlin, Marcos Gallego Llorente, Lara M. Cassidy, Cristina Gamba, Tengiz Meshveliani, Ofer Bar-Yosef, Werner Müller, Anna Belfer-Cohen, Zinovi Matskevich, Nino Jakeli, Thomas F. G. Higham, Mathias Currat, David Lordkipanidze, Michael Hofreiter, Andrea Manica, Ron Pinhasi, & Daniel G. Bradley

We extend the scope of European palaeogenomics by sequencing the genomes of Late Upper Palaeolithic (13,300 years old, 1.4-fold coverage) and Mesolithic (9,700 years old, 15.4-fold) males from western Georgia in the Caucasus and a Late Upper Palaeolithic (13,700 years old, 9.5-fold) male from Switzerland. While we detect Late Palaeolithic–Mesolithic genomic continuity in both regions, we find that Caucasus hunter-gatherers (CHG) belong to a distinct ancient clade that split from western hunter-gatherers B45 kya, shortly after the expansion of anatomically modern humans into Europe and from the ancestors of Neolithic farmers B25 kya, around the Last Glacial Maximum. CHG genomes significantly contributed to the Yamnaya steppe herders who migrated into Europe B3,000 BC, supporting a formative Caucasus influence on this important Early Bronze age culture. CHG left their imprint on modern populations from the Caucasus and also central and south Asia possibly marking the arrival of Indo-Aryan languages.

Marean 2017

Curtis W. Marean, *Early signs of human presence in Australia*. nature **547** (2017), 285–287.

It emerges that people reached Australia earlier than was thought. This finding casts light on the technology used by the travellers, and their possible interactions with animal species that became extinct.

The fantasy still exists that hunter-gatherers lived in harmony with nature, and in some circles it is thought to be the job of anthropologists and archaeologists to

protect this empirically incorrect idea. What evidence do these researchers rely on to support this idea? Normally, it is the absence of an association between extinct animals and humans, as well as the lack of evidence for human occupation at times early enough to be consistent with humans causing the extinctions.

Yet for reasons of basic probability, it is unlikely that we will ever find the 'first' settlers of a land, or even direct evidence for the hunting of extinct megafauna. So our estimates of the 'earliest' occupation might underestimate its actual timing.

Datierung

Porat 2012

Naomi Porat, Geoff A. T. Duller, Helen M. Roberts, Eli Piasetzky & Israel Finkelstein, *OSL dating in multi-strata Tel Megiddo (Israel) as a case study*. Quaternary Geochronology **10** (2012), 359–366.

Megiddo, one of the most important mounds (Tel) in the Levant, was inhabited almost continuously from the 7th millennium to the 4th C. BC and archaeological remains have accumulated to a height of ca. 20 m. Megiddo features a significant number of destruction levels, some of which can be correlated to wellknown historical events. Other destruction levels are less well dated, and in order to improve the chronological control, an OSL dating campaign was designed, particularly for those periods where the radiocarbon calibration curve incorporates large errors on radiocarbon dates.

Twenty-six samples were collected from a range of archaeological periods, excavation areas and sediment types. In-situ gamma and cosmic dose rates were obtained either with Al2O3:C dosimeters that were buried at the site for 2 months or with a calibrated gamma scintillator. Very-fine-sand quartz was extracted and measured using conventional SAR to obtain the equivalent dose (De).

The OSL age of many samples is older than the expected archaeological age and their De values are usually scattered. This suggests that sediments were continuously reused and recycled at Tel Megiddo without exposure to sunlight and very little fresh sediment was added directly from dust to the archaeological accumulation, challenging the basic requirement for OSL dating.

Using combined criteria of sequential stratigraphic order of the samples and the over-dispersion of the measured De values helped to reject the samples that yield ages which fail to represent the age of their archeological context. Twelve of the 26 OSL ages had to be rejected, but the 14 ages which did pass the criteria agree very well with the expected archaeological ages. Thus analysis of a single sample is ineffective for determining an archeological age for a given context. Sediments from in-between building stones are more suitable than those taken from floors, streets and ash layers; samples from destruction layers should be avoided. Megiddo provides an example of the difficulties in OSL dating in a multi-period, complex archaeological site.

Keywords: OSL | Dating | Megiddo | Israel | Archeology

Grabung

Cantrell 2006

Deborah O. Cantrell & Israel Finkelstein, *A Kingdom For A Horse, The Megiddo Stables and Eighth Century Israel*. In: Israel Finkelstein, David Ussishkin & Baruch Halpern (Hrsg.),

Megiddo IV, The 1998–2002 Seasons. Monograph series, Tel Aviv, Nadler Institute of Archaeology 24 (Tel Aviv 2006), 643–665.

In the 8th century BCE Megiddo could have served as a centre for the chariot corps of the Israelite army. A better interpretation of the archaeological finds and the historical sources would be that the Megiddo stables also functioned as the centre for training (and possibly also breeding) of Egyptian horses for trade with Assyria and neighbouring countries in the Levant. The 'cash-crop' horse industry at Megiddo must have been a major income source for the Northern Kingdom.

Finkelstein 2000

Israel Finkelstein & Oma Zimhoni, *The Pottery from the Late Bronze Gate*. In: Israel Finkelstein, David Ussishkin & Baruch Halpern (Hrsg.), *Megiddo III, The 1992–1996 Seasons*. Monograph series, Tel Aviv, Nadler Institute of Archaeology 18 (Tel Aviv 2000), 223–324.

The assemblage discussed in this chapter (Figs. 10.1-10.3)2 was uncovered during the renewed excavations from a floor of the Late Bronze Gate, which the University of Chicago Expedition concluded was a 'lower floor' (Loud 1948:29), but which the current excavators consider to be the only floor (Chapter 5; Ussishkin 1995). The vessels and sherds were found inside and around two ovens uncovered in the inner, eastern chamber of the gate (Loci 92/G/14, 92/G/24 and 92/G/25), in the opposite chamber (Locus 92/G/13) and in the entryway between the two chambers (Loci 92/G/22 and 92/G/23). Sherds from the chambers and the entryway joined to form restorable vessels. The assemblage represents the last days of activity in the structure, during which time the gate was blocked and used for domestic purposes.

Finkelstein 2000

Israel Finkelstein, David Ussishkin & Baruch Halpern (Hrsg.), *Megiddo III, The 1992–1996 Seasons*. Monograph series, Tel Aviv, Nadler Institute of Archaeology 18 (Tel Aviv 2000).

The remarkable results of several intensive seasons of renewed excavation by the current Expedition at Tel Megiddo are presented in this publication. The stratigraphy of the Early Bronze Age temple compound has been clarified and redated. The largest EB I temple in the Levant, with an extraordinary collection of animal remains in it, was unearthed. The lower mound, never properly explored by prior expeditions, has produced important new information. New light has been shed on one of the most hotly debated issues in biblical archaeology today – the chronology of Iron Age II. The conquest of this highly defended royal citadel of the Northern Kingdom by the Assyrians and its aftermath are clearly recorded.

Finkelstein 2006

Israel Finkelstein, David Ussishkin & Baruch Halpern (Hrsg.), *Megiddo IV, The 1998–2002 Seasons*. Monograph series, Tel Aviv, Nadler Institute of Archaeology 24 (Tel Aviv 2006).

This is the second in the series of final publications of the Megiddo Expedition. It reports the finds in the 1998-2002 seasons, with several references to the campaign of 2004. The main topics dealt with are the Early Bronze Age temple compound (with an update on the previous publication), the Late Bronze I stratum on

the lower mound, the settlement of the late Iron I and its destruction in a fierce conflagration, the elaborate palace (Palace 6000) of the Iron IIA on the northern edge of the mound and the controversial northern stables. It also reports the results of two surveys conducted in the Megiddo countryside

Finkelstein 2013
: Israel Finkelstein, *Archaeological and Historical Conclusions*. In: Israel Finkelstein, David Ussishkin & Eric H. Cline (Hrsg.), *Megiddo V, The 2004–2008 Seasons*. Monograph series, Tel Aviv, Nadler Institute of Archaeology 31 (Winona Lake 2013), 1329–1340.

the results of the 2004–2008 seasons add to our understanding of early bronze, late bronze and iron Age Megiddo and beyond. The results reported in this volume are of special significance since work in three of our long-term areas of excavation has now been terminated – area J, the cult compound of the early bronze age; area m with Schumacher's nordburg, mittleburg and chamber f; and area l with the remains of the northern stables and Palace 6000. in what follows i wish to deal with selected problems related to the material presented in this volume.

Franklin 2013
: Norma Franklin, *Area M, Part I: The Excavation*. In: Israel Finkelstein, David Ussishkin & Eric H. Cline (Hrsg.), *Megiddo V, The 2004–2008 Seasons*. Monograph series, Tel Aviv, Nadler Institute of Archaeology 31 (Winona Lake 2013), 178–246.

This chapter describes the results of the 2000–2006 seasons in the eastern squares of Area M (AV/27– 29 and AW/27–29) and ties them to the finds in the western sector of the area, which were reported in Megiddo IV (Finkelstein, Ussishkin and Deutsch 2006; Fig. 4.1).1 Due to the fact that large parts of Area M had already been excavated in the past (Schumacher 1904; 1905; 1906; 1908; Lamon and Shipton 1939: Fig. 3), in some cases it was difficult to reach a clear stratigraphic affiliation of the remains. As a result, there are several stratigraphic and architectonic interpretations for the remains unearthed in Area M, both in the eastern and the western parts of this area. Different interpretations than mine by A. Pechuro and I. Finkelstein appear in Part II and Part III of this chapter. My interpretation of the remains, which appears in Part I of this chapter and its appendix, also takes into account my interpretation of the results of past excavations in this area, mainly Schumacher's.

Marco 2006
: Shmuel Marco, Amotz Agnon, Israel Finkelstein & David Ussishkin, *Megiddo Earthquakes*. In: Israel Finkelstein, David Ussishkin & Baruch Halpern (Hrsg.), *Megiddo IV, The 1998–2002 Seasons*. Monograph series, Tel Aviv, Nadler Institute of Archaeology 24 (Tel Aviv 2006), 568–575.

Two earthquake events at Megiddo are beyond doubt: one at the end of the fourth millennium BCE (for relevance to the history of the site in the Early Bronze Age see Chapter 3) and another in the 9th century BCE (which caused the damage in Stratum VA-IVB). Another event, which brought about the end of Stratum VIA, is probable but not conclusive (see Chapter 7). All other clues remain hypothetical: damage to the Late Bronze Age and 8th century (Stratum IVA) buildings could have been caused in later periods, and the classification of

the damage in the Stratum III structures as evidence for a quake is probable but not sure. Yet, the biblical evidence for a major earthquake in ca. 760 BCE (Amos 1:1) seems to indicate that the damage in the buildings of Stratum IVA should indeed be assigned to the 8th century BCE.

This preliminary study demonstrates the potential for archaeoseismic research as well as the difficulties inherent in it.

Isotope

Szpak 2012

Paul Szpak, Fred J. Longstaffe, Jean-François Millaire & Christine D. White, *Stable Isotope Biogeochemistry of Seabird Guano Fertilization, Results from Growth Chamber Studies with Maize (Zea Mays)*. PLoS ONE **7** (2012), e33741. DOI:10.1371/journal.pone.0033741.

pone07-e0033741-Supplement.xls

Background: Stable isotope analysis is being utilized with increasing regularity to examine a wide range of issues (diet, habitat use, migration) in ecology, geology, archaeology, and related disciplines. A crucial component to these studies is a thorough understanding of the range and causes of baseline isotopic variation, which is relatively poorly understood for nitrogen (d15N). Animal excrement is known to impact plant d15N values, but the effects of seabird guano have not been systematically studied from an agricultural or horticultural standpoint.

Methodology/Principal Findings: This paper presents isotopic (d13C and d15N) and vital data for maize (Zea mays) fertilized with Peruvian seabird guano under controlled conditions. The level of 15N enrichment in fertilized plants is very large, with d15N values ranging between 25.5 and 44.7 %depending on the tissue and amount of fertilizer applied; comparatively, control plant d15N values ranged between20.3 and 5.7 %. Intraplant and temporal variability in d15N values were large, particularly for the guano-fertilized plants, which can be attributed to changes in the availability of guano-derived N over time, and the reliance of stored vs. absorbed N. Plant d13C values were not significantly impacted by guano fertilization. High concentrations of seabird guano inhibited maize germination and maize growth. Moreover, high levels of seabird guano greatly impacted the N metabolism of the plants, resulting in significantly higher tissue N content, particularly in the stalk.

Conclusions/Significance: The results presented in this study demonstrate the very large impact of seabird guano on maize d15N values. The use of seabird guano as a fertilizer can thus be traced using stable isotope analysis in food chemistry applications (certification of organic inputs). Furthermore, the fertilization of maize with seabird guano creates an isotopic signature very similar to a high-trophic level marine resource, which must be considered when interpreting isotopic data from archaeological material.

Szpak 2014

Paul Szpak, *Complexities of nitrogen isotope biogeochemistry in plant-soil systems, Implications for the study of ancient agricultural and animal management practices*. Frontiers in Plant Science **5** (2014), 288, 1–19.

Nitrogen isotopic studies have the potential to shed light on the structure of ancient ecosystems, agropastoral regimes, and human-environment interactions. Until relatively recently, however, little attention was paid to the complexities of

nitrogen transformations in ancient plant-soil systems and their potential impact on plant and animal tissue nitrogen isotopic compositions. This paper discusses the importance of understanding nitrogen dynamics in ancient contexts, and highlights several key areas of archaeology where a more detailed understanding of these processes may enable us to answer some fundamental questions. This paper explores two larger themes that are prominent in archaeological studies using stable nitrogen isotope analysis: (1) agricultural practices (use of animal fertilizers, burning of vegetation or shifting cultivation, and tillage) and (2) animal domestication and husbandry (grazing intensity/stocking rate and the foddering of domestic animals with cultigens). The paucity of plant material in ancient deposits necessitates that these issues are addressed primarily through the isotopic analysis of skeletal material rather than the plants themselves, but the interpretation of these data hinges on a thorough understanding of the underlying biogeochemical processes in plant-soil systems. Building on studies conducted in modern ecosystems and under controlled conditions, these processes are reviewed, and their relevance discussed for ancient contexts.

Keywords: stable isotopes | nitrogen | archaeology | agriculture | animal management

Kultur

Creanza 2017

Nicole Creanza, Oren Kolodny & Marcus W. Feldman, *Cultural evolutionary theory, How culture evolves and why it matters*. PNAS **114** (2017), 7782–7789.

Human cultural traits—behaviors, ideas, and technologies that can be learned from other individuals—can exhibit complex patterns of transmission and evolution, and researchers have developed theoretical models, both verbal and mathematical, to facilitate our understanding of these patterns. Many of the first quantitative models of cultural evolution were modified from existing concepts in theoretical population genetics because cultural evolution has many parallels with, as well as clear differences from, genetic evolution. Furthermore, cultural and genetic evolution can interact with one another and influence both transmission and selection. This interaction requires theoretical treatments of gene–culture coevolution and dual inheritance, in addition to purely cultural evolution. In addition, cultural evolutionary theory is a natural component of studies in demography, human ecology, and many other disciplines. Here, we review the core concepts in cultural evolutionary theory as they pertain to the extension of biology through culture, focusing on cultural evolutionary applications in population genetics, ecology, and demography. For each of these disciplines, we review the theoretical literature and highlight relevant empirical studies. We also discuss the societal implications of the study of cultural evolution and of the interactions of humans with one another and with their environment.

Keywords: cultural evolution | mathematical models | gene–culture coevolution | niche construction | demography

Metallzeiten

Felding 2015

Louise Felding, *The Egtved Girl, Travel, Trade & Alliances In The Bronze Age*. Adoranten **2015**, 5–20.

The Egtved Girl was buried in Egtved, Denmark 1370 BC. Famous for her well-preserved grave, she has become an icon for the Danish Bronze Age and the object of continuous archaeological study. The latest groundbreaking research has revealed that the she was not local from the Egtved area but instead grew up far from present day Denmark, and travelled long distances in her short life. The Egtved Girl is thus directly linked to the trade and alliance networks that existed across Europe and the Middle East in the Bronze Age. This article wishes to sum up the Egtved Girl's fascinating story and bring new perspectives to understanding her identity and social role in the Bronze Age.

Keywords: Early Bronze Age | Egtved Girl | Mobility | Identity | Travel | Trade | Oak Coffin Burials | Archaeology & Science.

Martiniano 2016

Rui Martiniano et al., *Genomic signals of migration and continuity in Britain before the Anglo-Saxons*. Nature Communications **7** (2016), 10326. DOI:10.1038/ncomms10326.

Rui Martiniano, Anwen Caffell, Malin Holst, Kurt Hunter-Mann, Janet Montgomery, Gundula Müldner, Russell L. McLaughlin, Matthew D. Teasdale, Wouter van Rheenen, Jan H. Veldink, Leonard H. van den Berg, Orla Hardiman, Maureen Carroll, Steve Roskams, John Oxley, Colleen Morgan, Mark G. Thomas, Ian Barnes, Christine McDonnell, Matthew J. Collins & Daniel G. Bradley

The purported migrations that have formed the peoples of Britain have been the focus of generations of scholarly controversy. However, this has not benefited from direct analyses of ancient genomes. Here we report nine ancient genomes ($\approx 1\times$) of individuals from northern Britain: seven from a Roman era York cemetery, bookended by earlier Iron-Age and later Anglo-Saxon burials. Six of the Roman genomes show affinity with modern British Celtic populations, particularly Welsh, but significantly diverge from populations from Yorkshire and other eastern English samples. They also show similarity with the earlier Iron-Age genome, suggesting population continuity, but differ from the later Anglo-Saxon genome. This pattern concords with profound impact of migrations in the Anglo-Saxon period. Strikingly, one Roman skeleton shows a clear signal of exogenous origin, with affinities pointing towards the Middle East, confirming the cosmopolitan character of the Empire, even at its northernmost fringes.

Schiffels 2016

Stephan Schiffels et al., *Iron Age and Anglo-Saxon genomes from East England reveal British migration history*. Nature Communications **7** (2016), 10408. DOI:10.1038/ncomms10408.

Stephan Schiffels, Wolfgang Haak, Pirita Paajanen, Bastien Llamas, Elizabeth Popescu, Louise Loe, Rachel Clarke, Alice Lyons, Richard Mortimer, Duncan Sayer, Chris Tyler-Smith, Alan Cooper & Richard Durbin

British population history has been shaped by a series of immigrations, including the early Anglo-Saxon migrations after 400 CE. It remains an open question how these events affected the genetic composition of the current British population. Here, we present whole-genome sequences from 10 individuals excavated close to Cambridge in the East of England, ranging from the late Iron Age to the middle Anglo-Saxon period. By analysing shared rare variants with hundreds of modern samples from Britain and Europe, we estimate that on average the contemporary East English population derives 38 % of its ancestry from Anglo-Saxon migrations. We gain further insight with a new method, rarecoal, which infers population history and identifies fine-scale genetic ancestry from rare variants. Using rarecoal we find that the Anglo-Saxon samples are closely related to modern Dutch and

Danish populations, while the Iron Age samples share ancestors with multiple Northern European populations including Britain.

Ozeanien Datierung

Clarkson 2017

Chris Clarkson et al., *Human occupation of northern Australia by 65,000 years ago*. nature **547** (2017), 306–310.

n547-0306-Supplement.pdf

Chris Clarkson, Zenobia Jacobs, Ben Marwick, Richard Fullagar, Lynley Wallis, Mike Smith, Richard G. Roberts, Elspeth Hayes, Kelsey Lowe, Xavier Carah, S. Anna Florin, Jessica Mcneil, Delyth Cox, Lee J. Arnold, Quan Hua, Jillian Huntley, Helen E. A. Brand, Tiina Manne, Andrew Fairbairn, James Shulmeister, Lindsey Lyle, Makiah Salinas, Mara Page, Kate Connell, Gayoung Park, Kasih Norman, Tessa Murphy & Colin Pardoe

The time of arrival of people in Australia is an unresolved question. It is relevant to debates about when modern humans first dispersed out of Africa and when their descendants incorporated genetic material from Neanderthals, Denisovans and possibly other hominins. Humans have also been implicated in the extinction of Australia's megafauna. Here we report the results of new excavations conducted at Madjedbebe, a rock shelter in northern Australia. Artefacts in primary depositional context are concentrated in three dense bands, with the stratigraphic integrity of the deposit demonstrated by artefact refits and by optical dating and other analyses of the sediments. Human occupation began around 65,000 years ago, with a distinctive stone tool assemblage including grinding stones, ground ochres, reflective additives and ground-edge hatchet heads. This evidence sets a new minimum age for the arrival of humans in Australia, the dispersal of modern humans out of Africa, and the subsequent interactions of modern humans with Neanderthals and Denisovans.

Politik

Sieferle 2017

Rolf Peter Sieferle, *Das Migrationsproblem*, *Über die Unvereinbarkeit von Sozialstaat und Masseneinwanderung*. Tumult 1 (Waltrop 2017).