

References

Afrika

HUFFMAN 1972

Thomas N(eil) Huffman, *The Rise and Fall of Zimbabwe*. [Journal of African History](#) **13** (1972), 353–366.

Two hypotheses are available for the origin of the Zimbabwe culture. A religious hypothesis attributes its development to an African society in isolation, placing it in the class of a primary state. In contrast, the trade hypothesis maintains that it was a secondary state resulting from the gold trade.

If the religious hypothesis is correct, then Zimbabwe would be an exception to all other known cases of primary state formation. The archaeological evidence points to a horticultural subsistence throughout the Iron Age sequence in the area and a small population until Period III/IV. On the other hand, all known primary states were based on large populations and intensive agriculture. It is more likely that Zimbabwe is a typical case of secondary state formation.

The stratigraphy on the Acropolis indicates that a social transition from Period II to III probably occurred at Zimbabwe and was not the result of an immigrant group, and the short chronology places this transition around A.D. 1250. The evidence available from Arab documents, trade imports and ancient mining demonstrates that trade existed well before then. Consequently, the evolution of the Zimbabwe culture was almost certainly due to the Arab gold trade.

Aktuell

CASTELVECCHI 2022

By Davide Castelvecchi & Elizabeth Gibney, *Particle's surprise mass threatens to upend the standard model of physics*. [nature](#) **604** (2022), 225–226.

Data from an old experiment find that the mass of the W boson is higher than theory predicts, hinting at future breakthroughs.

HALL 2022

Jonathan D. Hall & Joshua M. Madsen, *Can behavioral interventions be too salient? Evidence from traffic safety messages*. [science](#) **376** (2022), 370.

s376-0370-Supplement.pdf

Although behavioral interventions are designed to seize attention, little consideration has been given to the costs of doing so. We estimated these costs in the context of a safety campaign that, to encourage safe driving, displays traffic fatality counts on highway dynamic message signs for 1 week each month. We found that crashes increase statewide during campaign weeks, which is inconsistent with any benefits. Furthermore, these effects do not persist beyond campaign weeks. Our results show that behavioral interventions, particularly negatively framed ones, can be too salient, crowding out more important considerations and causing interventions to backfire—with costly consequences.

ULLMAN 2022

Gerald Ullman & Susan Chrysler, *How safe are safety messages? Highway fatalities increased in response to certain messages.* [science 376 \(2022\), 347–348.](#)

It has commonly been assumed that drivers simply read and then quickly disregard messages that they deem unnecessary. However, the results of Hall and Madsen suggest that drivers may continue to try and assess how they are supposed to use that information for a much longer period of time after reading the message.

The crash data presented by Hall and Madsen clearly demonstrate a safety effect of showing fatality numbers on DMSs. However, the mechanism for this safety effect is not clearly elucidated by the data presented in the paper. Additional analyses regarding crash types and documented causal factors in the crash reports might yield more insights.

Anthropologie

HASLAM 2022

Michael Haslam, *Orangutan insights into the evolution of tool use.* [nature 604 \(2022\), 427–428.](#)

Gaining the ability to make stone tools was a useful development for early human ancestors in the hominin branch of the evolutionary tree. Could studying orangutans provide clues to how this behaviour arose?

PETRAGLIA 2022

Michael D. Petraglia, *A lengthy look at climate and hominin evolution.* [nature 604 \(2022\), 430–432.](#)

Climate effects on ecosystems shaped the evolution of our hominin relatives in the human family tree. A modelling study examines these habitat changes and the various ways in which they influenced hominin species.

TIMMERMANN 2022

Axel Timmermann et al., *Climate effects on archaic human habitats and species successions.* [nature 604 \(2022\), 495–501.](#)

n604-0495-Supplement3.xlsx, n604-0495-Supplement4.xlsx, n604-0495-Supplement5.mp4, n604-0495-Supplement6.mp4, n604-0495-Supplement7.mp4, n604-0495-Supplement8.mp4, n604-0495-Supplement9.mp4

It has long been believed that climate shifts during the last 2 million years had a pivotal role in the evolution of our genus Homo^{1–3}. However, given the limited number of representative palaeo-climate datasets from regions of anthropological interest, it has remained challenging to quantify this linkage. Here, we use an unprecedented transient Pleistocene coupled general circulation model simulation in combination with an extensive compilation of fossil and archaeological records to study the spatiotemporal habitat suitability for five hominin species over the past 2 million years. We show that astronomically forced changes in temperature, rainfall and terrestrial net primary production had a major impact on the observed distributions of these species. During the Early Pleistocene, hominins settled primarily in environments with weak orbital-scale climate variability. This behaviour changed substantially after the mid-Pleistocene transition, when archaic humans became global wanderers who adapted to a wide range of spatial climatic gradients. Analysis of the simulated hominin habitat overlap from approximately 300–400 thousand years ago further suggests that antiphased climate disruptions

in southern Africa and Eurasia contributed to the evolutionary transformation of *Homo heidelbergensis* populations into *Homo sapiens* and Neanderthals, respectively. Our robust numerical simulations of climate-induced habitat changes provide a framework to test hypotheses on our human origin.

Axel Timmermann, Kyung-Sook Yun, Pasquale Raia, Jiaoyang Ruan, Alessandro Mondanaro, Elke Zeller, Christoph Zollikofer, Marcia Ponce de León, Danielle Lemmon, Matteo Willeit & Andrey Ganopolski

Bibel

AWABDY 2018

Mark A. Awabdy, *The Holiness composition of the Priestly Blessing*. *Biblica* **99** (2018), 29–49.

This article responds to two gaps in the scholarship on the priestly or Aaronic blessing of Num 6,24-26. First, prior research has identified the later societal mediums through which the priestly blessing was performed, whereas the author of this article instead attempts to clarify the origins of the literary form of the blessing itself. Second, many have noticed that Num 6,24-26(27) diverges from P's style, but have not provided a convincing argument for the tradition of its authors. Through a lexical and ideological analysis, the author argues that Holiness (H) priests adopted the form of a common divine blessing from the epistolary genre in order to supplement and revise P.

Datierung

ECKMEIER 2009

Eileen Eckmeier, Klaas van der Borg, Ursula Tegtmeier, Michael W. I. Schmidt & Renate Gerlach, *Dating charred soil organic matter, Comparison of radiocarbon ages from macrocharcoals and chemically separated charcoal carbon*. *Radiocarbon* **51** (2009), 437–443.

Radiocarbon dating of charcoal in soils is commonly used to reconstruct past environmental processes. Also microcharcoal that is chemically isolated from soil organic matter by high-energy UV photo-oxidation can be dated with ¹⁴C accelerator mass spectrometry (AMS). We compared the ¹⁴C AMS ages of 13 pairs of hand-picked macrocharcoals and microcharcoal samples separated via the UV oxidation method; both charcoal fractions were taken from the same soil samples (prehistoric pit fillings). We found that in most cases, the microcharcoal fraction yielded older ages than the single macrocharcoal pieces, and that the differences between the ages are not systematic. A reason for these age differences might be that the microcharcoal fraction consists of more stable components than macrocharcoals and thus yields older ages. Dating of microcharcoal would give a mean age of charred organic matter in soil material and the ages of the more stable compounds. Thus, ¹⁴C data obtained from the microcharcoal fraction in soils is not comparable to macrocharcoal ages and should not be used to complement existing macrocharcoal data sets.

Klima

BETTI 2020

Lia Betti, Robert M. Beyer & Eppie R. Jones et al., *Climate shaped how Neolithic farmers and European hunter-gatherers interacted after*

a major slowdown from 6,100 BCE to 4,500 BCE. [Nature Human Behaviour 4 \(2020\), 1004–1010.](#)

The Neolithic transition in Europe was driven by the rapid dispersal of Near Eastern farmers who, over a period of 3,500 years, brought food production to the furthest corners of the continent. However, this wave of expansion was far from homogeneous, and climatic factors may have driven a marked slowdown observed at higher latitudes. Here, we test this hypothesis by assembling a large database of archaeological dates of first arrival of farming to quantify the expansion dynamics. We identify four axes of expansion and observe a slowdown along three axes when crossing the same climatic threshold. This threshold reflects the quality of the growing season, suggesting that Near Eastern crops might have struggled under more challenging climatic conditions. This same threshold also predicts the mixing of farmers and hunter-gatherers as estimated from ancient DNA, suggesting that unreliable yields in these regions might have favoured the contact between the two groups.

Lia Betti, Robert M. Beyer, Eppie R. Jones, Anders Eriksson, Francesca Tassi, Veronika Siska, Michela Leonardi, Pierpaolo Maisano Delsler, Lily K. Bentley, Philip R. Nigst, Jay T. Stock, Ron Pinhasi & Andrea Manica

Kultur

EBLE 2022

Alex Eble & Feng Hu, *Gendered beliefs about mathematics ability transmit across generations through children’s peers.* [Nature Human Behaviour \(2022\), preprint, 1–15.](#) DOI:10.1038/s41562-022-01331-9.

NatHumBeh2022.04-Eble-Supplement.pdf

In many societies, beliefs about differential intellectual ability by gender persist across generations. These societal beliefs can contribute to individual belief formation and thus lead to persistent gender inequality across multiple dimensions. We show evidence of intergenerational transmission of gender norms through peers and how this affects gender gaps in learning. We use nationally representative data from China and the random assignment of children to middle-school classrooms to estimate the effect of being assigned a peer group with a high proportion of parents who believe that boys are innately better than girls at learning mathematics. We find this increases a child’s likelihood of holding the belief, with greater effects from peers of the same gender. It also affects the child’s demonstrated mathematics ability, generating gains for boys and losses for girls. Our findings highlight how the informational environment in which children grow up can shape their beliefs and academic ability.

STUART 2022

David Stuart, Heather Hurst, Boris Beltrán & William Saturno, *An early Maya calendar record from San Bartolo, Guatemala.* [Science Advances 8 \(2022\), eabl9290.](#) DOI:10.1126/sciadv.abl9290.

SciAdv08-eabl9290-Supplement.pdf

Here, we present evidence for the earliest known calendar notation from the Maya region, found among fragments of painted murals excavated at San Bartolo, Guatemala. On the basis of their sealed contexts in an early architectural phase of the “Las Pinturas” pyramid, we assign these fragments to between 300 and 200 BCE, preceding the other well-known mural chamber of San Bartolo by approximately 150 years. The date record “7 Deer” represents a day in the 260-day divinatory calendar used throughout Mesoamerica and among indigenous Maya

communities today. It is presented along with 10 other text fragments that reveal an established writing tradition, multiple scribal hands, and murals combining texts with images from an early ritual complex. The 7 Deer day record represents the earliest securely dated example of the Maya calendar and is important to understanding the development of the 260-day count and associated aspects of Mesoamerican religion and cosmological science.

Methoden

GBM 1922

G. B. M., *Mathematics and Public Opinion*. [nature 109 \(1922\), 520–521](#).

Then, without so much as pausing to take breath, he proceeds to explain that he was always a duffer in “maths” at school, and that he has now forgotten everything about the subject they tried to teach him as a boy. Now Brown doesn’t act in this way to every celebrity. [...] Moreover, in making his lamentable confession, Brown shows no sign of regret or humiliation; on the contrary, a sort of satisfied look steals over his face, suggesting that he is glad to be free once for all from the study of such a repulsive and useless subject.

SHANKMAN 2013

Paul Shankman, *The “Fateful Hoaxing” of Margaret Mead, A Cautionary Tale*. [Current Anthropology 54 \(2013\), 51–70](#).

In the Mead-Freeman controversy, Derek Freeman’s historical reconstruction of the alleged hoaxing of Margaret Mead in 1926 relied on three interviews with Fa’apua’a Fa’amū, Mead’s “principal informant,” who stated that she and another Samoan woman had innocently joked with Mead about their private lives. In turn, Freeman argued that Mead believed these jokes as the truth and that they were the basis for her interpretation of adolescent sex in *Coming of Age in Samoa*. The unpublished interviews with Fa’apua’a became the centerpiece of Freeman’s second book on the controversy, *The Fateful Hoaxing of Margaret Mead* (1999). Yet an analysis of Mead’s relationship with Fa’apua’a demonstrates that she was not an informant for Mead on adolescent sex, and an examination of the three interviews used by Freeman does not support his interpretation of them. In fact, responding to direct questioning during the interviews, Fa’apua’a stated that Mead did not ask her questions about her own sexual conduct or about adolescent sexual conduct. Nor did she provide Mead with information on this subject. Crucial passages from these interviews were omitted by Freeman in his publications on the alleged hoaxing. Based on the interviews themselves, there is no compelling evidence that Mead was hoaxed.

Neolithikum

MARCINIAK 2022

Stephanie Marciniak et al., *An integrative skeletal and paleogenomic analysis of stature variation suggests relatively reduced health for early European f*. [PNAS 119 \(2022\), e2106743119](#).

Human culture, biology, and health were shaped dramatically by the onset of agriculture $\approx 12,000$ y B.P. This shift is hypothesized to have resulted in increased individual fitness and population growth as evidenced by archaeological and population genomic data alongside a decline in physiological health as inferred from

skeletal remains. Here, we consider osteological and ancient DNA data from the same prehistoric individuals to study human stature variation as a proxy for health across a transition to agriculture. Specifically, we compared “predicted” genetic contributions to height from paleogenomic data and “achieved” adult osteological height estimated from long bone measurements for 167 individuals across Europe spanning the Upper Paleolithic to Iron Age ($\approx 38,000$ to 2,400 B.P.). We found that individuals from the Neolithic were shorter than expected (given their individual polygenic height scores) by an average of 23.82 cm relative to individuals from the Upper Paleolithic and Mesolithic ($P = 0.040$) and 22.21 cm shorter relative to post-Neolithic individuals ($P = 0.068$), with osteological vs. expected stature steadily increasing across the Copper (+1.95 cm relative to the Neolithic), Bronze (+2.70 cm), and Iron (+3.27 cm) Ages. These results were attenuated when we additionally accounted for genome-wide genetic ancestry variation: for example, with Neolithic individuals 22.82 cm shorter than expected on average relative to pre-Neolithic individuals ($P = 0.120$). We also incorporated observations of paleopathological indicators of nonspecific stress that can persist from childhood to adulthood in skeletal remains into our model. Overall, our work Highlights the potential of integrating disparate datasets to explore proxies of health in prehistory.

Keywords: paleogenomics | stature variation | agriculture transition | health

Stephanie Marciniak, Christina M. Bergey, Ana Maria Silva, Agata Hałuszko, Mirosław Furmanek, Barbara Veselka, Petr Velemínský, Giuseppe Vercellotti, Joachim Wahl, Gunita Zariņa, Cristina Longhi, Jan Kolář, Rafael Garrido-Pena, Raúl Flores-Fernández, Ana M. Herrero-Corral, Angela Simalcsik, Werner Müller, Alison Sheridan, Žydrūnė Miliauskienė, Rimantas Jankauskas, Vyacheslav Moiseyev, Kitti Köhler, Ágnes Király, Beatriz Gamarra, Olivia Cheronet, Vajk Szeverényi, Viktória Kiss, Tamás Szeniczey, Krisztián Kiss, Zsuzsanna K. Zoffmann, Judit Koós, Magdolna Hellebrandt, Robert M. Maier, László Domboróczki, Cristian Virag, Mario Novak, David Reich, Tamás Hajdu, Noreen von Cramon-Taubadel, Ron Pinhasi & George H. Perry

Significance: Subsistence shifts from hunting and gathering to agriculture over the last 12,000 y have impacted human culture, biology, and health. Although past human health cannot be assessed directly, adult stature variation and skeletal indicators of nonspecific stress can serve as proxies for health during growth and development. By integrating paleogenomic genotype and osteological stature data on a perindividual basis for 167 prehistoric Europeans, we observe relatively shorter than expected statures among early farmers after correcting for individual genetic contributions to stature. Poorer nutrition and/or increased disease burdens for early agriculturalists may partly underscore this result. Our integrated osteological–genetic model has exciting potential for studies of past human health and expansion into various other contexts.

Physik

ANDREI 2022

Cosmin Andrei, Anna Ijjas & Paul J. Steinhardt, *Rapidly descending dark energy and the end of cosmic expansion*. [PNAS 119 \(2022\), e2200539119](#).

[pnas119-e2106743119-Supplement.pdf](#)

If dark energy is a form of quintessence driven by a scalar field Φ evolving down a monotonically decreasing potential $V(\Phi)$ that passes sufficiently below zero, the universe is destined to undergo a series of smooth transitions. The currently observed accelerated expansion will cease; soon thereafter, expansion will come to

end altogether; and the universe will pass into a phase of slowcontraction. In this paper,we consider how short the remaining period of expansion can be given current observational constraints on dark energy. We also discuss how this scenario its naturally with cyclic cosmologies and recent conjectures about quantum gravity.

Keywords: quintessence | dark energy | supernovae | cyclic universe | quantum gravity

Significance: Although the universe is expanding at an accelerating rate today, this paper presents a simple mechanism by which a dynamical form of dark energy (known as quintessence) could cause the acceleration to come to end and smoothly transition from expansion to a phase of slow contraction. That raises questions, How soon could this transition occur? And at what point would it be detectable? The conclusions are that the transition could be surprisingly soon, maybe less than 100 million y from now, and yet, for reasons described in the main text, it is not yet detectable today. The scenario is not far-fetched. In fact, it fits naturally with recent theories of cyclic cosmology and conjectures about quantum gravity.

Sprachlehre

KÖBLER 2010

Gerhard Köbler, *Lateinisches Abkunfts- und Wirkungswörterbuch für Altertum und Mittelalter*. (2010). <<http://www.koeblergerhard.de/Mittellatein-HP/VorwortMlat-HP.htm>> (2022-04-24).

Das Latein blieb im Mittelalter (500-1500), in dem zwar romanistische und germanistische Volkssprachen die Volkswirklichkeit beherrschten und widerspiegelten, über die christliche Kirche lange die wichtigste Schreibsprache. In ihr wurden im Mittelalter dem Latein des Altertums in vielen Ländern viele neue Bedeutungen und viele neue Wörter (und Namen) hinzugefügt. Diesem (Mittel-)Latein des Mittelalters hat sich die Forschung zwar seit langem ebenfalls zugewendet, doch fehlt noch eine moderne Zusammenfassung des gesamten dem Mittelalter bekannten Latein (des Altertums und des Mittelalters).

Zur Schließung dieser schmerzlichen Lücke versuche ich mit freundlicher Unterstützung Veronika Schönegggers in den nächsten Jahren auf der Grundlage des bisher Erreichten auch ein Lateinisches Abkunfts- und Wirkungswörterbuch für Altertum und Mittelalter. Es will im allmählichen Fortschreiten möglichst rasch alle lateinischen Ansätze des Altertums um alle Veränderungen im Mittelalter in strenger alphabetischer Ordnung im Internet nach gleichen Grundsätzen vermehren. In einer ersten Fassung ergänzt es dementsprechend den lateinischen Wortschatz des Altertums um den in meine elektronische Indizes frühmittelalterlicher Rechtsquellen und in die mittellateinischen Wörterbücher Niermeyers, Habel/Gröbels, Lathams und Blaises einbezogenen Wortschatz und bearbeitet ihn nach den von mir angewendeten Grundsätzen in der Reihenfolge der Buchstaben a, b (und so weiter), wodurch sich der zu Grunde gelegte lateinische Wortschatz des Altertums (für Altertum und Mittelalter) insgesamt etwa verdoppeln könnte.