

References

Afrika

HONEGGER 2005

Matthieu Honegger, *Kerma et les débuts du Néolithique africain*. *Genava* **53** (2005), 239–249.

Après une brève présentation des principaux résultats de la prospection et de la fouille de l'établissement pré-Kerma, nous nous concentrerons sur les découvertes de l'hiver 20042005, qui apportent des informations de premier ordre sur la question du début du Néolithique en Afrique. En effet, les recherches menées à El-Barga et dans les environs ont révélé la présence d'un vaste habitat et d'un cimetière remontant au premier Néolithique du continent, soit entre 7000 et 6000 av. J.-C. Seul le site égyptien de Nabta Playa livre des dates aussi anciennes, ce qui fait actuellement de la zone de la moyenne vallée du Nil le premier centre de néolithisation d'Afrique.

Aktuell

BRAINARD 2020

Jeffrey Brainard, *The other guy's COVID-19*. *science* **368** (2020), 1036–1037. DOI:10.1126/science.368.6495.1036.

In surveys in March and April, psychologists at University College London found that participants rated the pandemic as a large danger to others (74 on a scale of 100, on average, with 100 representing “extreme danger”) but not to themselves (2.8 on a five-point scale, with five representing “much less likely” to get sick). Despite this apparent paradox, most respondents followed government advice on social distancing and other precautions, according to a preprint posted on the PsyArXiv server on 29 May.

DIVINSKY 2020

Eitan Divinsky, *70 % of COVID-19 carriers in Israel infected by visitors from US*. *Arutz Sheva* **2020**, May 18. <<http://www.israelnationalnews.com/News/News.aspx/280450>> (2020-06-03).

Study concludes just 5 % of virus carriers who arrived in Israel were responsible for spreading up to 80 % of infections.

Dr. Adi Stern, who conducted the research, told N12 that the findings emphasize the need for border closure and “social distancing” for defeating the disease. “If we talk about what’s next – it’s very important to close borders as soon as virus entry is detected from outside. [...] The efficiency and effectiveness of the closure actually worked,” she said.

HAN 2020

Cheng-Gong Han, Xin Qian, Qikai Li, Biao Deng, Yongbin Zhu, Zhijia Han, Wenqing Zhang, Weichao Wang, Shien-Ping Feng, Gang Che, *Giant thermopower of ionic gelatin near room temperature*. *science* **368** (2020), 1091–1098.

s368-1091-Supplement.pdf

Harvesting heat from the environment into electricity has the potential to power Internet-of-things (IoT) sensors, freeing them from cables or batteries and thus making them especially useful for wearable devices. We demonstrate a giant positive thermopower of 17.0 millivolts per degree Kelvin in a flexible, quasi-solid-state, ionic thermoelectric material using synergistic thermodiffusion and thermogalvanic effects. The ionic thermoelectric material is a gelatin matrix modulated with ion providers (KCl, NaCl, and KNO₃) for thermodiffusion effect and a redox couple [Fe(CN)₆.4⁻/Fe(CN)₆.3⁻] for thermogalvanic effect. A proof-of-concept wearable device consisting of 25 unipolar elements generated more than 2 volts and a peak power of 5 microwatts using body heat. This ionic gelatin shows promise for environmental heat-to-electric energy conversion using ions as energy carriers.

Cheng-Gong Han, Xin Qian, Qikai Li, Biao Deng, Yongbin Zhu, Zhijia Han, Wenqing Zhang, Weichao Wang, Shien-Ping Feng, Gang Chen & Weishu Liu

HAUSHOFER 2020

Johannes Haushofer & C. Jessica E. Metcalf, *Which interventions work best in a pandemic?* *science* **368** (2020), 1063–1065. DOI:10.1126/science.abb6144.

s368-1063-Supplement.pdf

We can exploit randomized controlled trials, compartmental models, and spillovers.

SERVICK 2020

Kelly Servick & Martin Enserink, *The pandemic's first major research scandal erupts, Critics question patient data used to challenge malaria drugs.* *science* **368** (2020), 1041–1042. DOI:10.1126/science.368.6495.1041.

Within days, large randomized trials of the drugs screeched to a halt. Solidarity, the World Health Organization's (WHO's) megatrial of potential COVID-19 treatments, paused recruitment into its hydroxychloroquine arm.

Amerika

KENNETT 2020

Douglas J. Kennett & Keith M. Prufer et al., *Early isotopic evidence for maize as a staple grain in the Americas.* *Science Advances* **6** (2020), eaba3245. DOI:10.1126/sciadv.aba3245.

SciAdv06-eaba3245-Supplement.pdf

Maize is a cultigen of global economic importance, but when it first became a staple grain in the Americas, was unknown and contested. Here, we report direct isotopic dietary evidence from 52 radiocarbon-dated human skeletons from two remarkably well-preserved rock-shelter contexts in the Maya Mountains of Belize spanning the past 10,000 years. Individuals dating before ≈ 4700 calendar years before present (cal B.P.) show no clear evidence for the consumption of maize. Evidence for substantial maize consumption ($\approx 30\%$ of total diet) appears in some individuals between 4700 and 4000 cal B.P. Isotopic evidence after 4000 cal B.P. indicates that maize became a persistently used staple grain comparable in dietary significance to later maize agriculturalists in the region ($>70\%$ of total diet). These data provide the earliest definitive evidence for maize as a staple grain in the Americas.

Douglas J. Kennett, Keith M. Prufer, Brendan J. Culleton, Richard J. George, Mark Robinson, Willa R. Trask, Gina M. Buckley, Emily Moes, Emily J. Kate, Thomas K. Harper, Lexi O'Donnell, Erin E. Ray, Ethan C. Hill, Asia Alsgaard, Christopher Merriman, Clayton Meredith, Heather J. H. Edgar, Jaime J. Awe & Said M. Gutierrez

Anthropologie

SKOV 2020

Laurits Skov, Moisès Coll Macià, Agnar Helgason & Mikkel Heide Schierup et al., *The nature of Neanderthal introgression revealed by 27,566 Icelandic genomes*. *nature* **582** (2020), 78–83.

Human evolutionary history is rich with the interbreeding of divergent populations. Most humans outside of Africa trace about 2% of their genomes to admixture from Neanderthals, which occurred 50–60 thousand years ago. Here we examine the effect of this event using 14.4 million putative archaic chromosome fragments that were detected in fully phased whole-genome sequences from 27,566 Icelanders, corresponding to a range of 56,388–112,709 unique archaic fragments that cover 38.0–48.2% of the callable genome. On the basis of the similarity with known archaic genomes, we assign 84.5% of fragments to an Altai or Vindija Neanderthal origin and 3.3% to Denisovan origin; 12.2% of fragments are of unknown origin. We find that Icelanders have more Denisovan-like fragments than expected through incomplete lineage sorting. This is best explained by Denisovan gene flow, either into ancestors of the introgressing Neanderthals or directly into humans. A within-individual, paired comparison of archaic fragments with syntenic non-archaic fragments revealed that, although the overall rate of mutation was similar in humans and Neanderthals during the 500 thousand years that their lineages were separate, there were differences in the relative frequencies of mutation types—perhaps due to different generation intervals for males and females. Finally, we assessed 271 phenotypes, report 5 associations driven by variants in archaic fragments and show that the majority of previously reported associations are better explained by non-archaic variants.

Laurits Skov, Moisès Coll Macià, Garðar Sveinbjörnsson, Fabrizio Mafessoni, Elise A. Lucotte, Margret S. Einarsdóttir, Hakon Jonsson, Bjarni Halldorsson, Daniel F. Gudbjartsson, Agnar Helgason, Mikkel Heide Schierup & Kari Stefansson

Bibel

FARBER 2018

ZEV I. FARBER & JACOB L. WRIGHT (Hrsg.), *Archaeology and History of Eighth-Century Judah, To Oded Borowski*. Ancient Near East Monographs 23 (Atlanta 2018).

FARBER 2018

Zev I. Farber, *Religion in Eighth-Century Judah, An Overview*. In: ZEV I. FARBER & JACOB L. WRIGHT (Hrsg.), *Archaeology and History of Eighth-Century Judah, To Oded Borowski*. Ancient Near East Monographs 23 (Atlanta 2018), 431–453.

Another biblical text, describing Josiah’s religious purge, writes: “He broke down the houses of the male prostitutes that were in the house of Yahweh, where the women did weaving for Asherah” (2 Kgs 23:7). Here the goddess is named explicitly, and although the ritual is unclear (weaving what?), we learn that Asherah worship occurred in the Jerusalem temple. Putting aside the biblical scribe’s negative evaluation of these practices, it seems likely that they describe something real and that these were longstanding practices that would have taken place in the eighth century as well.

In the “standard” west-Semitic pantheon, Asherah is the wife of El. Since El and Yahweh were syncretistically merged in Israel and Judah by this period, it seems that part of this merger was that Asherah became the wife of Yahweh. What this means is that at least some, perhaps many, Judahites worshiped Yahweh as part of a divine couple and not as the lone deity we picture from the biblical depictions.

WRIGHT 2015

Jacob L. Wright, *The Origins of Shabbat, 1 Shabbat of the Full Moon*. [TheTorah.com 2015, Mar. 11.](http://www.thetorah.com/article/shabbat-of-the-full-moon) <<http://www.thetorah.com/article/shabbat-of-the-full-moon>> (2020-06-05).

Early biblical laws demand a cessation of labor every seven days, but was unconnected to Shabbat which was originally a full moon celebration.

WRIGHT 2015

Jacob L. Wright, *The Origins of Shabbat, 2 How and When the Seventh Day Became Shabbat*. [TheTorah.com 2015, Apr. 13.](http://www.thetorah.com/article/how-and-when-the-seventh-day-became-shabbat) <<http://www.thetorah.com/article/how-and-when-the-seventh-day-became-shabbat>> (2020-06-05).

Biologie

LE VAY 2020

Kristian Le Vay & Hannes Mutschler, *A plausible route to the first genetic alphabet*. [nature 582 \(2020\), 33–34.](https://doi.org/10.1038/s41586-020-2000-0)

Understanding the prebiotic origins of the nucleic acids is a long-standing challenge. The latest experiments support the idea that the first nucleic acid encoded information using a mixed ‘alphabet’ of RNA and DNA subunits.

XU 2020

Jianfeng Xu et al., *Selective prebiotic formation of RNA pyrimidine and DNA purine nucleosides*. [nature 582 \(2020\), 60–66.](https://doi.org/10.1038/s41586-020-2000-0)

[n582-0060-Supplement.pdf](https://www.nature.com/articles/s41586-020-2000-0)

The nature of the first genetic polymer is the subject of major debate¹. Although the ‘RNA world’ theory suggests that RNA was the first replicable information carrier of the prebiotic era—that is, prior to the dawn of life^{2,3}—other evidence implies that life may have started with a heterogeneous nucleic acid genetic system that included both RNA and DNA⁴. Such a theory streamlines the eventual ‘genetic takeover’ of homogeneous DNA from RNA as the principal information-storage molecule, but requires a selective abiotic synthesis of both RNA and DNA building blocks in the same local primordial geochemical scenario. Here we demonstrate a high-yielding, completely stereo-, regio- and furanosyl-selective prebiotic synthesis of the purine deoxyribonucleosides: deoxyadenosine and deoxyinosine. Our synthesis uses key intermediates in the prebiotic synthesis

of the canonical pyrimidine ribonucleosides (cytidine and uridine), and we show that, once generated, the pyrimidines persist throughout the synthesis of the purine deoxyribonucleosides, leading to a mixture of deoxyadenosine, deoxyinosine, cytidine and uridine. These results support the notion that purine deoxyribonucleosides and pyrimidine ribonucleosides may have coexisted before the emergence of life⁵.

Jianfeng Xu, Václav Chmela, Nicholas J. Green, David A. Russell, Mikołaj J. Janicki, Robert W. Góra, Rafał Szabla, Andrew D. Bond & John D. Sutherland

Datierung

FANTUZZI 2018

Tiziano Fantuzzi, *A Reassessment of the Debate on Late Minoan I and interlinked chronologies through Radiocarbon and Comparative Analysis*. Dissertation, Università Ca'Foscari Venezia ([Venice 2018](#)).

The absolute chronology of the Late Minoan I A period and in particular the date of the Minoan eruption at Santorini is the object of a debate which is ongoing since the 1970's, and lead many scholars to speak of a "conflict" between archaeological and Radiocarbon dating. This study presents a collation of all the main arguments for the archaeological chronology in the bibliography, and a reanalysis of the radiocarbon datasets from Akrotiri on Santorini, Tell el Dab'a in Egypt and other relevant sites for the interlinked chronology. In particular, a critic approach to the accuracy of Bayesian chronology applied so far and a new possible approach to radiocarbon interpretation based on notions from Quantum mathematics are suggested. In addition, an open source package to perform the different analyses has been developed and uploaded on-line at the site <http://c14.bpinfo.org>

Kultur

BOYES 2020

PHILIP J. BOYES & PHILIPPA M. STEELE (Hrsg.), *Understanding Relations Between Scripts II, Early Alphabets*. ([Oxford 2020](#)).

HARING 2020

Ben Haring, *Ancient Egypt and the earliest known stages of alphabetic writing*. In: PHILIP J. BOYES & PHILIPPA M. STEELE (Hrsg.), *Understanding Relations Between Scripts II, Early Alphabets*. ([Oxford 2020](#)), 53–67.

Thus, the earliest evidence for alphabetic writing remains a topic shrouded in mystery and controversy, and the extent of its inspiration by pharaonic Egypt, in whose cultural orbit the inscriptions were made, remains obscure.

From the moment they were discovered and tentatively deciphered, the Proto-Sinaitic texts have been assigned different dates by scholars. Petrie (1906, 131) saw the reign of Thutmose III of the Egyptian New Kingdom as the most likely period of their creation, and dated them about 1500 BC. Gardiner (1916, 13–14) suggested the reign of Amenmenhet III (Middle Kingdom, about 1800 BC) as an alternative, but drew no definite conclusions. Broadly speaking, both alternatives are still being upheld, besides even earlier and later dates.

MELLER 2019

Harald Meller, *Vom Herrschaftszeichen zum Herrschaftssornat, Zur Entstehung des goldenen Ringschmucks in Mitteleuropa*. In: HARALD MELLER, SUSANNE KIMMIG-VÖLKNER & ALFRED REICHENBERGER (Hrsg.), *Ringe der Macht, Internationale Tagung vom 09. bis 10. November 2018 in Halle (Saale)*. Tagungen des Landesmuseums für Vorgeschichte Halle 21 ([Halle 2019](#)), 283–300.

While in the Bell Beaker culture social stratification manifested itself among other things in golden or rarely silver hair rings, in the Early Bronze Age Únıce culture from the 20th century BC onwards veritable gold regalia developed, consisting of one massive bracelet, two hair rings, two pins, and one small spiral coil, which identified the princes as such. At the same time the simple gold hair rings continued as the attribute of the following hierarchical level. The princely gold regalia were apparently expanded at the end of the Early Bronze Age to include, like in the gold find of Dieskau, also two identical bracelets. In view of the occasional occurrence of massive gold bracelets in Early Bronze Age contexts in south-western central and west Europe, a role model of the Únıce culture seems conceivable. Whether the idea was even taken from the Near East, which is linked with central Europe by isolated contact finds and where a clear connection of golden ring, god, and authority was already established, can ultimately not be proven. Undoubtedly, the gold regalia established over several centuries – especially the massive golden bracelets – form the basis for the survival of this means of distinction after the end of the Early Bronze Age, with interruptions possibly even into the early Middle Ages.

Während sich in der Glockenbecherkultur die soziale Stratifizierung unter anderem in goldenen oder selten silbernen Haarringen manifestierte, entwickelte sich in der frühbronzezeitlichen Aunjetitzer Kultur ab dem 20. Jh. v. Chr. ein regelrechter Goldornat, bestehend aus einem massiven Armring, zwei Haarringen, zwei Nadeln und einem kleinen Spirälchen, der die Fürsten als solche auswies. Gleichzeitig überdauerten die einfachen Goldhaarringe als Kennzeichen der nachfolgenden Hierarchiestufe. Der fürstliche Goldornat wurde zum Ende der Frühbronzezeit offenbar erweitert und umfasste, wie im Goldfund von Dieskau sichtbar, auch zwei identische Armringe. Angesichts des vereinzelt Vorkommens von massiven Goldarmringen in frühbronzezeitlichem Kontext im südwestlichen Mittelund Westeuropa scheint eine Vorbildfunktion der Aunjetitzer Kultur denkbar. Ob die Idee sogar aus dem Vorderen Orient übernommen wurde, der durch vereinzelte Kontaktfunde mit Mitteleuropa verbunden ist und wo eine eindeutige Verbindung von goldenem Ring, Gott und Herrschaft bereits etabliert war, ist letztlich nicht zu belegen. Zweifelsfrei bildet der über mehrere Jahrhunderte etablierte Goldornat – besonders die massiven goldenen Armringe – die Basis für das Weiterleben dieses Distinktionsmittels nach dem Ende der Frühbronzezeit, mit Unterbrechungen eventuell sogar bis in das frühe Mittelalter.

Neolithikum

RIVOLLAT 2020

Maité Rivollat, Didier Binder, Detlef Gronenborn, Marie-France Deguilloux & Wolfgang Haak et al., *Ancient genome-wide DNA from France Highlights the complexity of interactions between Mesolithic hunter-gatherers and Neolithic farmers*. *Science Advances* **6** (2020), [eaz5344](#). DOI:10.1126/sciadv.aaz5344.

Starting from 12,000 years ago in the Middle East, the Neolithic lifestyle spread across Europe via separate continental and Mediterranean routes. Genomes from early European farmers have shown a clear Near Eastern/Anatolian genetic affinity with limited contribution from hunter-gatherers. However, no genomic data are available from modern-day France, where both routes converged, as evidenced by a mosaic cultural pattern. Here, we present genome-wide data from 101 individuals from 12 sites covering today's France and Germany from the Mesolithic ($N = 3$) to the Neolithic ($N = 98$) (7000–3000 BCE). Using the genetic substructure observed in European hunter-gatherers, we characterize diverse patterns of admixture in different regions, consistent with both routes of expansion. Early western European farmers show a higher proportion of distinctly western hunter-gatherer ancestry compared to central/southeastern farmers. Our data highlight the complexity of the biological interactions during the Neolithic expansion by revealing major regional variations.

Maïté Rivollat, Choongwon Jeong, Stephan Schiffels, Işil Küçükkalıpcı, Marie-Hélène Pemonge, Adam Benjamin Rohrlach, Kurt W. Alt, Didier Binder, Susanne Friederich, Emmanuel Ghesquière, Detlef Gronenborn, Luc Laporte, Philippe Lefranc, Harald Meller, Hélène Réveillas, Eva Rosenstock, Stéphane Rottier, Chris Scarre, Ludovic Soler, Joachim Wahl, Johannes Krause, Marie-France Deguilloux & Wolfgang Haak