

References

Afrika

COLLETT 1983

David Collett & Peter Robertshaw, *Pottery Traditions of Early Pastoral Communities in Kenya*. *Azania* **18** (1983), 107–125.

The present study presents the results of a comparative analysis of ‘Pastoral Neolithic’ pottery assemblages from Kenya, and tentative pottery style histories are proposed which eliminate the apparent anomaly of the co-existence of different wares in the same area.

Aktuell

BLOOM 2021

Jesse D. Bloom et al., *Investigate the origins of COVID-19*. *science* **372** (2021), 694. DOI:10.1126/science.abj0016.

Notably, WHO Director-General Tedros Ghebreyesus commented that the report’s consideration of evidence supporting a laboratory accident was insufficient and offered to provide additional resources to fully evaluate the possibility (5). As scientists with relevant expertise, we agree with the WHO director-general (5), the United States and 13 other countries (6), and the European Union (7) that greater clarity about the origins of this pandemic is necessary and feasible to achieve. We must take hypotheses about both natural and laboratory spillovers seriously until we have sufficient data.

Jesse D. Bloom, Yujia Alina Chan, Ralph S. Baric, Pamela J. Bjorkman, Sarah Cobey, Benjamin E. Deverman, David N. Fisman, Ravindra Gupta, Akiko Iwasaki, Marc Lipsitch, Ruslan Medzhitov, Richard A. Neher, Rasmus Nielsen, Nick Patterson, Tim Stearns, Erik van Nimwegen, Michael Worobey & David A. Relman

DAVIES 2021

Nicholas G. Davies et al., *Increased mortality in community-tested cases of SARS-CoV-2 lineage B.1.1.7*. *nature* **593** (2021), 270–274. DOI:10.1038/s41586-021-03426-1.

n593-0270-Supplement.pdf

SARS-CoV-2 lineage B.1.1.7, a variant that was first detected in the UK in September 2020, has spread to multiple countries worldwide. Several studies have established that B.1.1.7 is more transmissible than pre-existing variants, but have not identified whether it leads to any change in disease severity². Here we analyse a dataset that links 2,245,263 positive SARS-CoV-2 community tests and 17,452 deaths associated with COVID-19 in England from 1 November 2020 to 14 February 2021. For 1,146,534 (51%) of these tests, the presence or absence of B.1.1.7 can be identified because mutations in this lineage prevent PCR amplification of the spike (S) gene target (known as S gene target failure (SGTF)¹). On the basis of 4,945 deaths with known SGTF status, we estimate that the hazard of death associated with SGTF is 55% (95% confidence interval, 39–72%) higher than in cases without SGTF after adjustment for age, sex, ethnicity, deprivation, residence in a care home, the local authority of residence and test date. This corresponds

to the absolute risk of death for a 55–69-year-old man increasing from 0.6 % to 0.9 % (95 % confidence interval, 0.8–1.0 %) within 28 days of a positive test in the community. Correcting for misclassification of SGTF and missingness in SGTF status, we estimate that the hazard of death associated with B.1.1.7 is 61 % (42–82 %) higher than with pre-existing variants. Our analysis suggests that B.1.1.7 is not only more transmissible than pre-existing SARS-CoV-2 variants, but may also cause more severe illness.

Nicholas G. Davies, Christopher I. Jarvis, C. M. M. COV- Working Group, W. John Edmunds, Nicholas P. Jewell, Karla Diaz-Ordaz & Ruth H. Keogh

PEARSON 2021

Helen Pearson, *How Covid Broke the Evidence Pipeline*. [nature](#) **593** (2021), 182–185.

The pandemic stress-tested the way the world produces evidence — and revealed all the flaws.

Earlier this year, Rada found 30 systematic reviews for convalescent plasma, based on only 11 clinical trials, and none of the reviews had included all the trials.

VOLZ 2021

Erik Volz et al., *Assessing transmissibility of SARS-CoV-2 lineage B.1.1.7 in England*. [nature](#) **593** (2021), 266–269. DOI:10.1038/s41586-021-03470-x.

[n593-0266-Supplement.pdf](#)

The SARS-CoV-2 lineage B.1.1.7, designated variant of concern (VOC) 202012/01 by Public Health England¹, was first identified in the UK in late summer to early autumn 2020. Whole-genome SARS-CoV-2 sequence data collected from community-based diagnostic testing for COVID-19 show an extremely rapid expansion of the B.1.1.7 lineage during autumn 2020, suggesting that it has a selective advantage. Here we show that changes in VOC frequency inferred from genetic data correspond closely to changes inferred by S gene target failures (SGTF) in community-based diagnostic PCR testing. Analysis of trends in SGTF and non-SGTF case numbers in local areas across England shows that B.1.1.7 has higher transmissibility than non-VOC lineages, even if it has a different latent period or generation time. The SGTF data indicate a transient shift in the age composition of reported cases, with cases of B.1.1.7 including a larger share of under 20-year-olds than non-VOC cases. We estimated time-varying reproduction numbers for B.1.1.7 and co-circulating lineages using SGTF and genomic data. The best-supported models did not indicate a substantial difference in VOC transmissibility among different age groups, but all analyses agreed that B.1.1.7 has a substantial transmission advantage over other lineages, with a 50 % to 100 % higher reproduction number.

Erik Volz, Swapnil Mishra, Meera Chand, Jeffrey C. Barrett, Robert Johnson, Lily Geidelberg, Wes R. Hinsley, Daniel J. Laydon, Gavin Dabrera, Áine O’Toole, Robert Amato, Manon Ragonnet-Cronin, Ian Harrison, Ben Jackson, Cristina V. Ariani, Olivia Boyd, Nicholas J. Loman, John T. McCrone, Sónia Gonçalves, David Jorgensen, Richard Myers, Verity Hill, David K. Jackson, Katy Gaythorpe, Natalie Groves, John Sillitoe, Dominic P. Kwiatkowski, The COV- Genomics U. K. consortiu, Seth Flaxman, Oliver Ratmann, Samir Bhatt, Susan Hopkins, Axel Gandy, Andrew Rambaut & Neil M. Ferguson

WILLETT 2021

Francis R. Willett, Donald T. Avansino, Leigh R. Hochberg, Jaimie M. Henderson & Krishna V. Shenoy, *High-performance brain-to-text communication via handwriting*. *nature* **593** (2021), 249–254.

n593-0249-Supplement1.pdf, n593-0249-Supplement2.mp4, n593-0249-Supplement3.mp4, n593-0249-Supplement4.mp4, n593-0249-Supplement5.mp4

Brain–computer interfaces (BCIs) can restore communication to people who have lost the ability to move or speak. So far, a major focus of BCI research has been on restoring gross motor skills, such as reaching and grasping^{1–5} or point-and-click typing with a computer cursor^{6,7}. However, rapid sequences of highly dexterous behaviours, such as handwriting or touch typing, might enable faster rates of communication. Here we developed an intracortical BCI that decodes attempted handwriting movements from neural activity in the motor cortex and translates it to text in real time, using a recurrent neural network decoding approach. With this BCI, our study participant, whose hand was paralysed from spinal cord injury, achieved typing speeds of 90 characters per minute with 94.1% raw accuracy online, and greater than 99% accuracy offline with a general-purpose autocorrect. To our knowledge, these typing speeds exceed those reported for any other BCI, and are comparable to typical smartphone typing speeds of individuals in the age group of our participant (115 characters per minute)⁸. Finally, theoretical considerations explain why temporally complex movements, such as handwriting, may be fundamentally easier to decode than point-to-point movements. Our results open a new approach for BCIs and demonstrate the feasibility of accurately decoding rapid, dexterous movements years after paralysis.

Bibel

RICHELLE 2021

Matthieu Richelle, *The Shapira Strips in Light of Paleography*. *Semitica* (2021), preprint, 1–21. .

The Shapira strips are unprovenanced and, being lost, they cannot be tested or dated in a laboratory. The man who tried to sell them may well have been innocent – his fate and the consequences for his family are truly heartbreaking⁶⁸ – but the same year, he sold another brown Hebrew manuscript in leather that turned out to be a forgery, and a few years before he had sold the Moabitica; at the very least, he had unreliable suppliers. On top of that, the script of the strips is problematic. Some letters have parallels in the Mesha stele or in other Iron Age inscriptions, but one letter has parallels only on some DSS, and six bear anomalies that are found in the Moabitica (as already noted by C. A. Rollston). The script does not fit any period of the development of the Paleo-Hebrew script. It is vastly different from the script of the DSS: as regards the paleography, the Shapira strips cannot be regarded as “yet another Dead Sea scroll.” In sum, as far as the script is concerned, we are most probably talking about forgeries. If one believes that the yod bears a cursive reflex, then there is even a possible connection with Salim al-Kari’s sketch of the Moabite stele, which was used to forge the Moabitica. It is of course a shame, since it would have been exciting to have the text of a proto-Deuteronomy. But we will always have Coltrane and Proust...

Biologie

GROS-BALTHAZARD 2021

Muriel Gros-Balthazard, Sarah Sallon & Michael D. Purugganan et al.,

The genomes of ancient date palms germinated from 2,000 y old seeds. [PNAS 118 \(2021\), e2025337118.](#)

[pnas118-e2025337118-Supplement.pdf](#)

Seven date palm seeds (*Phoenix dactylifera* L.), radiocarbon dated from the fourth century BCE to the second century CE, were recovered from archaeological sites in the Southern Levant and germinated to yield viable plants. We conducted whole-genome sequencing of these germinated ancient samples and used single-nucleotide polymorphism data to examine the genetics of these previously extinct Judean date palms. We find that the oldest seeds from the fourth to first century BCE are related to modern West Asian date varieties, but later material from the second century BCE to second century CE showed increasing genetic affinities to present-day North African date palms. Population genomic analysis reveals that by $\approx 2,400$ to 2,000 y ago, the *P. dactylifera* gene pool in the Eastern Mediterranean already contained introgressed segments from the Cretan palm *Phoenix theophrasti*, a crucial genetic feature of the modern North African date palm populations. The *P. theophrasti* introgression fraction content is generally higher in the later samples, while introgression tracts are longer in these ancient germinated date palms compared to modern North African varieties. These results provide insights into crop evolution arising from an analysis of plants originating from ancient germinated seeds and demonstrate what can be accomplished with the application of a resurrection genomics approach.

Keywords: domestication | ancient DNA | introgression | crop evolution | hybridization

Muriel Gros-Balthazard, Jonathan M. Flowers, Khaled M. Hazzouri, Sylvie Ferrand, Frédérique Aberlenc, Sarah Sallon & Michael D. Purugganan

Significance: Resurrection genomics is an alternative to ancient DNA approaches in studying the genetics and evolution of past and possibly extinct populations. By reviving biological material such as germinating ancient seeds from archaeological and paleontological sites, or historical collections, one can study genomes of lost populations. We applied this approach by sequencing the genomes of seven Judean date palms (*Phoenix dactylifera*) that were germinated from $\approx 2,000$ y old seeds recovered in the Southern Levant. Using this genomic data, we were able to document that introgressive hybridization of the wild Cretan palm *Phoenix theophrasti* into date palms had occurred in the Eastern Mediterranean by $\approx 2,200$ y ago and examine the evolution of date palm populations in this pivotal region two millennia ago.

MORTON 2021

Lindsay M. Morton et al., *Radiation-related genomic profile of papillary thyroid carcinoma after the Chernobyl accident.* [science 372 \(2021\), eabg2538.](#)

[s372-eabg2538-Supplement.pdf](#)

The 1986 Chernobyl nuclear power plant accident increased papillary thyroid carcinoma (PTC) incidence in surrounding regions, particularly for radioactive iodine (^{131}I)-exposed children. We analyzed genomic, transcriptomic, and epigenomic characteristics of 440 PTCs from Ukraine (from 359 individuals with estimated childhood ^{131}I exposure and 81 unexposed children born after 1986). PTCs displayed radiation dose-dependent enrichment of fusion drivers, nearly all in the mitogen-activated protein kinase pathway, and increases in small deletions and simple/balanced structural variants that were clonal and bore hallmarks of non-homologous end-joining repair. Radiation-related genomic alterations were more pronounced for individuals who were younger at exposure. Transcriptomic and epigenomic features were strongly associated with driver events but not radiation

dose. Our results point to DNA double-strand breaks as early carcinogenic events that subsequently enable PTC growth after environmental radiation exposure.

Lindsay M. Morton, Danielle M. Karyadi, Chip Stewart, Tetiana I. Bogdanova, Eric T. Dawson, Mia K. Steinberg, Jieqiong Dai, Stephen W. Hartley, Sara J. Schonfeld, Joshua N. Sampson, Yosef E. Maruvka, Vidushi Kapoor, Dale A. Ramsden, Juan Carvajal-Garcia, Charles M. Perou, Joel S. Parker, Marko Krznaric, Meredith Yeager, Joseph F. Boland, Amy Hutchinson, Belynda D. Hicks, Casey L. Dagnall, Julie M. Gastier-Foster, Jay Bowen, Olivia Lee, Mitchell J. Machiela, Elizabeth K. Cahoon, Alina V. Brenner, Kiyohiko Mabuchi, Vladimir Drozdovitch, Sergii Masiuk, Mykola Chepurny, Liudmyla Yu. Zurnadzhy, Maureen Hatch, Amy Berrington de Gonzalez, Gerry A. Thomas, Mykola D. Tronko, Gad Getz & Stephen J. Chanock

Energie

STONE 2021

Richard Stone, *Fission reactions are smoldering again at Chernobyl.* *science* **372** (2021), 670.

YEAGER 2021

Meredith Yeager & Mitchell J. Machiela et al., *Lack of transgenerational effects of ionizing radiation exposure from the Chernobyl accident.* *science* **372** (2021), 725–729.

s372-0725-Supplement.pdf

Effects of radiation exposure from the Chernobyl nuclear accident remain a topic of interest. We investigated germline de novo mutations (DNMs) in children born to parents employed as cleanup workers or exposed to occupational and environmental ionizing radiation after the accident. Whole-genome sequencing of 130 children (born 1987–2002) and their parents did not reveal an increase in the rates, distributions, or types of DNMs relative to the results of previous studies. We find no elevation in total DNMs, regardless of cumulative preconception gonadal paternal [mean = 365 milligrays (mGy), range = 0 to 4080 mGy] or maternal (mean = 19 mGy, range = 0 to 550 mGy) exposure to ionizing radiation. Thus, we conclude that, over this exposure range, evidence is lacking for a substantial effect on germline DNMs in humans, suggesting minimal impact from transgenerational genetic effects.

Meredith Yeager, Mitchell J. Machiela, Prachi Kothiyal, Michael Dean, Clara Bodelon, Shalabh Suman, Mingyi Wang, Lisa Mirabello, Chase W. Nelson, Weiyin Zhou, Cameron Palmer, Bari Ballew, Leandro M. Colli, Neal D. Freedman, Casey Dagnall, Amy Hutchinson, Vibha Vij, Yosi Maruvka, Maureen Hatch, Iryna Illienko, Yuri Belayev, Nori Nakamura, Vadim Chumak, Elena Bakhanova, David Belyi, Victor Kryuchkov, Ivan Golovanov, Natalia Gudzenko, Elizabeth K. Cahoon, Paul Albert, Vladimir Drozdovitch, Mark P. Little, Kiyohiko Mabuchi, Chip Stewart, Gad Getz, Dmitry Bazyka, Amy Berrington de Gonzalez & Stephen J. Chanock

Klima

SELTZER 2021

Alan M. Seltzer, Jessica Ng, Werner Aeschbach, Rolf Kipfer, Justin T. Kulongoski, Jeffrey P. Severinghaus & Martin Stute, *Widespread*

six degrees Celsius cooling on land during the Last Glacial Maximum. [nature](#) **593** (2021), 228–232.

The magnitude of global cooling during the Last Glacial Maximum (LGM, the coldest multimillennial interval of the last glacial period) is an important constraint for evaluating estimates of Earth’s climate sensitivity^{1,2}. Reliable LGM temperatures come from high-latitude ice cores^{3,4}, but substantial disagreement exists between proxy records in the low latitudes^{1,5–8}, where quantitative low-elevation records on land are scarce. Filling this data gap, noble gases in ancient groundwater record past land surface temperatures through a direct physical relationship that is rooted in their temperature-dependent solubility in water^{9,10}. Dissolved noble gases are suitable tracers of LGM temperature because of their complete insensitivity to biological and chemical processes and the ubiquity of LGM-aged groundwater around the globe^{11,12}. However, although several individual noble gas studies have found substantial tropical LGM cooling^{13–16}, they have used different methodologies and provide limited spatial coverage. Here we use noble gases in groundwater to show that the low-altitude, low-to-mid-latitude land surface (45 degrees south to 35 degrees north) cooled by 5.8 ± 0.6 degrees Celsius (mean \pm 95 % confidence interval) during the LGM. Our analysis includes four decades of groundwater noble gas data from six continents, along with new records from the tropics, all of which were interpreted using the same physical framework. Our land-based result broadly supports a recent reconstruction based on marine proxy data assimilation¹ that suggested greater climate sensitivity than previous estimates^{5–7}.

VOOSEN 2021

Paul Voosen, *Arctic ice loss not a big culprit in harsh winters.* [science](#) **372** (2021), 668–669.

Models find few links between sea ice loss and cold weather from weakened jet stream.

Methoden

CHAMI 2015

Felix Chami, *The problem of equifinality in archaeology.* In: STEPHANIE WYNNE-JONES & JEFFREY B. FLEISHER (Hrsg.), *Theory in Africa, Africa in Theory, Locating meaning in archaeology.* (Abingdon 2015), 38–47.

I have argued that the theoretical/methodological debate which began with New Archaeology/processualism is causing confusion in the discipline of archaeology (Yoffee and Sherratt 1993). It makes both scholars and students fail to know in which discipline they are located, either in anthropology, history, geology, geography or archaeology. In Africa, there was a reaction against both processual and postprocessual approaches. Processualism rejected some of the most important aspects of research on the continent, namely the attempt to reconstruct culture historical sequences. Postprocessualism, with its relativist insistence that multiple interpretations could be equally valid, moved archaeology away from its empirical roots.

I have argued, following Clarke (1968), that archaeology stands as archaeology and it is nothing else. There are Steps 1 to 3 to do empirical archaeological work and Step 4 where archaeologists may model within archaeology or borrow models from other disciplines without changing their own discipline. In this way, we can

maintain archaeology as an empirical discipline, incorporating the search for meaning without losing sight of the basis on which claims about the past can be made. This is fundamental to archaeology in an African context, where the anthropological theory that inspires disciplinary theory has not favoured African attempts to write the continent's past.

CONNAH 2009

Graham Connah, *Taking the pulse of African archaeology, The Society of Africanist Archaeologists 19th Biennial Conference Frankfurt am Main, Germany, 8–11 September 2008*. [Azania 44 \(2009\), 131–135](#).

Why then should it continue to be necessary to apply outmoded technochronological labels that treat past peoples as mere puppets of the mental constructs of former archaeologists? The reason seems to be that the African archaeological research agenda is inevitably largely driven by the enormous deadweight of published literature that now exists. This massive body of knowledge also forms the starting point for most of the teaching of each generation of archaeologists, so that there is a constant danger of new investigations merely perpetuating old ideas. It is a classic case of the tail wagging the dog. It was, therefore, no surprise at the Frankfurt conference to find Karega-Munene and Peter Schmidt agonising over the present state of African archaeology, which in their view is still struggling with 'colonial legacies' almost half a century after independence in most African countries (Goethe University 2008, 22). In a polemic address that I found strangely dated, Karega-Munene claimed that the colonial ways of doing and thinking have not changed with political change. One phrase particularly stuck in my memory, when he spoke of the need to 'decolonise the mind'. I for one was left uncertain as to what these two speakers thought we ought to be doing to achieve change, but their insistence that it is needed does provide some hope for a future African archaeology that is more innovative and more imaginative.

KAREGA-MUNENE 2010

Karega-Munene & Peter Schmidt, *Postcolonial Archaeologies in Africa, Breaking the Silence*. [African Archaeological Review 27 \(2010\), 323–337](#).

Postcolonial archaeologies in Africa are engaged in a variety of agendas including the decolonization of everyday practices in the field and in the classroom. Postcolonial theory, concerned with issues of power and the Other, is increasingly being invoked to examine how archaeologists conduct their field research and how archaeology is used to dismantle essentialized histories—the metanarratives that arose in the colonial as well as the postcolonial era. Easily misunderstood, however, is the passion expressed by some African archaeologists who are voicing their own views while simultaneously trying to free themselves from dominating "expert" voices. These occurrences create tensions in archaeological discourse that are a natural part of decolonizing archaeology, joining other forms of disenchantment, particularly the disenchantments arising in contemporary African communities about social services, civil society, and human rights. Archaeologists are also implicated in disenchantments as they conduct investigations in the midst of people who may be without water or are suffering from HIV/AIDS—conditions that starkly contrast with their own comfortable lives. We may also need to reconsider how to deal with states that see archaeological research as contrary to nation building. This essay responds to some current misunderstandings that have arisen over these and related issues.

Keywords: Postcolonial theory | African archaeology | African history | Decolonization

WYNNE-JONES 2015

STEPHANIE WYNNE-JONES & JEFFREY B. FLEISHER (Hrsg.), *Theory in Africa, Africa in Theory, Locating meaning in archaeology*. (Abingdon 2015).

Theory in Africa, Africa in Theory explores the place of Africa in archaeological theory, and the place of theory in African archaeology. The centrality of Africa to global archaeological thinking is highlighted, with a particular focus on materiality and agency in contemporary interpretation. As a means to explore the nature of theory itself, the volume also addresses differences between how African models are used in Western theoretical discourse and the use of that theory within Africa. Providing a key contribution to theoretical discourse through a focus on the context of theory-building, this volume explores how African modes of thought have shaped our approaches to a meaningful past outside of Africa.

Politik

SIMMS 2019

Brendan Simms, *Hitler, A Global Biography*. (New York 2019).

Story or Book

FERRY 2021

Georgina Ferry, *An incomparable intellectual who fell through the cracks of history*. *nature* **593** (2021), 188–189.

Katherine Jones, Lady Ranelagh, worked at the heart of seventeenth-century scientific debates — in the shadow of her brother, Robert Boyle.

Lady Ranelagh: The Incomparable Life of Robert Boyle's Sister. Michelle DiMeo. Univ. Chicago Press (2021)

During the 1660s, the Royal Society moved into the intellectual space of the Hartlib circle, but it was more exclusive and politically conservative. It communicated through print publication and public demonstration, from which women were almost entirely excluded.

Whereas Boyle made sure that his papers and published works survived for posterity, Ranelagh left no archive and published nothing. That her story is gathered from the papers of her male relatives and associates Highlights how easy it is for women to fall through the cracks of history.

STAHL 2010

Ann B. Stahl, *Postcolonial Archaeologies in Africa*. *African Archaeological Review* **27** (2010), 165–168.

For several decades, disciplines in the social sciences and humanities, if less so the sciences, have struggled to come to terms with the proposition that knowledge is intimately and structurally enmeshed with power. *Postcolonial Archaeologies in Africa* is a collection of essays intended to bring these issues to the fore in African archaeology.

Peter R. Schmidt (ed.). *Postcolonial Archaeologies in Africa*. School for Advanced Research Press, Sante Fe, 2009, 287 pp, ISBN 978-1-930618-08-4

While the volume raises important issues to which all archaeologists of Africa should attend, the tone and tenor of a subset of the volume's essays will likely discourage the productive dialogue that is needed to address them.