

References

Aktuell

MOORE 2022

Sam Moore, Edward M. Hill, Louise Dyson, Michael J. Tildesley & Matt J. Keeling, *Retrospectively modeling the effects of increased global vaccine sharing on the COVID-19 pandemic*. *Nature Medicine* (2022), preprint, 1–19. DOI:10.1038/s41591-022-02064-y.

NatMed2022.11-Moore-Supplement.pdf

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic has caused considerable morbidity and mortality worldwide. The protection provided by vaccines and booster doses offered a method of mitigating severe clinical outcomes and mortality. However, by the end of 2021, the global distribution of vaccines was highly heterogeneous, with some countries gaining over 90 % coverage in adults, whereas others reached less than 2 %. In this study, we used an age-structured model of SARS-CoV-2 dynamics, matched to national data from 152 countries in 2021, to investigate the global impact of different potential vaccine sharing protocols that attempted to address this inequity. We quantified the effects of implemented vaccine rollout strategies on the spread of SARS-CoV-2, the subsequent global burden of disease and the emergence of novel variants. We found that greater vaccine sharing would have lowered the total global burden of disease, and any associated increases in infections in previously vaccine-rich countries could have been mitigated by reduced relaxation of non-pharmaceutical interventions. Our results reinforce the health message, pertinent to future pandemics, that vaccine distribution proportional to wealth, rather than to need, may be detrimental to all.

Anthropologie

KING 2022

Glenn E. King, *Baboon perspectives on the ecology and behavior of early human ancestors*. *PNAS* 119 (2022), e2116182119.

For more than 70 years researchers have looked to baboons (monkeys of the genus Papio) as a source of hypotheses about the ecology and behavior of early hominins (early human ancestors and their close relatives). This approach has undergone a resurgence in the last decade as a result of rapidly increasing knowledge from experimental and field studies of baboons and from archeological and paleontological studies of hominins. The result is a rich array of analogies, scenarios, and other stimuli to thought about the ecology and behavior of early hominins. The main intent here is to illustrate baboon perspectives on early hominins, with emphasis on recent developments. This begins with a discussion of baboons and hominins as we know them currently and explains the reasons for drawing comparisons between them. These include occupation of diverse environments, combination of arboreal and terrestrial capabilities, relatively large body size, and sexual dimorphism. The remainder of the paper illustrates the main points with a small number of examples drawn from diverse areas of interest: diet (grasses and fish), danger (leopards and crocodiles), social organization (troops and multilevel societies), social

relationships (male–male, male–female, female–female), communication (possible foundations of language), cognition (use of social information, comparison of self to others), and bipedalism (a speculative developmental hypothesis about the neurological basis). The conclusion is optimistic about the future of baboon perspectives on early hominins.

Keywords: baboons | hominins | ecology | social behavior | cognition

Archäologie

RILEY-SMITH 1990

JONATHAN RILEY-SMITH (Hrsg.), *Großer Bildatlas der Kreuzzüge*. (Freiburg 1992).

Seite 29/30 fehlt.

Bibel

KEIMER 2022

KYLE H. KEIMER & GEORGE A. PIERCE (Hrsg.), *The Ancient Israelite World*. ([London 2022](#)).

This volume presents a collection of studies by international experts on various aspects of ancient Israel's society, economy, religion, language, culture, and history, synthesizing archaeological remains and integrating them with discussions of ancient Near Eastern and biblical texts.

Driven by theoretically and methodologically informed discussions of the archaeology of the Iron Age Levant, the 47 chapters in *The Ancient Israelite World* provide foundational, accessible, and detailed studies in their respective topics. The volume considers the history of interpretation of ancient Israel, studies on various aspects of ancient Israel's society and history, and avenues for present and future approaches to the ancient Israelite world. Accompanied by over 150 maps and figures, it allows the reader to gain an understanding of key issues that archaeologists, historians and biblical scholars have faced and are currently facing as they attempt to better understand ancient Israelite society.

The Ancient Israelite World is an essential reference work for students and scholars of ancient Israel and its history, culture, and society, whether they are historians, archaeologists or biblical scholars.

Biologie

ENARD 2022

David Enard, *Rapid natural selection during the Black Death*. [nature 611 \(2022\), 237–238](#).

Human DNA from the Middle Ages reveals that natural selection occurred at pace in survivors of a bubonic plague pandemic, perhaps leaving their descendants at increased risk of autoimmune diseases.

KLUNK 2022

Jennifer Klunk, Tauras P. Vilgalys, Hendrik N. Poinar & Luis B. Barreiro et al., *Evolution of immune genes is associated with the Black Death*. [nature 611 \(2022\), 312–319](#).

n611-0312-Supplement.pdf

Infectious diseases are among the strongest selective pressures driving human evolution^{1,2}. This includes the single greatest mortality event in recorded history, the first outbreak of the second pandemic of plague, commonly called the Black Death, which was caused by the bacterium *Yersinia pestis*³. This pandemic devastated Afro-Eurasia, killing up to 30–50 % of the population⁴. To identify loci that may have been under selection during the Black Death, we characterized genetic variation around immune-related genes from 206 ancient DNA extracts, stemming from two different European populations before, during and after the Black Death. Immune loci are strongly enriched for highly differentiated sites relative to a set of non-immune loci, suggesting positive selection. We identify 245 variants that are highly differentiated within the London dataset, four of which were replicated in an independent cohort from Denmark, and represent the strongest candidates for positive selection. The selected allele for one of these variants, rs2549794, is associated with the production of a full-length (versus truncated) ERAP2 transcript, variation in cytokine response to *Y. pestis* and increased ability to control intracellular *Y. pestis* in macrophages. Finally, we show that protective variants overlap with alleles that are today associated with increased susceptibility to autoimmune diseases, providing empirical evidence for the role played by past pandemics in shaping present-day susceptibility to disease.

Jennifer Klunk, Tauras P. Vilgalys, Christian E. Demeure, Xiaoheng Cheng, Mari Shiratori, Julien Madej, Rémi Beau, Derek Elli, Maria I. Patino, Rebecca Redfern, Sharon N. DeWitte, Julia A. Gamble, Jesper L. Boldsen, Ann Carmichael, Nükhet Varlik, Katherine Eaton, Jean-Christophe Grenier, G. Brian Golding, Alison Devault, Jean-Marie Rouillard, Vania Yotova, Renata Sinddeaux, Chun Jimmie Ye, Matin Bikaran, Anne Dumaine, Jessica F. Brinkworth, Dominique Missiakas, Guy A. Rouleau, Matthias Steinrücken, Javier Pizarro-Cerdá, Hendrik N. Poinar & Luis B. Barreiro

PHILLIPS 2022

Nicky Phillips, *Trials of the Heart*. *nature* **611** (2022), 219–223.

Kathleen Folbigg was dubbed Australia's worst female serial killer after the deaths of her four young children. Could new genetic evidence overturn her conviction?

But members of the Sydney team challenged this classification, in part because Folbigg was apparently healthy even though she had the variant. [...] And it is possible for Folbigg to live with a pathogenic mutation while her daughters might have died from it.

Biologie Energie

CAMERON 2022

Daniel J. Cameron, Dobromir Dotov, Erica Flaten, Daniel Bosnyak, Michael J. Hove & Laurel J. Trainor, *Undetectable very-low frequency sound increases dancing at a live concert*. *Current Biology* **32** (2022), R1222–R1223.

CurrBiol32-R1222-Supplement.pdf

Movement increased when VLFS were present, and because the VLFS were below or near auditory thresholds (and a subsequent experiment suggested they were undetectable), we believe this represents an unconscious effect on behaviour, possibly via vestibular and/or tactile processing.

Datierung

GROTEFEND 1898

Hermann Grotfend, *Taschenbuch der Zeitrechnung des deutschen Mittelalters und der Neuzeit.* ([Hannover 51922](#)). Reprint Leopold Classic Library.

Energie

ASENSIO 2022

Omar Isaac Asensio, Camila Z. Apablaza, M. Cade Lawson, Edward W. Chen & Savannah J. Horner, *Impacts of micromobility on car displacement with evidence from a natural experiment and geofencing policy.* [Nature Energy \(2022\), preprint, 1–9.](#) DOI:[10.1038/s41560-022-01135-1](https://doi.org/10.1038/s41560-022-01135-1).

[NatEner2022.11-Asensio-Supplement1.pdf](#), [NatEner2022.11-Asensio-Supplement2.csv](#)

Micromobility, such as electric scooters and electric bikes—an estimated US\$ 300 billion global market by 2030—will accelerate electrification efforts and fundamentally change urban mobility patterns. However, the impacts of micromobility adoption on traffic congestion and sustainability remain unclear. Here we leverage advances in mobile geofencing and high-resolution data to study the effects of a policy intervention, which unexpectedly banned the use of scooters during evening hours with remote shutdown, guaranteeing near perfect compliance. We test theories of habit discontinuity to provide statistical identification for whether micromobility users substitute scooters for cars. Evidence from a natural experiment in a major US city shows increases in travel time of 9–11 % for daily commuting and 37 % for large events. Given the growing popularity of restrictions on the use of micromobility devices globally, cities should expect to see trade-offs between micromobility restrictions designed to promote public safety and increased emissions associated with heightened congestion.

SCHULTEN 1991

R. Schulten & H. Bonnenberg, *Brennelement und Schutzziele.* [VDI Jahrbuch 1991, 175–190](#).

Eine ideale Realisierung der Sicherheitsfunktionen eines nuklearen Reaktors ist dann möglich, wenn allein durch die Eigenschaften des Brennelementes alle Gefahren für die Freisetzung von Radioaktivität ausgeschaltet werden können; wenn also die Wirkung der ungewollten Reaktivitätsanstiege, der Nachwärmе und die Korrosion durch Dampf und Luft selbstdämmig durch die Funktionen des Brennelementes beherrscht wird. Dann bestehen auch gute Aussichten auf Vereinfachungen und Verbilligungen. Die Beurteilung des ersten vorläufigen Sicherheitsberichtes des Moduls durch die Gutachter und eine darüber hinausgehende Untersuchung von Störfällen, über den auslegungsmäßigen Betrieb hinaus, zeigen, daß mit dem Modul diese ideale Konzeption weitgehend erreicht wird. Siliziumkarbid-Korrosionsschichten für die Brennelemente des Hochtemperaturreaktors haben eine gute Aussicht auf Realisierung und eröffnen die Möglichkeit, das Sicherheitskonzept auf die Auslegung und Anforderungen des keramischen Brennelementes zu reduzieren. Auch die Verwendung von Kombi-Kreisläufen mit hohen Wirkungsgraden und einer entsprechenden günstigen Wirtschaftlichkeit, ausgeführt mit Gas- und Dampfturbinen, wird möglich sein, da der Lufteinbruch bei Turbinenhaverie durch

diese Konzeption beherrschbar ist. Auch für relativ kleine Leistungen kann so eine wirtschaftliche Nukleartechnik gefunden werden, die für die weltweite Minderung des CO₂-Ausstoßes von großer Bedeutung ist.

Grabung

CURRY 2022

Andrew Curry, *Iceman's preservation was not a freak event.* [science 378 \(2022\), 587.](#)

Body's survival without lucky accidents of climate suggests more ice mummies await.

Judentum

STERN 1997

Chaim Stern, *Pirqé Avot, Wisdom of the Jewish Sages.* (Hoboken, NJ 1997).

Klima

DATSERIS 2022

George Datseris, Joaquin Blanco, Or Hadas, Sadrine Bony, Rodrigo Caballero, Yohai Kaspi & Bjorn Stevens, *Minimal Recipes for Global Cloudiness.* [Geophysical Research Letters \(2022\), preprint, 1–11.](#)
[DOI:10.1029/2022GL099678.](#)

GeoResLet2022.11-Datseris-Supplement.pdf

Clouds are primary modulators of Earth's energy balance. It is thus important to understand the links connecting variabilities in cloudiness to variabilities in other state variables of the climate system, and also describe how these links would change in a changing climate. A conceptual model of global cloudiness can help elucidate these points. In this work we derive simple representations of cloudiness, that can be useful in creating a theory of global cloudiness. These representations illustrate how both spatial and temporal variability of cloudiness can be expressed in terms of basic state variables. Specifically, cloud albedo is captured by a nonlinear combination of pressure velocity and a measure of the low-level stability, and cloud longwave effect is captured by surface temperature, pressure velocity, and standard deviation of pressure velocity. We conclude with a short discussion on the usefulness of this work in the context of global warming response studies.

Plain Language Summary Clouds are important for Earth's climate, because they affect a large portion of the planet's energy balance, and hence its mean temperature. To better understand how the interplay between cloudiness and energy balance would change in a changing climate, a better theoretical understanding of how clouds are distributed over the planet, and how this connects with the state variables of the climate system such as temperature and wind speed, is required. As theoretical understanding is currently limited, in this work we explore the possibility of very simply representing the spatiotemporal distribution of clouds over the whole planet. We believe that these simple representations advance the field in the direction of a conceptual theory of global cloudiness and its impact on the energy balance. We show that the impact of cloudiness on both solar and terrestrial

radiation balance can be captured well globally with only a few predictive fields, like surface temperature or vertical wind speed, combined simply and **using only three tunable parameters**, and without using any supplementary information such as the particular season or location on the planet.

Mittelalter

VON SYBEL 1841

Heinrich von Sybel, *Geschichte des ersten Kreuzzugs*. ([Leipzig 1881](#)).

Religion

EHRMAN 2020

Bart D. Ehrman, *Heaven and Hell, A history of the afterlife*. (London 2021).

RENFREW 2016

COLIN RENFREW, MICHAEL J. BOYD & IAIN MORLEY (Hrsg.), *Death Rituals, Social Order and the Archaeology of Immortality in the Ancient World, “Death Shall Have No Dominion”*. ([Cambridge 2016](#)).

Modern archaeology has amassed considerable evidence for the disposal of the dead through burials, cemeteries, and other monuments. Drawing on this body of evidence, this book offers fresh insight into how early human societies conceived of death and the afterlife. The twenty-seven essays in this volume consider the rituals and responses to death in prehistoric societies across the world, from eastern Asia through Europe to the Americas, and from the very earliest times before developed religious beliefs offered scriptural answers to these questions. Compiled and written by leading prehistorians and archaeologists, this volume traces the emergence of death as a concept in early times, as well as a contributing factor to the formation of communities and social hierarchies, and sometimes the creation of divinities.