

References

Aktuell

ADAM 2020

David Adam, *The Limits of R*. [nature](#) **583** (2020), 346–348.

What the reproduction number can and can't tell us about managing COVID-19.

BAKER 2020

Rachel E. Baker, Wenchang Yang, Gabriel A. Vecchi, C. Jessica E. Metcalf & Bryan T. Grenfell, *Susceptible supply limits the role of climate in the early SARS-CoV-2 pandemic*. [science](#) **369** (2020), 315–319. DOI:10.1126/science.abc2535.

s369-0315-Supplement.pdf

Preliminary evidence suggests that climate may modulate the transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Yet it remains unclear whether seasonal and geographic variations in climate can substantially alter the pandemic trajectory, given that high susceptibility is a core driver. Here, we use a climate-dependent epidemic model to simulate the SARS-CoV-2 pandemic by probing different scenarios based on known coronavirus biology. We find that although variations in weather may be important for endemic infections, during the pandemic stage of an emerging pathogen, the climate drives only modest changes to pandemic size. A preliminary analysis of nonpharmaceutical control measures indicates that they may moderate the pandemic-climate interaction through susceptible depletion. Our findings suggest that without effective control measures, strong outbreaks are likely in more humid climates and summer weather will not substantially limit pandemic growth.

BOUFFANAIS 2020

Roland Bouffanais & Sun Sun Lim, *Cities — try to predict super-spreading hotspots for COVID-19*. [nature](#) **583** (2020), 352–355.

Tracking how people move around urban areas can pinpoint where disease might transmit fastest and farthest.

COOK 2020

Richard Cook & Harriet Over, *A learning model can explain both shared and idiosyncratic first impressions from faces*. [PNAS](#) **117** (2020), 16112–16113.

ESTEVE 2020

Albert Esteve, Iaki Permanyer, Diederik Boertien & James W. Vaupel, *National age and coresidence patterns shape COVID-19 vulnerability*. [PNAS](#) **117** (2020), 16118–16120. DOI:10.1073/pnas.2008764117.

Based on harmonized census data from 81 countries, we estimate how age and coresidence patterns shape the vulnerability of countries' populations to outbreaks of coronavirus disease 2019 (COVID-19). We estimate variation in deaths arising

due to a simulated random infection of 10% of the population living in private households and subsequent within-household transmission of the virus. The age structures of European and North American countries increase their vulnerability to COVID-related deaths in general. The coresidence patterns of elderly persons in Africa and parts of Asia increase these countries' vulnerability to deaths induced by within-household transmission of COVID-19. Southern European countries, which have aged populations and relatively high levels of intergenerational coresidence, are, all else equal, the most vulnerable to outbreaks of COVID-19. In a second step, we estimate to what extent avoiding primary infections for specific age groups would prevent subsequent deaths due to within-household transmission of the virus. Preventing primary infections among the elderly is the most effective in countries with small households and little intergenerational coresidence, such as France, whereas confining younger age groups can have a greater impact in countries with large and intergenerational households, such as Bangladesh.

Keywords: demography | households | COVID-19 | aging | global

KOUTSAKOS 2020

Marios Koutsakos & Katherine Kedzierska, *A race to determine what drives COVID-19 severity*. *nature* **583** (2020), 366–368.

Efforts are ongoing to find which human or viral factors underpin whether a person with COVID-19 will develop severe symptoms. Clinical evidence linked to two viral lineages now provides key insights into this enigma.

KUPFERSCHMIDT 2020

Kai Kupferschmidt, *The pandemic virus is slowly mutating. But does it matter?* *science* **369** (2020), 238–239.

DOI:10.1126/science.369.6501.238.

LAMMERS 2020

Joris Lammers, Jan Crusius & Anne Gast, *Correcting misperceptions of exponential coronavirus growth increases support for social distancing*. *PNAS* **117** (2020), 16264–16266. DOI:10.1073/pnas.2006048117.

pnas117-16264-Supplement.pdf

The most effective way to stem the spread of a pandemic such as coronavirus disease 2019 (COVID-19) is social distancing, but the introduction of such measures is hampered by the fact that a sizeable part of the population fails to see their need. Three studies conducted during the mass spreading of the virus in the United States toward the end of March 2020 show that this results partially from people's misperception of the virus's exponential growth in linear terms and that overcoming this bias increases support for social distancing. Study 1 shows that American participants mistakenly perceive the virus's exponential growth in linear terms (conservatives more so than liberals). Studies 2 and 3 show that instructing people to avoid the exponential growth bias significantly increases perceptions of the virus's growth and thereby increases support for social distancing. Together, these results show the importance of statistical literacy to recruit support for fighting pandemics such as the coronavirus.

Keywords: coronavirus | exponential growth bias | statistical literacy | comparison

Significance: Given the current lack of an effective vaccine to prevent coronavirus disease 2019 (COVID-19), one of the most effective ways to prevent the illness is social distancing. At the same time, a sizeable portion of the public fails to see the necessity of such measures. We identify one root cause for this: People mistakenly

perceive the coronavirus to grow in a linear manner, underestimating its actual potential for exponential growth. We show that correcting this perceptual error significantly increases support for social distancing. This research shows the importance of statistical literacy among the general public for increasing support to fight the coronavirus using the most effective method currently available.

SUTHERLAND 2020

Clare A. M. Sutherland, Jemma R. Collova, Romina Palermo, Laura Germine, Gillian Rhodes, Gabriella A. M. Blokland, Nichola, *Social learning and evolutionary mechanisms are not mutually exclusive, Reply to Cook and Over*. [PNAS 117 \(2020\), 16114–16115](#).

Clare A. M. Sutherland, Jemma R. Collova, Romina Palermo, Laura Germine, Gillian Rhodes, Gabriella A. M. Blokland, Nichola S. Burton & Jeremy B. Wilmer

Amerika

MACDONALD 2020

Brandi L. MacDonald, James C. Chatters & Eduard G. Reinhardt et al., *Paleoindian ochre mines in the submerged caves of the Yucatán Peninsula, Quintana Roo, Mexico*. [Science Advances 6 \(2020\), eaba1219](#). [DOI:10.1126/sciadv.aba1219](#).

[SciAdv06-eaba1219-Supplement1.pdf](#), [SciAdv06-eaba1219-Supplement2.mp4](#), [SciAdv06-eaba1219-Supplement3.xlsx](#)

Investigations in the now-submerged cave systems on the Yucatán Peninsula continue to yield evidence for human presence during the Pleistocene-Holocene transition. Skeletal remains are scattered throughout the caves of Quintana Roo, most representing individuals who died in situ. The reasons why they explored these underground environments have remained unclear. Here, we announce the discovery of the first subterranean ochre mine of Paleoindian age found in the Americas, offering compelling evidence for mining in three cave systems on the eastern Yucatán over a ≈ 2000 -year period between ≈ 12 and 10 ka. The cave passages exhibit preserved evidence for ochre extraction pits, speleothem digging tools, shattered and piled flowstone debris, cairn navigational markers, and hearths yielding charcoal from highly resinous wood species. The sophistication and extent of the activities demonstrate a readiness to venture into the dark zones of the caves to prospect and collect what was evidently a highly valued mineral resource.

Brandi L. MacDonald, James C. Chatters, Eduard G. Reinhardt, Fred Devos, Sam Meacham, Dominique Rissolo, Barry Rock, Chris Le Maillot, David Stalla, Marc D. Marino, Eric Lo & Pilar Luna Erreguerena

Bibel

DRUMMOND 2020

John Drummond, *The Nephilim and the Sons of God, Unlike Hercules, Achilles, and Perseus, demigods were seen more negatively by ancient Israelites*. [Bible History Daily 2020, July 9](#).

Instead of denying the existence of famous heroes altogether, the author labels them “the fallen ones” and all but blames them for the utter depravity that fell upon the world and necessitated the flood. As to how they corrupted the world we can only guess, but the concept of “making a name for oneself” is clearly at

odds with the worldview found within the pages of the Bible, specifically the Book of Genesis, and calls to mind the human pride and wickedness that began in the Garden of Eden.

LAPIDE 1993

Pinchas Lapide, *Paulus – zwischen Damaskus und Qumran, Fehldeutungen und Übersetzungsfehler*. (Gütersloh 1993).

REEVES 2001

John C. Reeves, *Adam Meets the Evil Archon*. [Bible Review 2001, iv, 34–41, 51–52](#).

Seth and Adam's departure for the land east of Eden is based on Genesis 3:24. In Genesis, however, Adam and Eve are expelled from Eden; here Adam and Seth willingly and consciously separate themselves from further temptation and corruption. Adam remains pure until his death, and Seth achieves fame as a pious devotee to the Manichaeic precepts (siddiqut).

In the early Christian era, the church fathers wrote tractates against Mani's religion in order to combat what they perceived as the pernicious influence of Persian dualism. Later scholars dismissed Manichaeism as simply one of the formidable opponents that the church overcame in its triumphal march toward religious dominance. Both groups viewed Manichaeism as a Persian aberration, an offshoot of Zoroastrianism. The time has come to recognize the biblical roots of the first world religion.

Metallzeiten

STANTIS 2020

Chris Stantis, Arwa Kharobi, Nina Maaranen, Geoff M. Nowell, Manfred Bietak, Silvia Prell & Holger Schutkowski, *Who were the Hyksos? Challenging traditional narratives using strontium isotope ($^{87}\text{Sr}/^{86}\text{Sr}$) analysis of human remains from ancient Egypt*. [PLoS ONE 15 \(2020\), e235414](#). [DOI:10.1371/journal.pone.0235414](#).

[pone15-e0235414-Supplement.docx](#)

A foreign dynasty, known as the Hyksos, ruled parts of Egypt between c. 1638–1530 BCE. Their origins are thought to be rooted in the Near East, which is supported by architectural features and grave accoutrements of Tell el-Dabca. In this former Hyksos capital in the Eastern Nile Delta, burial culture is characterized by a blend of Egyptian and Near Eastern elements. However, investigations are still ongoing as to where the Hyksos came from and how they rose to power. The aim of this study is to elucidate the question of possible provenience. We present the results of strontium isotope ($^{87}\text{Sr}/^{86}\text{Sr}$) ratios of human tooth enamel ($n = 75$) from Tell el-Dabca, focusing on comparing pre- and during Hyksos rule and sex-based differences. An influx of non-locals can be observed in the pre-Hyksos period (12th and 13th Dynasties, c. 1991–1649 BCE) during the constitution of this important harbor town, while the number of individuals already born in the Delta is larger during the Hyksos period. This is consistent with the supposition that, while the ruling class had Near Eastern origins, the Hyksos' rise to power was not the result of an invasion, as popularly theorized, but an internal dominance and takeover of foreign elite. There is a preponderance of non-local females suggesting patrilineal residence. We discuss our findings against the current evidence of material culture and historiography, but more investigation in Near Eastern comparative

sites has to be conducted to narrow our future search for the actual origins of the Hyksos.

Methoden

HOFMANN 2015

Daniela Hofmann, *What Have Genetics Ever Done for Us? The Implications of aDNA Data for Interpreting Identity in Early Neolithic Central Europe*. [European Journal of Archaeology](#) **18** (2015), 454–476.

This paper is concerned with the impact of ancient DNA data on our models of the Mesolithic–Neolithic transition in central Europe. Beginning with a brief overview of how genetic data have been received by archaeologists working in this area, it outlines the potential and remaining problems of this kind of evidence. As a migration around the beginning of the Neolithic now seems certain, new research foci are then suggested. One is renewed attention to the motivations and modalities of the migration process. The second is a fundamental change in attitude towards the capabilities of immigrant Neolithic populations to behave in novel and creative ways, abilities which in our transition models were long exclusively associated with hunter-gatherers.

Keywords: Linearbandkeramik (LBK) | Mesolithic–Neolithic transition | aDNA | migration | diversity | burial rites

O’GRADY 2020

Cathleen O’Grady, *Famous psychologist faces posthumous reckoning*. [science](#) **369** (2020), 233–234.

Dozens of papers on personality and health by Hans Eysenck have been retracted or are under suspicion.

When he died in 1997, Eysenck was the third most cited psychologist in the world. By then, he was already controversial, not just because of the criticisms by Pelosi and others, but also for espousing racist views on the genetics of intelligence.

SABLOFF 2019

Jeremy A. Sabloff, *How Maya Archaeologists Discovered the 99% Through the Study of Settlement Patterns*. [Annual Review of Anthropology](#) **48** (2019), 1–16.

This article presents an autobiographical perspective on the changing nature of Maya archaeology, focusing on the role of settlement pattern studies in illuminating the lives of commoners as well as on the traditional emphasis on the ruling elite. Advances in understanding the nature of nonelite peoples in ancient Maya society are discussed, as are the many current gaps in scholarly understandings of pre-Columbian Maya civilization, especially with regard to the diversity of ancient “commoners” and the difficulty in analyzing them as a single group.

Keywords: Maya | archaeology | settlement patterns | elite | commoners | landscapes

SIEGENFELD 2020

Alexander F. Siegenfeld, Nassim N. Taleb & Yaneer Bar-Yam, *What models can and cannot tell us about COVID-19*. [PNAS](#) **117** (2020), 16092–16095.

- + A simple model that correctly captures these large-scale behaviors but gets some details wrong is useful; a complicated model that gets some details correct but mischaracterizes the large-scale behaviors is misleading at best.
- + Detailed refinements to models often create a misleading sense of certainty and precision.
- + More generally, trying to pin down details in models is futile if any accuracy gained is swamped by uncertainty in the measurements or by inaccuracies in the core model assumptions.
- + If a model's assumptions do not yield the same general large-scale behaviors of the system being modeled, adding additional details to the model will serve only to create a false sense of confidence.

SPINNEY 2012

Laura Spinney, *History as Science*. [nature 488 \(2012\), 24–26](#).

Advocates of ‘cliodynamics’ say that they can use scientific methods to illuminate the past. But historians are not so sure.

TURCHIN 2008

Peter Turchin, *Arise ‘cliodynamics’*. [nature 454 \(2008\), 34–35](#).

If we are to learn how to develop a healthy society, we must transform history into an analytical, predictive science, argues Peter Turchin. He has identified intriguing patterns across vastly different times and places.

Politik

EBERLE 2020

Ulrich J. Eberle, J. Vernon Henderson, Dominic Rohner & Kurt Schmidheiny, *Ethnolinguistic diversity and urban agglomeration*. [PNAS 117 \(2020\), 16250–16257](#).

[pnas117-16250-Supplement.pdf](#)

This article shows that higher ethnolinguistic diversity is associated with a greater risk of social tensions and conflict, which, in turn, is a dispersion force lowering urbanization and the incentives to move to big cities. We construct a worldwide dataset at a fine-grained level on urban settlement patterns and ethnolinguistic population composition. For 3,540 provinces of 170 countries, we find that increased ethnolinguistic fractionalization and polarization are associated with lower urbanization and an increased role for secondary cities relative to the primate city of a province. These striking associations are quantitatively important and robust to various changes in variables and specifications. We find that democratic institutions affect the impact of ethnolinguistic diversity on urbanization patterns.

Keywords: ethnolinguistic diversity | fractionalization | urbanization | conflict | democracy

Significance: Urbanization and agglomeration of economic activity are key drivers of economic development. Many factors underlying city sizes and locations continue to be well studied. However, a key factor has so far been generally ignored: the role of the ethnolinguistic composition of local populations. We address this gap, drawing on a very detailed dataset on local urban agglomeration and ethnolinguistic diversity. We find that, in multiethnic areas, social tensions arise more easily, discouraging the move to bigger cities. Ethnolinguistically diverse regions feature less urbanization and agglomeration, with potentially profound economic consequences.

TURCHIN 2010

Peter Turchin, *Political instability may be a contributor in the coming decade*. [nature](#) **463** (2010), 608.