

## References

### Aktuell

AASSVE 2021

Arnstein Aassve, Nicolò Cavalli, Letizia Mencarini, Samuel Plach & Seth Sanders, *Early assessment of the relationship between the COVID-19 pandemic and births in high-income countries*. [PNAS 118 \(2021\), e2105709118](#). DOI:10.1073/pnas.2105709118.

Drawing on past pandemics, scholars have suggested that the COVID-19 pandemic will bring about fertility decline. Evidence from actual birth data has so far been scarce. This brief report uses data on vital statistics from a selection of high-income countries, including the United States. The pandemic has been accompanied by a significant drop in crude birth rates beyond that predicted by past trends in 7 out of the 22 countries considered, with particularly strong declines in southern Europe: Italy (-9.1%), Spain (-8.4%), and Portugal (-6.6%). Substantial heterogeneities are, however, observed.

Keywords: COVID-19 | fertility | pandemics | birth rates | baby bust

BROWN 2021

Robert A. Brown, *A simple model for control of COVID-19 infections on an urban campus*. [PNAS 118 \(2021\), e2105292118](#). DOI:10.1073/pnas.2105292118.

A customized susceptible, exposed, infected, and recovered compartmental model is presented for describing the control of asymptomatic spread of COVID-19 infections on a residential, urban college campus embedded in a large urban community by using public health protocols, founded on surveillance testing, contact tracing, isolation, and quarantine. Analysis in the limit of low infection rates—a necessary condition for successful operation of the campus—yields expressions for controlling the infection and understanding the dynamics of infection spread. The number of expected cases on campus is proportional to the exogenous infection rate in the community and is decreased by more frequent testing and effective contact tracing. Simple expressions are presented for the dynamics of superspreader events and the impact of partial vaccination. The model results compare well with residential data from Boston University's undergraduate population for fall 2020.

Keywords: COVID-19 | infection modeling | surveillance testing

Significance: A simple model shows that control of COVID-19 infection driven by asymptomatic transmission on an urban, residential college campus is possible by instituting comprehensive public health protocols founded on surveillance testing and contact tracing. The model gives expressions for the number of infections expected as a function of these protocols and compares well with data from a large residential university for fall 2020.

KLÜVER 2021

Heike Klüver, Felix Hartmann, Macartan Humphreys, Ferdinand Geissler & Johannes Giesecke, *Incentives can spur COVID-19 vaccination uptake*. [PNAS 118 \(2021\), e2109543118](#). DOI:10.1073/pnas.2109543118.

Recent evidence suggests that vaccination hesitancy is too high in many countries to sustainably contain COVID-19. Using a factorial survey experiment administered to 20,500 online respondents in Germany, we assess the effectiveness of three strategies to increase vaccine uptake, namely, providing freedoms, financial remuneration, and vaccination at local doctors. Our results suggest that all three strategies can increase vaccination uptake on the order of two to three percentage points (PP) overall and five PP among the undecided. The combined effects could be as high as 13 PP for this group. The returns from different strategies vary across age groups, however, with older cohorts more responsive to local access and younger cohorts most responsive to enhanced freedoms for vaccinated citizens.

Keywords: COVID-19 | vaccination | incentives | herd immunity | hesitancy

MALLAPATY 2021

Smriti Mallapaty, *India's DNA Covid vaccine is a first — more are coming.* [nature](#) **597** (2021), 161–162.

The ZyCoV-D vaccine heralds a wave of DNA vaccines for various diseases that are undergoing clinical trials.

## Bibel

BASISBIBEL 2021

*BasisBibel, Altes und Neues Testament – die Kompakte.* (Stuttgart 2021).

ZÜRCHER 2012

*Zürcher Bibel, mit deuterokanonischen Schriften.* (Zürich <sup>4</sup>2019).

## Biologie

BRAMANTI 2021

Barbara Bramanti, Yarong Wu, Ruifu Yang, Yujun Cui & Nils Chr. Stenseth, *Assessing the origins of the European Plagues following the Black Death, A synthesis of genomic, historical, and ecological information.* [PNAS](#) **118** (2021), e2101940118.

[pnas118-e2101940118-Supplement.pdf](#)

The second plague pandemic started in Europe with the Black Death in 1346 and lasted until the 19th century. Based on ancient DNA studies, there is a scientific disagreement over whether the bacterium, *Yersinia pestis*, came into Europe once (Hypothesis 1) or repeatedly over the following four centuries (Hypothesis 2). Here, we synthesize the most updated phylogeny together with historical, archeological, evolutionary, and ecological information. On the basis of this holistic view, we conclude that Hypothesis 2 is the most plausible. We also suggest that *Y. pestis* lineages might have developed attenuated virulence during transmission, which can explain the convergent evolutionary signals, including *pla* decay, that appeared at the end of the pandemics.

Keywords: Black Death | European plague | *Yersinia pestis* | molecular evolution | ecological epidemiology

Significance: Over the last few years, there has been a great deal of scientific debate regarding whether the plague bacterium, *Yersinia pestis*, spread from a Western European reservoir during the second plague pandemic, or if it repeatedly

came to Europe from Asia. Here, we make a synthesis of the available evidence, including genomes of ancient DNA and historical, archeological, and ecological information. We conclude that the bacterium most likely came to Europe from Asia several times during the second plague pandemic.

#### DOMÍNGUEZ-ANDRÉS 2021

Jorge Domínguez-Andrés, Yunus Kuijpers, Yang Li & Mihai G. Netea et al., *Evolution of cytokine production capacity in ancient and modern European populations*. [eLife 10 \(2021\), e64971](#).

[eLife10-e64971-Supplement.pdf](#)

As our ancestors migrated throughout different continents, natural selection increased the presence of alleles advantageous in the new environments. Heritable variations that alter the susceptibility to diseases vary with the historical period, the virulence of the infections, and their geographical spread. In this study we built polygenic scores for heritable traits that influence the genetic adaptation in the production of cytokines and immune-mediated disorders, including infectious, inflammatory, and autoimmune diseases, and applied them to the genomes of several ancient European populations. We observed that the advent of the Neolithic was a turning point for immune-mediated traits in Europeans, favoring those alleles linked with the development of tolerance against intracellular pathogens and promoting inflammatory responses against extracellular microbes. These evolutionary patterns are also associated with an increased presence of traits related to inflammatory and auto-immune diseases.

Jorge Domínguez-Andrés, Yunus Kuijpers, Olivier B. Bakker, Martin Jaeger, Cheng-Jian Xu, Jos W.M. Van der Meer, Mattias Jakobsson, Jaume Bertranpetit, Leo A.B. Joosten, Yang Li & Mihai G. Netea

#### GIBBONS 2021

Ann Gibbons, *How farming shaped Europeans' immunity*. [science 373 \(2021\), 1186](#).

Ancient farmers throttled their immune responses to help survive infectious diseases. The study suggests that in Europeans, evolution favored genes that throttled back the immune response to pathogens like influenza, restraining a hyperalert inflammatory reaction that can be deadlier than the pathogen itself. If a coronavirus like SARS-CoV-2 had swept through Europe before agriculture, he says, “more people would have died than today because they produced more proinflammatory cytokines.”

## Klima

#### KREIENKAMP 2021

Frank Kreienkamp et al., *Rapid attribution of heavy rainfall events leading to the severe flooding in Western Europe during July 2021*. [world weather attribution 2021, Aug. 23](#). .

Climate change increased the intensity of the maximum 1-day rainfall event in the summer season in this large region by about 3–19% compared to a global climate 1.2 °C cooler than today. The increase is similar for the 2-day event.

The likelihood of such an event to occur today compared to a 1.2 °C cooler climate has increased by a factor between 1.2 and 9 for the 1-day event in the large region. The increase is again similar for the 2-day event.

It should be noted that the winter is the usual flood season, i.e. the time of the highest annual discharge, in the region, when relatively high precipitation, low

evapotranspiration, possibly in combination with snowmelt, cause high discharges. Nevertheless, many large floods caused by heavy rainfall have occurred in past summers, e.g. 1804, 1888, 1910, 2016 in the Ahr region.

Frank Kreienkamp, Sjoukje Y. Philip, Jordis S. Tradowsky, Sarah F. Kew, Philip Lorenz, Julie Arrighi, Alexandre Belleflamme, Thomas Bettmann, Steven Caluwaerts, Steven C. Chan, Andrew Ciavarella, Lesley De Cruz, Hylke de Vries, Norbert Demuth, Andrew Ferrone, Erich M. Fischer, Hayley J. Fowler, Klaus Gøergen, Dorothy Heinrich, Yvonne Henrichs, Geert Lenderink, Frank Kaspar, Enno Nilson, Friederike E. L. Otto, Francesco Ragone, Sonia I. Seneviratne, Roop K. Singh, Amalie Skålevå, Piet Termonia, Lisa Thalheimer, Maarten van Aalst, Joris Van den Bergh, Hans Van de Vyver, Stéphane Vannitsem, Geert Jan van Oldenborgh, Bert Van Schaeybroeck, Robert Vautard, Demi Vonk & Niko Wanders

## Kultur

MASSON 2011

Astrid Masson & Eva Rosenstock, *Das Rind in Vorgeschichte und traditioneller Landwirtschaft, Archäologische und technologisch-ergologische Aspekte*. [Mitteilungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte](#) **32** (2011), 81–106.

Ob das Hausrind in seinen frühen Phasen der Domestikation und damit auch in der Linienbandkeramik nur als Fleischrind, auch als Milchrind oder sogar – wie bis in die subrezente Zeit in Mitteleuropa – bereits als Dreinutzungsrind zusätzlich als Arbeitstier genutzt wurde, ist unklar. Das Auftreten von Ochsen – bei Rindern ist die Kastration anders als bei den anderen Haustierarten osteologisch relativ gut nachweisbar – in prähistorischem Fundmaterial wird häufig als Beleg für die Arbeitsnutzung gewertet. Die Haltung von speziellen Arbeitsochsen ist jedoch in der traditionellen Landwirtschaft eine eher seltene und vor allem in wohlhabenden Verhältnissen auftretende Erscheinung, bedeutet sie doch einen erheblichen zusätzlichen Futterbedarf. Normalerweise werden Kühe (und ganz selten Stiere) auch zu diesem Zweck eingesetzt.

## Neolithikum

JANKOVIĆ 2021

Ivor Janković, Jacqueline Balen, Hrvoje Potrebica, James C.M. Ahern & Mario Novak, *Mass violence in Copper Age Europe, The massacre burial site from Potočani, Croatia*. [American Journal of Physical Anthropology](#) (2021), preprint, 1–12. DOI:10.1002/ajpa.24396.

AmJPhysAnth2021.09-Jankovic-Supplement.docx

Objectives: To provide a comprehensive analysis of perimortem cranial injuries found on human remains from the Eneolithic (ca. 4200 BCE) mass grave discovered at Potocani, Croatia, to test if the assemblage is a result of a deliberate violent episode on a massive scale.

Materials and Methods: Standard bioarchaeological analysis, including inventory of the preserved elements, minimum number of individuals, sex determination, age at death, as well as pattern and distribution of trauma, was recorded.

Results: A minimum of 41 people are present in the sample. Both sexes and almost all age groups are represented, with a prevalence of children and young adults. Four blunt force antemortem injuries are registered in three adult males

and one subadult while perimortem injuries are recorded on 13 crania with a total of 28 injuries. The distribution of perimortem injuries is not patterned with age, sex, or siding, and their location is on lateral, posterior, or superior parts of the crania. No “defensive wounds” or other type of injuries are observed on postcranial elements.

Discussion: The injuries, manner of disposal of the bodies, radiocarbon dates, and other available data strongly suggest that the Potocjani sample represents a single episode of execution during which the Potocjani people were unable to defend themselves. The Potocjani massacre is the oldest such example in southeastern Europe and provides additional evidence that indiscriminate violence on a massive scale is not a product of modern societies.

Keywords: cranial trauma | Eneolithic | indiscriminate killing | perimortem injuries | southeastern Europe

## Religion

### CZACHESZ 2007

István Czachesz, *Magic and Mind, Toward a Cognitive Theory of Magic, with Special Attention to the Canonical and Apocryphal Acts of the Apostles*. *Annali di Storia dell’Esegesi* **24** (2007), 295–321.

Conditioned behavior can also remain completely unconscious: for example, students can condition a lecturer to move in certain ways by reinforcing his actions by nodding. We practice totally ineffective manipulations routinely, with or without being aware of it. Implicit or explicit explanations attached to such manipulations may turn them into actual magic. Our readiness to use agency as an explanation as well as our selective attention to positive evidence particularly support the emergence of magic from meaningless automatisms. Stories of magic provide the third component: many of them are memorable and interesting due to their counterintuitive details, which make them successful regardless of whether we practice magic or believe in it. But the vitality of such accounts makes them important sources of inspiration, justification, and explanation with regard to magical practices. In turn, people’s own experience of conditioned superstitious behavior and their intuitively devised magical explanations make such stories more credible, realistic, and popular. Accordingly, early Christian magic was motivated by different factors rather than having just one single source.

### CZACHESZ 2013

ISTVÁN CZACHESZ & RISTO URO (Hrsg.), *Mind, Morality and Magic, Cognitive Science Approaches in Biblical Studies*. (Durham 2013).