Liste erstellt am 2018-09-14

References

Aktuell

Bohk-Ewald 2018

Christina Bohk-Ewald, Peng Li & Mikko Myrskylä, *Forecast accuracy hardly improves with method complexity when completing cohort fertility*. PNAS **115** (2018), 9187–9192.

pnas115-09187-Supplement.pdf

Forecasts of completed fertility predict how many children will be born on average by women over their entire reproductive lifetime. These forecasts are important in informing public policy and influencing additional research in the social sciences. However, nothing is known about how to choose a forecasting method from a large basket of variants. We identified 20 major methods, with 162 variants altogether. The approaches range from naive freezing of current age-specific fertility rates to methods that use statistically sophisticated techniques or are grounded in demographic theory. We assess each method by evaluating the overall accuracy and if provided, uncertainty estimates using fertility data of all available birth cohorts and countries of the Human Fertility Database, which covers 1,096 birth cohorts from 29 countries. Across multiple measures of forecast accuracy, we find only four methods that consistently outperform the naive freeze rates method, and only two methods produce uncertainty estimates that are not severely downward biased. Among the top four, there are two simple extrapolation methods and two Bayesian Methods. The latter are demanding in terms of input data, statistical techniques, and computational power but do not consistently complete cohort fertility more accurately at all truncation ages than simple extrapolation. This broad picture is unchanged if we base the validation on 201 United Nations countries and six world regions, including Africa, Asia, Europe, Latin America and the Caribbean, northern America, and Oceania.

Keywords: fertility forecast methods | validation | forecast errors

Significance: Information on cohort fertility is critical for the understanding of population dynamics, but only in historical settings can it be calculated without forecasting. Several forecasting Methods exist, but their strengths and weaknesses have not been evaluated. Relying on the Human Fertility Database, the largest high-quality fertility dataset to date, and the globally representative United Nations World Population Prospects, we present an assessment of all major methods that complete cohort fertility. This analysis is crucial to advance the understanding of benefits and drawbacks of state-of-theart Methods. We analyze forecast accuracy and uncertainty quantification, identify methodological breakthroughs, and uncover unresolved issues. This study constitutes an evaluation benchmark for cohort fertility forecasting and may inspire establishment of similar evaluation benchmarks in related fields.

Castelvecchi 2018

Davide Castelvecchi, *Google enters data ecosystem*. nature **561** (2018), 161–162.

Dataset Search could be especially helpful to cross-disciplinary researchers.

For Dataset Search to work, having the data owners' collaboration was a crucial step. Although the system might become more sophisticated in the future, Google

currently has no plans to actually read the data or analyse them, as it does with web pages or images. “A search tool like this one is only as good as the metadata that data publishers are willing to provide,” Noy says.

Like Google Scholar, Dataset Search currently offers no access for automated querying and no application programming interface (API) — although the company says that it might add that functionality in the future.

Ioannidis 2018

John P. A. Ioannidis, Richard Klavans & Kevin W. Boyack, *The scientists who publish a paper every five days*. nature **561** (2018), 167–169.

To highlight uncertain norms in authorship, John P. A. Ioannidis, Richard Klavans and Kevin W. Boyack identified the most prolific scientists of recent years.

Some evidence suggests that the increase in the average number of authors per paper does not reflect so much the genuine needs of team science as the pressure to ‘publish or perish’10. Widely used citation and impact metrics should be adjusted accordingly. For instance, if adding more authors diminished the credit each author received, unwarranted multiauthorship might go down.

Bibel

Knohl 2018

Israel Knohl, *Rosh Hashanah, Why the Torah Suppresses God's Kingship*. Online **2018**, Sep. 6, 1–11. <http://thetorah.com/rosh-hashanah-why-the-torah-suppresses-gods-kingship/> (2018-09-13).

Several biblical passages imply that God was ritually enthroned as king during the new year celebrations. In the Torah itself, however, this is suppressed. God as king appears only in three ancient poetic passages, never in the Torah's prose or laws, including in its description of Rosh Hashanah.

Biologie

Vazquez 2018

Juan Manuel Vazquez, Michael Sulak, Sravanthi Chigurupati & Vincent J. Lynch, *A Zombie LIF Gene in Elephants Is Upregulated by TP53 to Induce Apoptosis in Response to DNA Damage*. Cell Reports **24** (2018), 1765–1776.

In Brief:

Large organisms have many cells and therefore should have an increased cancer risk compared to small organisms. Vazquez et al. demonstrate that an elephant-specific LIF duplicate is upregulated by p53 in response to DNA damage and induces apoptosis, suggesting that elephants reduced cancer risk by evolving extra tumor suppressor genes.

Highlights:

- Elephants have extra LIF genes; one (LIF6) is expressed in response to DNA damage
- LIF6 encodes a separation of function isoform that is intracellular
- LIF6 induces Bak/Bax-dependent apoptosis
- Evolutionary analyses indicates that LIF6 is a refunctionalized pseudogene

Summary:

Large-bodied organisms have more cells that can potentially turn cancerous than small-bodied organisms, imposing an increased risk of developing cancer. This expectation predicts a positive correlation between body size and cancer risk; however, there is no correlation between body size and cancer risk across species ("Peto's paradox"). Here, we show that elephants and their extinct relatives (proboscideans) may have resolved Peto's paradox in part through refunctionalizing a leukemia inhibitory factor pseudogene (LIF6) with pro-apoptotic functions. LIF6 is transcriptionally upregulated by TP53 in response to DNA damage and translocates to the mitochondria where it induces apoptosis. Phylogenetic analyses of living and extinct proboscidean LIF6 genes indicates that its TP53 response element evolved coincident with the evolution of large body sizes in the proboscidean stem lineage. These Results suggest that refunctionalizing of a proapoptotic LIF pseudogene may have been permissive (although not sufficient) for the evolution of large body sizes in proboscideans.

Datierung

Krauss 2017

Raiko Krauß, Clemens Schmid, David Kirschenheuter, Jonas Abele, Vladimir Slavchev & Bernhard Weninger, *Chronology and development of the Chalcolithic necropolis of Varna I.* Documenta Praehistorica **44** (2017), 282–305.

In the following paper, we present the main results of our now completed studies of the Varna I cemetery, based on the excavations undertaken by Ivan Ivanov in the years 1972–1991. The richness of the assemblages is singular in Old World prehistory. To tackle the question of its internal, chronological development, we applied correspondence analysis (CA) to a newly created database that includes the inventories of all presently known graves, symbolic burials and find deposits. The rank order of the seriated inventories was used to establish a CA-based 14C-age model for wiggle matching. In combination with topographic observations and social network analysis (SNA), our studies provide a new understanding both of the chronological and spatial distribution of the graves and burial goods, as well as new insights into the social structure, gender roles, individual relationships and ritual practices of the Chalcolithic community.

Keywords: Varna cemetery | radiocarbon dating | correspondence analysis | social network analysis | Chalcolithic

Grabung

Garfinkel 2018

Yosef Garfinkel, Saar Ganor & Michael G. Hasel, *In the Footsteps of King David, Revelations from an ancient Biblical city.* (London 2018).

Schäfer 2016

Alfred Schäfer, *Götter, Gaben, Heiligtümer, Römische Religion in Köln.* (Darmstadt 2016).

Islam

Lecker 1998
Michael Lecker (Hrsg.), *Jews and Arabs in Pre- and Early Islamic Arabia*. Variorum collected studies 639 (Aldershot 1998).

Lecker 2005
Michael Lecker (Hrsg.), *People, tribes, and society in Arabia around the time of Muḥammad*. Variorum collected studies 812 (Aldershot 2005).

Judentum

Spiegel 1950
Shalom Spiegel, *The Last Trial, On the legends and lore of the command to Abraham to offer Isaac as a sacrifice – The Akedah*. (Woodstock 1993). Original: מאגדות העקדה.

Klima

Gao 2018
Yuesong Gao, Lianjiao Yang, Zhouqing Xie, Louise Emmerson, Colin Southwell, Yuhong Wang & Liguang Sun, *Last Millennium Adélie Penguin Mortality and Colony Abandonment Events on Long Peninsula, East Antarctica*. Journal of Geophysical Research: Biogeosciences (2018), preprint, 1–22. DOI:10.1029/2018JG004550.

Key Points:

- Multiple lines of evidence reveal multi-decadal-scale penguin mortality events on Long Peninsula, East Antarctica.
- Well-preserved penguin carcasses from the land surface and sediments have ages up to ≈750 yr BP.
- The mortality events were caused by heavy precipitation and related to atmospheric circulation defined by a ZW3 pattern.

The Adélie penguin (Pygoscelis adeliae) is sensitive to climatic and environmental changes, and paleoecological studies of Adélie penguins and their response to climatic forcing in maritime Antarctica usually address changes on long timescales. However, on Long Peninsula, East Antarctica, we identified numerous mummified Adélie penguin carcasses and phases of rapid sediment deposition at ≈750 and ≈200 yr BP, indicating two multi-decadal mass mortality events. Based upon chronological and sedimentary evidence, we propose that the two events were caused by heavy regional precipitation which led to the abandonment of numerous penguin sub-colonies. The anomalous precipitation was likely associated with the intensification of regional meridional air transport under a zonal wave number 3 pattern. Since such atmospheric conditions correspond to present-day observations, and are expected to persist if climate change continues, the mortality events revealed in this study could become an increasing threat to penguins.

Kultur

Ambrosius 1894
Johanna Ambrosius, *Gedichte, Erster Teil.* (Königsberg [40]1902).

Ambrosius 1897
Johanna Ambrosius, *Gedichte, Zweiter Teil.* (Königsberg [7]1898).

Methoden

Eisenmann 2018
Stefanie Eisenmann et al., *Reconciling material cultures in archaeology with genetic data, The nomenclature of clusters emerging from archaeogenomic analysis.* Scientific Reports **8** (2018), 13003. DOI:10.1038/s41598-018-31123-z.

Stefanie Eisenmann, Eszter Bánffy, Peter van Dommelen, Kerstin P. Hofmann, Joseph Maran, Iosif Lazaridis, Alissa Mittnik, Michael McCormick, Johannes Krause, David Reich & Philipp W. Stockhammer

Genome-wide ancient DNA analysis of skeletons retrieved from archaeological excavations has provided a powerful new tool for the investigation of past populations and migrations. An important objective for the coming years is to properly integrate ancient genomics into archaeological research. This article aims to contribute to developing a better understanding and cooperation between the two disciplines and beyond. It focuses on the question of how best to name clusters encountered when analysing the genetic makeup of past human populations. Recent studies have frequently borrowed archaeological cultural designations to name these genetic groups, while neglecting the historically problematic nature of the concept of cultures in archaeology. After reviewing current practices in naming genetic clusters, we introduce three possible nomenclature systems ('numeric system', 'mixed system (a)', 'geographic-temporal system') along with their advantages and challenges.

Mittelpaläolithikum

Staubwasser 2018
Michael Staubwasser et al., *Impact of climate change on the transition of Neanderthals to modern humans in Europe.* PNAS **115** (2018), 9116–9121.

pnas115-09116-Supplement1.pdf, pnas115-09116-Supplement2.xlsx

Michael Staubwasser, Virgil Drăguşin, Bogdan P. Onac, Sergey Assonov, Vasile Ersek, Dirk L. Hoffmann & Daniel Veres

Two speleothem stable isotope records from East-Central Europe demonstrate that Greenland Stadial 12 (GS12) and GS10—at 44.3– 43.3 and 40.8–40.2 ka—were prominent intervals of cold and arid conditions. GS12, GS11, and GS10 are coeval with a regional pattern of culturally (near-)sterile layers within Europe's diachronous archeologic transition from Neanderthals to modern human Aurignacian. Sterile layers coeval with GS12 precede the Aurignacian throughout the middle and upper Danube region. In some records from the northern Iberian Peninsula, such layers are coeval with GS11 and separate the Châtelperronian from

the Aurignacian. Sterile layers preceding the Aurignacian in the remaining Châtelperronian domain are coeval with GS10 and the previously reported 40.0- to 40.8-ka cal BP [calendar years before present (1950)] time range of Neanderthals' disappearance from most of Europe. This suggests that ecologic stress during stadial expansion of steppe landscape caused a diachronous pattern of depopulation of Neanderthals, which facilitated repopulation by modern humans who appear to have been better adapted to this environment. Consecutive depopulation–repopulation cycles during severe stadials of themiddle pleniglacial may principally explain the repeated replacement of Europe's population and its genetic composition.

Keywords: Central Europe | speleothems | millennial-scale climate cycles | stable isotopes | Middle—Upper Paleolithic transition

Significance: A causality between millennial-scale climate cycles and the replacement of Neanderthals by modern humans in Europe has tentatively been suggested. However, that replacement was diachronous and occurred over several such cycles. A poorly constrained continental paleoclimate framework has hindered identification of any inherent causality. Speleothems from the Carpathians reveal that, between 44,000 and 40,000 years ago, a sequence of stadials with severely cold and arid conditions caused successive regional Neanderthal depopulation intervals across Europe and facilitated staggered repopulation by modern humans. Repetitive depopulation–repopulation cycles may have facilitated multiple genetic turnover in Europe between 44,000 and 34,000 years ago.

Neolithikum

Arbuckle 2018

Benjamin S. Arbuckle & Emily L. Hammer, *The Rise of Pastoralism in the Ancient Near East*. Journal of Archaeological Research (2018), preprint, 1–59. DOI:10.1007/s10814-018-9124-8.

In this paper, we present a history of pastoralism in the ancient Near East from the Neolithic through the Bronze Age. We describe the accretional development of pastoral technologies over eight millennia, including the productive breeding of domestic sheep, goats, and cattle in the early Neolithic and the subsequent domestication of animals used primarily for labor—donkeys, horses, and finally camels—as well as the first appearance of husbandry strategies such as penning, foddering, pasturing, young male culling, and dairy production. Despite frequent references in the literature to prehistoric pastoral nomads, pastoralism in Southwest Asia was strongly associated with sedentary communities that practiced intensive plant cultivation and was largely local in nature. There is very little evidence in prehistoric and early historic Southwest Asia to support the notion of a "dimorphic society" characterized by separate and specialized agriculturists and mobile pastoralists. Although mobile herders were present in the steppe regions of Syria by the early second millennium BC, mobile pastoralism was the exception rather than the rule at that time; its "identification" in the archaeological record frequently derives from the application of anachronistic ethnographic analogy. We conclude that pastoralism was a diverse, flexible, and dynamic adaptation in the ancient Near East and call for a reinvigorated and empirically based archaeology of pastoralism in Southwest Asia.

Keywords: Pastoralism | Nomad | Southwest Asia | Mobility | Zooarchaeology | Paleobotany | Secondary products | Domestication

Glencross 2014

Bonnie Glencross & Başak Boz, *Representing Violence in Anatolia and the Near East During the Transition to Agriculture, Readings from contextualized human skeletal remains.* In: Christopher Knüsel & Martin Smith (Hrsg.), *The Routledge Handbook of the Bioarchaeology of Human Conflict.* (Abingdon 2014), 90–108.

This review has outlined the main lines of evidence contributing to current understanding of conflict in Anatolia and the near East during the Neolithic. Combining both the skeletal and archaeological evidence, we have identified two foci that need further investigation: the mortuary context of skeletons and skeletal trauma produced by interpersonal and intercommunity violence and conflict. One approach to resolving this issue may be found in the human skeletal remains, as they can provide the most direct evidence for violence. Healed depressed cranial fractures, which are reported most often but have received relatively little attention (much more consideration has been given to the plastered remodelled skulls and crania as well as trepanations), are an important line to pursue. Little focus on evidence for embedded projectiles and other types of peri-mortem trauma in early skeletal analyses Highlights the need for re-study of some of these materials. If we can assume that cranial injuries are most often deliberate, then we may consider this very preliminary skeletal evidence for limited violence and conflict perhaps regulated by ritualized activities and symbols. However, before any definitive conclusions can be drawn more research needs to be conducted, with particular attention to temporal changes and regional variation in frequencies and types of injuries, and closer attention to the context of these.

Meyer 2018

Christian Meyer, Olaf Kürbis, Veit Dresely & Kurt W. Alt, *Patterns of Collective Violence in the Early Neolithic of Central Europe.* In: Andrea Dolfini, Rachel J. Crellin, Christian Horn & Marion Uckelmann (Hrsg.), *Prehistoric Warfare and Violence, Quantitative and Qualitative Approaches.* Quantitative Methods in the Humanities and Social Sciences (New York 2018), 21–38.

Based on the sites discussed above, it is now clear that the victims of mass fatality events display demographic patterns that can be interpreted meaningfully by reference to one another. [...] Unlike any of these, Wiederstedt can instead be interpreted as a mass fatality episode, in which a lethal infectious disease or some other non-violent event must have brought death to the weakest members of the community, irst and foremost the children.

Generally, the mass fatality sites discussed above show that subadults were frequent targets of lethal collective violence, as indeed were men of all age groups and older women. It would appear that only young women and possibly (female?) adolescents were routinely spared during the attacks, probably to be captured alive. Judging from the cranial trauma patterns, lethal attacks were mostly conducted in largely uncontrolled, chaotic melee clashes, and injuries commonly affected all major skull areas. Once again the mass grave at Halberstadt stands out from this trend. Here, cranial injuries are overwhelmingly clustered at the back of the head as to likely indicate the execution of the victims in a deliberate and controlled manner. Regardless of whether the cause of death was violent or non-violent, however, the post-mortem deposition of mass fatality victims seems to have been a common element at all these sites. This is the lack of careful treatment of the deceased, which clearly differentiates deviant mass burials from the normative cemetery and settlement interments found throughout the LBK world.

In LBK communities, group deaths seem to have effectively caused the identity and individuality of the victims to be erased. This stands in stark contrast to more traditional burial treatments, in which selected information pertaining to the role and standing of the deceased was routinely preserved through an individualised funeral rite. However, by being denied this treatment, the dead dumped in the mass graves discussed in this chapter have preserved other kinds of information, which can shed new light on the episodes in which lethal collective violence broke out and on the social choices made during these short-lived and dramatic events.

Politik

Bail 2018

Christopher A. Bail et al., *Exposure to opposing views on social media can increase political polarization*. PNAS **115** (2018), 9216–9221.

pnas115-09216-Supplement.pdf

Christopher A. Bail, Lisa P. Argyle, Taylor W. Brown, John P. Bumpus, Haohan Chen, M. B. Fallin Hunzaker, Jaemin Lee, Marcus Mann, Friedolin Merhout & Alexander Volfovsky

There is mounting concern that social media sites contribute to political polarization by creating "echo chambers" that insulate people from opposing views about current events. We surveyed a large sample of Democrats and Republicans who visit Twitter at least three times each week about a range of social policy issues. One week later, we randomly assigned respondents to a treatment condition in which they were offered financial incentives to follow a Twitter bot for 1 month that exposed them to messages from those with opposing political ideologies (e.g., elected officials, opinion leaders, media organizations, and nonprofit groups). Respondents were resurveyed at the end of the month to measure the effect of this treatment, and at regular intervals throughout the study period to monitor treatment compliance. We find that Republicans who followed a liberal Twitter bot became substantially more conservative posttreatment. Democrats exhibited slight increases in liberal attitudes after following a conservative Twitter bot, although these effects are not statistically significant. Notwithstanding important limitations of our study, these findings have significant implications for the interdisciplinary literature on political polarization and the emerging field of computational social science.

Keywords: political polarization | computational social science | social networks | social media | sociology

Significance: Social media sites are often blamed for exacerbating political polarization by creating "echo chambers" that prevent people from being exposed to information that contradicts their preexisting beliefs. We conducted a field experiment that offered a large group of Democrats and Republicans financial compensation to follow bots that retweeted messages by elected officials and opinion leaders with opposing political views. Republican participants expressed substantially more conservative views after following a liberal Twitter bot, whereas Democrats' attitudes became slightly more liberal after following a conservative Twitter bot—although this effect was not statistically significant. Despite several limitations, this study has important implications for the emerging field of computational social science and ongoing efforts to reduce political polarization online.

Religion

Snell 2011
Daniel C. Snell, *Religions of the Ancient Near East*. (New York 2011).