

References

Aktuell

ISLEY 2016

Steven C. Isley, Paul C. Stern, Scott P. Carmichael, Karun M. Joseph & Douglas J. Arent, *Online purchasing creates opportunities to lower the life cycle carbon footprints of consumer products*. [PNAS 113 \(2016\), 9780–9785](#).

A major barrier to transitions to environmental sustainability is that consumers lack information about the full environmental footprints of their purchases. Sellers' incentives do not support reducing the footprints unless customers have such information and are willing to act on it. We explore the potential of modern information technology to lower this barrier by enabling firms to inform customers of products' environmental footprints at the point of purchase and easily offset consumers' contributions through bundled purchases of carbon offsets. Using online stated choice experiments, we evaluated the effectiveness of several inexpensive features that firms in four industries could implement with existing online user interfaces for consumers. These examples illustrate the potential for firms to lower their overall carbon footprints while improving customer satisfaction by lowering the "soft costs" to consumers of proenvironmental choices. Opportunities such as these likely exist wherever firms possess environmentally relevant data not accessible to consumers or when transaction costs make proenvironmental action difficult.

Keywords: carbon footprint | online experiments | carbon offset | ecolabels

Significance: A major barrier to reducing greenhouse emissions from economic consumption involves information about product supply chains. Consumers who wish to reduce or offset the emissions embodied in goods and services they buy have no economical way to inform such choices. Vendors often can, but rarely do, gather embodied carbon information at little cost and offer it to consumers. They can also bundle carbon offsets for customers, thus facilitating choices. We report on a series of experiments using online interfaces to offer carbon footprint information and offset bundling in four sectors: online retailing, ride sharing, video streaming, and short-term lodging. Results indicate that firms can reduce their supply chains' carbon footprints while improving customer satisfaction by facilitating consumers' proenvironmental choices.

MCDONNELL 2016

Jeffrey J. McDonnell, *The 1-hour workday*. [science 353 \(2016\), 718](#).

When I was an assistant professor, I felt constantly overwhelmed. Despite working like a madman, my productivity as measured by paper output was meager. I simply could not find time in my day for undistracted writing. And when I did find the time after an extended stretch away from writing, the warm-up period to get back into the paper was often long, further slowing my progress.

I've learned that writing does not need long stretches of uninterrupted time. Focus and regularity are what matter. I now advise my Ph.D. students and postdocs who are going on to faculty positions to adopt daily writing as an early-career habit so that they don't repeat my years of writing frustration.

PÖPPE 2016

Christoph Pöppe, *Einladung zum Mogeln*. [Spektrum der Wissenschaft 2016](#), ix, 32–34.

Einige psychologische Testverfahren bringen die Handlungen einer Versuchsperson nur verschleierte zum Ausdruck, damit diese ungehemmt ihre wahren Motive ausleben kann. Allerdings erschwert der Schleier die Interpretation der Ergebnisse und macht sie im Extremfall unmöglich.

REGANOLD 2016

John P. Reganold & Jerry D. Glover, *Rettung für Afrikas Erde*. [Spektrum der Wissenschaft 2016](#), ix, 44–47.

Wie lassen sich ausgelaugte Ackerböden regenerieren, damit sie wieder gute Erträge liefern? Indem die Bauern zwischen die Nutzpflanzen Bäume, Sträucher und andere ausdauernde Gewächse setzen!

Amerika

MCGOWAN 2016

Suzanne McGowan, *Muddy messages about American migration*. [nature 537 \(2016\)](#), 43–44.

When and by which paths did early humans migrate into America? An analysis of ancient plant and animal remains revises the timeframe during which a route may have opened between ice sheets in northwest America.

PEDERSEN 2016

Mikkel W. Pedersen et al., *Postglacial viability and colonization in North America's ice-free corridor*. [nature 537 \(2016\)](#), 45–49.

[n537-0045-Supplement.pdf](#)

Mikkel W. Pedersen, Anthony Ruter, Charles Schweger, Harvey Friebe, Richard A. Staff, Kristian K. Kjeldsen, Marie L.Z. Mendoza, Alwynne B. Beaudoin, Cynthia Zutter, Nicolaj K. Larsen, Ben A. Potter, Rasmus Nielsen, Rebecca A. Rainville, Ludovic Orlando, David J. Meltzer, Kurt H. Kjær & Eske Willerslev

During the Last Glacial Maximum, continental ice sheets isolated Beringia (northeast Siberia and northwest North America) from unglaciated North America. By around 15 to 14 thousand calibrated radiocarbon years before present (cal. kyr BP), glacial retreat opened an approximately 1,500-km-long corridor between the ice sheets. It remains unclear when plants and animals colonized this corridor and it became biologically viable for human migration. We obtained radiocarbon dates, pollen, macrofossils and metagenomic DNA from lake sediment cores in a bottleneck portion of the corridor. We find evidence of steppe vegetation, bison and mammoth by approximately 12.6 cal. kyr BP, followed by open forest, with evidence of moose and elk at about 11.5 cal. kyr BP, and boreal forest approximately 10 cal. kyr BP. Our findings reveal that the first Americans, whether Clovis or earlier groups in unglaciated North America before 12.6 cal. kyr BP, are unlikely to have travelled by this route into the Americas. However, later groups may have used this north–south passageway.

Bibel

CLINES 2016

David J. A. Clines, *Alleged Basic Meanings of the Hebrew Verb qdš 'be holy', An Exercise in Comparative Hebrew Lexicography*. [unknown \(2016\)](#), preprint, 1–15.

1. We should be suspicious of all Hebrew lexica and lexica of other Semitic languages alike, recognizing that many are more than 100 years old, written before fundamental lexicographical concepts like the difference between connotation and denotation were conceived. Being very refined technically and evincing excellent scholarship are highly desirable qualities in a lexicon, but they are no guarantee that the content has resulted from a fresh scrutiny of the textual evidence rather than being mainly derived from previous lexica.
2. We should resist the generalizations of lexicographers about the meanings of words, especially the 'root meanings' or basic senses of words, that are not amply supported by the citations given.
3. We should be especially cautious about lexica that follow the practice of listing as many translations of a given term as the lexicographer can manage. An analytical structure in an article is a good sign that the treatment is the product of new thought.
4. We should be training ourselves to be alert to differences among our current resources and learn not to be content with the first lexicon entry we happen to consult.
5. We should become aware of the history of Hebrew lexicography, especially as the precondition for the lexica of our own day. In what other branch of our study is the history of the scholarship so little considered?
6. In general, I would suggest, Hebrew lexicography should become as visibly contested a site of research as adjacent areas of biblical research such as the history of Israel or Pentateuchal source criticism.

HURVITZ 2016

Avi Hurvitz, *How Biblical Hebrew Changed*. [Biblical Archaeology Review 42 \(2016\)](#), v, 37–40, 62.

The scope of its “archaisms,” on the one hand, and its post-Classical “neologisms,” on the other, prove unequivocally that the language was not frozen during its thousand-year history, but was subject to an ongoing process of modification. The small group of so-called “minimalists” claims that Biblical literature “was written more or less at one go, or at least over a relatively short period of time, so that the texts quite naturally do not reveal signs of significant historical differentiation.”² However, this view is conclusively refuted by the evidence reviewed here and described at greater length in scholarly literature. As demonstrated above, despite the mask of its apparent uniformity, we can still trace within Biblical Hebrew distinctive linguistic innovations that have left their mark on the historical development of the language. Such changes and modifications did not occur overnight, but were part of an ongoing dynamic process extending over quite a long time.

KRIBUS 2016

Bar Kribus, *Arabia or Africa: Where is the land of Sheba?* [Biblical Archaeology Review 42 \(2016\)](#), v, 26–36 + 60–61.

The affinity of the Aksumite kingdom with South Arabia, which was advertised by the elite and might have been a cornerstone of Late Antique Ethiopian identity, may have been a step in the process of identification of Ethiopia with the Kingdom

of Sheba itself. Thus, it would lead, by means of the Biblical story of the meeting between the Queen of Sheba and King Solomon, to the development of the Kebrā Nagast narrative as we know it today.

Therefore, while Yemen can rightfully claim to be the place of the historical Kingdom of Sheba, Ethiopian culture and Ethiopian Orthodox Christianity can rightfully claim to be based on the Biblical heritage of this kingdom. And this heritage has had a major impact on Ethiopian Orthodox religion and identity. As such, perhaps the Ethiopian claim can be seen as no less substantial than the Yemenite one.

PEARCE 2016

Laurie E. Pearce, *How bad was the Babylonian Exile?* [Biblical Archaeology Review](#) 42 (2016), v, 48–54, 64.

The prophet Jeremiah exhorted Judah’s exiles to build houses, plant gardens, marry and have families—to engage in activities that would assure the stability and continuity of life and community in a foreign land (Jeremiah 29:5–7).

The Bible tells us that Evil-Merodach (Babylonian Amel-Marduk), son and successor of Nebuchadnezzar, released King Jehoiachin from prison, elevated him above other captive kings, and provided him with a daily food allowance (2 Kings 25:30; Jeremiah 52:31–34). This Biblical notice finds support in cuneiform ration lists excavated in Nebuchadnezzar’s South Palace, not far from Babylon’s famed Ishtar Gate.

Judeans of *āl-Yāḥūdu* inhabited the countryside and participated in the activities and business of agriculture. The record of the Judeans at *āl-Yāḥūdu* corroborates the depiction of Jeremiah’s words. The continuity and success of the Judean community is apparent in the records of five generations of one family living in *āl-Yāḥūdu*. The contracts in which *Aḥīqam* is the central figure show him, his father, *Rapā-Yāma*, and his sons to have been involved in rentals of land and date gardens, deliveries of grain and dates, collection of taxes and the acquisition of cattle for a plow team for efficient cultivation; marriage and death of family members are also referenced. Although *Aḥīqam*’s name is West Semitic, but not positively identifiable as Judean, his father and several sons bear Yahwistic names identifying them as of Judean descent.

Aḥīqam’s family is representative of a pattern that must have been repeated many times and which may well have contributed to the continuity of the Jewish community that, generations later, produced the Babylonian Talmud. Although the evidence for Judeans on the Babylonian landscape, from the time of the Exile through the Persian period, remains scattered over time and topography, the cuneiform sources substantiate many of the brief notices preserved in the Bible.

ROHRBAUGH 2016

Richard L. Rohrbaugh, *Reading the Bible Through Ancient Eyes.* [Biblical Archaeology Review](#) 42 (2016), v, 22+62.

And what about the third slave, the one so bitterly rebuked by the returning master and vilified in virtually all Western interpretation for failing to invest the money? In Matthew, he buries the deposit for safekeeping. The rabbis argued that this was precisely the right thing to do so the deposit could be returned intact (b. Baba Mezi’a 42b; m. Baba Batra 4:8.) In fact they ruled that burying the deposit meant the trustee was not liable if a loss occurred. Though the Lukan slave ties the money in a cloth—thus taking what the Mishnah specifies as the riskier course—he nonetheless preserves the pound as any honorable man would. He does not participate in the scheme to double the master’s money, but honorably refrains from taking anything that belongs to the share of another.

Even more telling is a third version of this parable quoted by Eusebius (265–339 C.E.) from the now-lost Gospel of the Nazoreans. There Eusebius is quite explicit that the hero of the story is the third slave who refused to cooperate in the investment schemes of the greedy master (Theophania 22). Perhaps it might have been possible for Western readers to see this master’s rapacious behavior for what it really is had we not been so eager to discover our own cultural values affirmed in the sacred text.

SCHARF 2014

Orr Scharf, “*If one translates a verse literally, he is a liar*”, *On dual loyalties in the Buber-Rosenzweig translation of the Bible*. In: *Proceedings of The Second International Symposium of the Project of Young Scholars*. (Koyto 2014), 68–76.

Elusive though it may be, the impact of the rabbinic sources on the B-R translation was dramatic. As I have tried to show, the dynamic between the translators’ sophistication and skepticism on the one hand, and the dual loyalties to the biblical source and the rabbinic sources on the other hand permeate the Verdeutschung, which emerges as pluralistic rather than purified.

SCHARF 2016

Orr Scharf, *Clandestine Scholarship, The Septuagint as a Key into Martin Buber’s and Franz Rosenzweig’s Bible Translation*. In: ANDREAS LOSCH, THOMAS REICHERT & JOHANNES WASSMER (Hrsg.), “*Alles in der Schrift ist echte Gesprochenheit*”, *Martin Buber und die Verdeutschung der Schrift*. Martin-Buber-Studien 2 (Lich 2016), 120–129.

I believe that it is no coincidence that all of the abovementioned studies barely mention the Septuagint, if at all. This attests to Buber’s and Rosenzweig’s surreptitious reliance on the Greek Bible, whose importance did not so much lie in consistent adoption of concrete solutions to translational problems, but as testament to the religious spirit of a long-gone era that the modern translators aspired to retrieve.

The universalist perspective, now put in an openly Jewish context, prompted Buber to foretell that the generations of non-Jewish Germans, who did not learn the real form of the Bible, but only its Christian reworking, will one day “have their eyes opened up, and will be terrified by what they have come to see and by themselves”

Biologie

ZUR HAUSEN 2016

Harald zur Hausen, *Multiple Sklerose*, “*Wir sind alle infiziert*”. *Spektrum der Wissenschaft* 2016, ix, 38–43.

Harald zur Hausen erhielt 2008 den Medizinnobelpreis für seine Entdeckung, dass Viren Krebs verursachen. Jetzt hegt er einen neuen Verdacht: Virale Bestandteile in Milch und Rindfleisch könnten auch multiple Sklerose und andere neurodegenerative Krankheiten auslösen.

Grabung

ADAMS 2014

Matthew J. Adams, Israel Finkelstein & David Ussishkin, *The Great Temple of Early Bronze I Megiddo*. [American Journal of Archaeology](#) **118** (2014), 285–305.

Tel Megiddo in the Jezreel Valley of Israel has been the most cited type-site of the Early Bronze Age Levant since the excavations of the University of Chicago in the 1920s and 1930s. Through the efforts of the Tel Aviv University Megiddo Expedition, the stratigraphic sequence of the Early Bronze Age has been significantly refined, and a new monumental temple dating to Early Bronze Age IB (ca. 3000 B.C.E.) has been discovered. This Great Temple has proven to be the most monumental structure of the period in the Levant. This discovery provides new evidence for the rise of social and political complexity in the region.

Isotope

CHOY 2016

Kyungcheol Choy, Ben A. Potter, Holly J. McKinney, Joshua D. Rether, Shiway W. Wang & Matthew J. Wooller, *Chemical profiling of ancient hearths reveals recurrent salmon use in Ice Age Beringia*. [PNAS](#) **113** (2016), 9757–9762.

Current approaches to reconstruct subsistence and dietary trends in ancient hunter-gatherer societies include stable isotope analyses, but these have focused on human remains, cooking pottery, and food residues, which are relatively rare in the archaeological record. In contrast, short-term hearths are more ubiquitous worldwide, and these features can provide valuable evidence for ancient subsistence practices, particularly when faunal remains are not preserved. To test the suitability of hearths for this purpose, we conducted multiple chemical analyses: stable carbon and nitrogen isotope analyses of total organic matter (expressed as $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ values) and compound-specific carbon isotope analyses of individual fatty acids ($\delta^{13}\text{C}_{16:0}$ and $\delta^{13}\text{C}_{18:0}$) from 17 well-preserved hearths present in three occupations dating between $\approx 13,200$ –11,500 calibrated years B.P. at the Upward Sun River (USR) site in central Alaska. We combined $\delta^{15}\text{N}$ and $\delta^{13}\text{C}_{\text{FA}}$ data in a Bayesian mixing model (stable isotope analysis in R) with concentration dependency to each hearth. Our model values were tested against faunal indices, indicating a strong positive relationship between marine proportional contributions to each hearth and salmon abundance. Results of the models show substantial anadromous salmon use in multiple USR components, indicating recurrent use of the site for salmon processing during the terminal Pleistocene. Our results demonstrate that salmonid and freshwater resources were more important for late Pleistocene hunter-gatherers than previously thought and highlight the potential of chemical profiling of hearth organic residues for providing greater geographic and temporal insights into resource use by prepottery societies.

Keywords: stable isotopes | hearths | organic residue analysis | GC-combustion-IRMS | Beringia

Significance: Reconstructing subsistence practices of ancient hunter-gatherers requires quantitative data on food resources, which rarely preserve. Here we use chemical profiling of hearth sediments from three Ice Age occupations in Alaska (13,200–11,500 years ago), including compound-specific stable isotope analyses and a Bayesian mixing model, to estimate proportional contributions of marine

(salmon), freshwater, and terrestrial resources. The model is verified through zooarchaeological analyses and demonstrates the importance of salmonid and freshwater resources to these early Americans. Our study also provides evidence for the earliest use of salmon in the Americas.

Klima

CONTARDI 2015

Federico Contardi, *Disasters Connected with the Rhythm of the Nile in the Textual Sources*. In: GIUSEPPINA CAPRIOTTI VITTOZZI (Hrsg.), *Egyptian Curses 2, A Research on Ancient Catastrophes*. Archaeological Heritage & Multidisciplinary Egyptological Studies 2 (Rom 2015), 11–26.

Famines and epidemics (i3dt rnpt) are two of the natural catastrophes connected with the rhythm of the Nile: the former were determined by a low inundation, while the latter were the consequence of excessive stagnation of the waters. With regard to famines, much has been written; in this paper, I focus on the interpretation of the textual sources of the First Intermediate Period in order to test the thesis of B. Bell (which occasionally still finds acceptance), who considered the end of the Old Kingdom as a consequence of a series of famines determined by climate change. As for the epidemics, their diffusion during the year is examined in the light of the calendar of the lucky and unlucky days (papyrus Sallier IV and papyrus Cairo JE 86637), and one tablet of the XVIII dynasty in the Louvre, which seems not have been hitherto considered as a textual witness of this phenomenon.

Kupfer

LEHNER 2015

Joseph W. Lehner, Evren Yazgan, Ernst Pernicka & Fikri Kulakoğlu, *Continuity of Tin Bronze Consumption during the Late 3rd Millennium BC at Kültepe*. In: FIKRI KULAKOĞLU & CÉCILE MICHEL (Hrsg.), *Proceedings of the 1st Kültepe International Meeting, Kültepe 19–23 September, 2013, Studies dedicated to Kutlu Emre*. Subartu 35 (Turnhout 2015), 195–217.

Lead isotope analysis of many mid-3rd millennium BC copper tin alloys roughly contemporary with Troy I and II from northwestern Anatolia and the Aegean demonstrate that the copper in the bronze is distinct from many of the copper ores from these regions. This highly radiogenic lead is probably derived from ores of at least Precambrian age, the rocks of which are almost entirely unknown to the Aegean, Anatolia and the Middle East more generally. Additionally, because placer deposits of cassiterite have little to no trace lead, the lead from the bronzes is most likely derived from the copper. Lead isotope measures from these studies also suggest that the copper used to produce arsenical copper, a much older metallurgical technology, is likely sourced locally. This influx of imported copper is observed elsewhere in the Aegean (e.g. Kastri) and from sites as far as in Oman and the United Arab Emirates, which coincides with the rise of tin bronzes in the region. This combined evidence suggests that the earliest bronzes of northwestern Anatolia and the Aegean regions were imported and not locally produced.

Current evidence suggests that Syro-Mesopotamia, central and eastern Anatolia, and highland western Iran all adopted bronze technology around the same time.

Combined chronological and lead isotopic data suggests that the consumption of bronze dates a few centuries later in northwestern Anatolia and the Aegean and that the metal was imported through long-distance exchange, which is more consistent with a diffusion model of adoption. Given the apparent rapidity of the transmission of bronze technology, we must assume that social groups were highly connected to allow relatively fast transmission rates.

In this paper we sought to describe new data on the consumption of copper alloys at Kültepe in the late 3rd millennium BC. While these data cannot confirm or logically falsify any known source of tin currently believed to be functional during the 3rd millennium BC, the coincidence of early trade connections with Mesopotamia suggests that the tin trade we observe in the early 2nd millennium BC may also have continuity into the earlier periods. These early deep cultural connections are evinced not only by indicators of long-distance exchange, including pottery and beads produced of lapis and carnelian,⁷⁹ but also administrative technology and monumental architecture.

Neolithikum

MELLER 2013

HARALD MELLER (Hrsg.), *3300 BC: mysteriöse Steinzeittote und ihre Welt, Sonderausstellung vom 14. November 2013 bis 18. Mai 2014 im Landesmuseum für Vorgeschichte Halle. (Mainz 2013).*

Es geschah beim heutigen Salzmünde in Sachsen-Anhalt. Auf einem mächtigen, umwehrten Höhenplateau wurden vor über 5000 Jahren Rituale gepflegt, die uns heute seltsam und bizarr erscheinen.

Schädel und Knochen Verstorbener aus den zwei Umgrenzungsgräben der Anlage, die unter dicken Schichten zerschlagener Keramik niedergelegt worden waren, geben ihre Geschichte preis. Mit modernsten Untersuchungsmethoden und kriminologischem Geschick ergründet ein interdisziplinäres Team von Forschern seit 2007 die rätselhaften Geschehnisse um die massiv manipulierten Skelette von Salzmünde.

Das Begleitbuch zu einer Ausstellung im Landesmuseum für Vorgeschichte in Halle erläutert, was an diesem jungsteinzeitlichen Kultplatz geschah, und führt ein in die Zeit der monumentalen Bauwerke vor über 5000 Jahren. Am Ende entsteht das Bild einer fremden Welt im Herzen Europas mit ihren unglaublichen Innovationen und einer menschlichen Gemeinschaft, aus der ergreifende Einzelschicksale u. a. in den Skeletten von Salzmünde aufscheinen.

Neolithikum Datierung

DOWNEY 2016

Sean S. Downey, W. Randall Haas Jr. & Stephen J. Shennan, *European Neolithic societies showed early warning signals of population collapse. PNAS 113 (2016), 9751–9756.*

Ecosystems on the verge of major reorganization—regime shift—may exhibit declining resilience, which can be detected using a collection of generic statistical tests known as early warning signals (EWSs). This study explores whether EWSs anticipated human population collapse during the European Neolithic. It analyzes recent reconstructions of European Neolithic (8–4 kya) population trends that reveal regime shifts from a period of rapid growth following the introduction of agriculture to a period of instability and collapse. We find statistical support for

EWSs in advance of population collapse. Seven of nine regional datasets exhibit increasing autocorrelation and variance leading up to collapse, suggesting that these societies began to recover from perturbation more slowly as resilience declined. We derive EWS statistics from a prehistoric population proxy based on summed archaeological radiocarbon date probability densities. We use simulation to validate our methods and show that sampling biases, atmospheric effects, radiocarbon calibration error, and taphonomic processes are unlikely to explain the observed EWS patterns. The implications of these results for understanding the dynamics of Neolithic ecosystems are discussed, and we present a general framework for analyzing societal regime shifts using EWS at large spatial and temporal scales. We suggest that our findings are consistent with an adaptive cycling model that highlights both the vulnerability and resilience of early European populations. We close by discussing the implications of the detection of EWS in human systems for archaeology and sustainability science.

Keywords: archaeology | early warning signs | human paleodemography | Neolithic Europe | resilience

Significance: This study explores whether archaeologically detectable declines in resilience precede the onset of large-scale human population collapses. Our case study is the European Neolithic: a period that began approximately 9,000 y ago when the introduction of agricultural technologies initiated phases of rapid population growth that were in many cases followed by demographic instability and dramatic collapse. Our study finds evidence that statistical signatures of decreasing resilience can be detected long before population decline begins. To our knowledge, this study is the first to find early warning signals of demographic regime shift among human populations. The results suggest that archaeological information can potentially be used to monitor social and ecological vulnerability in human societies at large spatial and temporal scales.

Physik

RIESS 2016

Adam G. Riess & Mario Livio, *Brisante Dunkle Energie*. [Spektrum der Wissenschaft 2016, ix, 12–17](#).

Eine Kraft treibt das Universum auseinander. Aber wie? Auch zwei Jahrzehnte nach seiner Entdeckung verstehen Theoretiker das Phänomen nicht. Nun sollen neue Experimente Klarheit schaffen.

1 Die Galaxien im All entfernen sich immer schneller voneinander. Doch die physikalische Ursache dafür ist unbekannt.

2 Theoretiker haben zwei Erklärungsansätze. Entweder verstehen wir die Gesetze der Schwerkraft nicht richtig, oder aber hinter allem steckt “Dunkle Energie”.

3 Für Dunkle Energie gibt es zurzeit zwei fundamental verschiedene Modelle. Jedes von ihnen hätte ganz andere, dramatische Konsequenzen für die ferne Zukunft des Kosmos.