

## References

### Aktuell

#### PEEPLS 2019

Lynne Peeples, *How the next recession could save lives*. [nature](#) **565** (2019), 412–415.

Death rates have dropped during past economic downturns, even as many health trends have worsened. Researchers are scrambling to decipher lessons before the next big recession.

#### STEPHAN 2019

Ralph Stephan, *“Als ich einen Archäologen suchte”*, *Ein persönlicher Erfahrungsbericht*. [Archäologische Informationen](#) **41** (2019), 317–317.

The search for an archaeologist for the Hegau-Museum in the city of Singen revealed to all involved, how tumultuary the market actually is – on both ends. Most of the long-term contracts for historians are offered by communal museums, but universities seem to not prepare for the requirements. In the light of latest criteria for public sector employment, Ralph Stephan, the head of the Hegau-Museum, describes his view on the potential development of staff in communal museums: in favour of an increasing acceptance of a fairly new created bachelor “museology” it will be increasingly difficult for archaeologists. A permanent job offer as in Singen turned out to be an exception. Most of the remarkably huge number of highly skilled applicants showed chain-like job experiences in precarious situations and even more significant seem to be the outstanding qualification of women contrasting the marginal share of women in leading positions. Even if this case study is only a spotlight – it seems to be exemplary.

Keywords: archaeology | museum | classification | public sector pay scales | museology | gender ratio | Singen | opinion piece

Die Suche nach einer Archäologin oder einem Archäologen im Hegau-Museum der Stadt Singen offenbarte allen Beteiligten die schwierigen Verhältnisse für Bewerber auf dem archäologischen Arbeitsmarkt. Auch für die Arbeitgeber ist es nicht einfach. Die kommunalen Museen bieten in Deutschland die meisten festen Stellen für Historiker-Berufe an, für deren Bedürfnisse wird an den Universitäten jedoch kaum ausgebildet. Angesichts der seit letztem Jahr anzuwendenden Kriterien für die Stellenbewertung im Öffentlichen Dienst legt Museumsleiter Ralph Stephan hier in diesem bewusst subjektiv gefärbten Artikel die vermutliche Personalentwicklung im Bereich kommunaler Museen dar. Die steigende Akzeptanz des Bachelors Museologie bei kommunalen Museumsträgern ist bereits heute erkennbar – und das zu Ungunsten des archäologischen Fachstudiums. Die Ausschreibung einer unbefristeten Arbeitsstelle in Singen stellte sich als Ausnahme in der Branche dar. Die zahlreichen bei der Stadt eingegangenen Bewerbungen universitär hochgebildeter Menschen enthielten fast ausschließlich Lebensläufe, in denen sich regelhaft prekäre Beschäftigungsverhältnisse aneinanderreihen. Noch deutlicher wurde in diesem wahrscheinlich beispielhaften Besetzungsverfahren die Benachteiligung von Frauen in akademischen Berufen. Deren oft herausragende Qualifikationen stehen im krassen Gegensatz zum marginalen Frauenanteil in den Führungspositionen der Branche.

Keywords: Archäologie | Museum | Eingruppierung | TVöD | Museologie | Bewerberlage | Geschlechterverhältnis | Singen | Stellungnahme

## Bibel

CLIFFORD 2018

Richard J. Clifford, *What the Biblical Scribes Teach Us about Their Writings*. *Theological Studies* **79** (2018), 653–667.

“Judaism survived through its scholars, not its soldiers . . . Fundamentalists and today’s atheists share the same approach to texts. They read them directly and literally, ignoring the single most important fact about a sacred text, namely that its meaning is not self-evident. It has a history and an authority of its own. Every religion must guard against a literal reading of its hard texts if it is not to show that it has learned nothing from history.” [J. Sacks]

A question often posed to biblical scholars is how they can insist that God is merciful and trustworthy when in many Old Testament texts God is harsh and punitive. The article proposes to interpret such hard texts by examining the biblical scribes’ habits of composition—what they noticed, how they saw God revealed in history, and how they told their stories. In the light of these conclusions, the second part of the article examines several difficult Old Testament texts.

**Keywords:** biblical hermeneutics | biblical portrayals of God | the conquest of Canaan | Hebrew Bible | holy war | Old Testament | the sacrifice of Isaac

## Biologie

LIN 2019

ChangDong Lin et al., *Fever Promotes T Lymphocyte Trafficking via a Thermal Sensory Pathway Involving Heat Shock Protein 90 and  $\alpha 4$  Integrins*. *Immunity* **50** (2019), 137–151.

ChangDong Lin, YouHua Zhang, Kun Zhang, YaJuan Zheng, Ling Lu, HaiShuang Chang, Hui Yang, YanRong Yang, YaoYing Wan, ShiHui Wang, MengYa Yuan, ZhanJun Yan, RongGuang Zhang, YongNing He, GaoXiang Ge, Dianqing Wu & JianFeng Chen

**In Brief:** Fever is an evolutionarily conserved response in both endothermic and ectothermic species and confers survival benefits during infection and injury. Lin et al. identify that the Hsp90-a4-integrin axis serves as a thermal sensory pathway that responds to fever to promote T cell trafficking and enhance immune surveillance during infection.

**Highlights:**

- Fever promotes a4-integrin-mediated T cell adhesion and transmigration
- Hsp90 binds to a4 tails and activates a4 integrins via insideout signaling
- Hsp90 triggers dimerization and clustering of a4 integrins to activate FAK-RhoA
- Disruption of Hsp90-a4 interaction impairs fever-induced T cell trafficking

Fever is an evolutionarily conserved response that confers survival benefits during infection. However, the underlying mechanism remains obscure. Here, we report that fever promoted T lymphocyte trafficking through heat shock protein 90 (Hsp90)induced a4 integrin activation and signaling in T cells. By inducing selective binding of Hsp90 to a4 integrins, but not b2 integrins, fever increased a4-integrin-mediated T cell adhesion and transmigration. Mechanistically, Hsp90 bound to the a4 tail and activated a4 integrins via inside-out signaling. Moreover, the N and C termini of one Hsp90 molecule simultaneously bound to two a4 tails, leading to dimerization and clustering of a4 integrins on the cell membrane and subsequent activation of the FAK-RhoA pathway. Abolishment of Hsp90-a4 interaction inhibited fever-induced T cell trafficking to draining lymph nodes and

impaired the clearance of bacterial infection. Our findings identify the Hsp90a4-integrin axis as a thermal sensory pathway that promotes T lymphocyte trafficking and enhances immune surveillance during infection.

## Datierung

RZEPECKI 2019

Andreas Rzepecki, Mechthild Neyses-Eiden, Thomas Frank, Barbara Diethelm, Franz Herzig & Willy Tegel, *Missing link in Late Antiquity? A critical examination of Hollstein's Central European Oak Chronology*. [Dendrochronologia](#) **54** (2019), 20–28.

In 1980 Ernst Hollstein published his Central European Oak Chronology, which covers a period from 724 BCE to 1974 CE. Besides a later correction of the end date of the sampling site chronologies Kirnsulzbach (Germany) and Gustavsburg (Germany) this master chronology has since not been changed and still remains one of the most important bases for dendrochronological dating in western Germany. It stands out in so far as it provides comprehensive graphical findspot series for each individual sampled site and year to year growth values for eight regional sub-chronologies in addition to the combined Central European reference curve.

Particularly due to the fact of Hollstein's chronology being publicly available, it has frequently been criticized for its insufficient data to bridge the Late Antiquity between 350 and 400 CE with only three sampling sites (tomb near Beerlegem, Belgium; tomb inside of Cologne Cathedral, Germany; subfossil trees near Broichweiden, Germany) and that these site chronologies cover those decades with inadequate correlation coefficients. With regard to recent statistical threshold values for crossdating, Hollstein's Late Antiquity bridging needs to be reconsidered.

Therefore, in a combined effort, the dendrochronological laboratories at Rheinisches Landesmuseum Trier (RLM), the University of Cologne and Albert-Ludwigs-University Freiburg re-evaluated Hollstein's findings for Late Antiquity by including the respective dendrochronological examinations conducted in RhinelandPalatinate, North Rhine-Westphalia and north-eastern France during the past 40 years. A total of 62 site chronologies were compiled to establish a new Late Antiquity chronology. Thirteen of these site chronologies could be used to support Hollstein's original bridging series between 350 and 400 CE while the mean series for Broichweiden had to be corrected from end date 365 to 503 CE. Furthermore, this new bridging chronology could be validated by comparing it to an independent chronology from southern Germany. This study thus proves that the integrity of Hollstein's Central European Oak Chronology is not compromised by a flawed Late Antiquity bridging and that therefore dating based on the Roman part of this chronology can still be considered as absolute.

Keywords: Dendroarchaeology | Hollstein | Central European Oak Chronology | Late Antiquity

## Klima

KANIEWSKI 2019

David Kaniewski et al., *300-year drought frames Late Bronze Age to Early Iron Age transition in the Near East, New palaeoecological data from Cyprus and Syria*. [Regional Environmental Change](#) (2019), preprint, 1–11. DOI:10.1007/s10113-018-01460-w.

RegEnvCh2019.01-Kaniewski-Supplement.xlsx

David Kaniewski & Nick Marriner & Joachim Bretschneider & Greta Jans & Christophe Morhange & Rachid Cheddadi & Thierry Otto & Frédéric Luce & Elise Van Campo

In Eastern Mediterranean history, 1200 BCE is a symbolic date. Its significance is tied to the important upheavals that destabilised regional-scale economic systems, leading to the dislocation of mighty Empires and, finally, to the ‘demise’ of a societal model (termed ‘the Crisis Years’). Recent studies have suggested that a centuries-long drought, of regional scale, termed the 3.2 ka BP event, could be one of the motors behind this spiral of decline. Here, we focus on this pivotal period, coupling new palaeoenvironmental data and radiocarbon dates from Syria (the site of Tell Tweini) and Cyprus (the site of PylaKokkinokremnos), to probe whether climate change accelerated changes in the Eastern Mediterranean’s Old World, by inducing crop failures/low harvests, possibly engendering severe food shortages and even famine. We show that the Late Bronze Age crisis and the following Dark Ages were framed by an  $\approx 300$ -year drought episode that significantly impacted crop yields and may have led to famine. Our data underline the agro-productive sensitivity of ancient Mediterranean societies to environmental changes, as well as the potential link between adverse climate pressures and harvest/famine.

**Keywords:** Late Bronze Age crisis | Climate change | Drought | 3.2 ka BP event | Food shortages | Famine | Eastern Mediterranean

## KOCH 2019

Alexander Koch, Chris Brierley, Mark M. Maslin & Simon L. Lewis, *Earth system impacts of the European arrival and Great Dying in the Americas after 1492*. [Quaternary Science Reviews](#) **207** (2019), 13–26.

qsr207-0013-Supplement.pdf

Human impacts prior to the Industrial Revolution are not well constrained. We investigate whether the decline in global atmospheric CO<sub>2</sub> concentration by 7–10 ppm in the late 1500s and early 1600s which globally lowered surface air temperatures by 0.15°C, were generated by natural forcing or were a result of the large-scale depopulation of the Americas after European arrival, subsequent land use change and secondary succession. We quantitatively review the evidence for (i) the pre-Columbian population size, (ii) their per capita land use, (iii) the post-1492 population loss, (iv) the resulting carbon uptake of the abandoned anthropogenic landscapes, and then compare these to potential natural drivers of global carbon declines of 7–10 ppm. From 119 published regional population estimates we calculate a pre-1492 CE population of 60.5 million (interquartile range, IQR 44.8–78.2 million), utilizing 1.04 ha land per capita (IQR 0.98–1.11). European epidemics removed 90% (IQR 87–92%) of the indigenous population over the next century. This resulted in secondary succession of 55.8 Mha (IQR 39.0–78.4 Mha) of abandoned land, sequestering 7.4 Pg C (IQR 4.9–10.8 Pg C), equivalent to a decline in atmospheric CO<sub>2</sub> of 3.5 ppm (IQR 2.3–5.1 ppm CO<sub>2</sub>). Accounting for carbon cycle feedbacks plus LUC outside the Americas gives a total 5 ppm CO<sub>2</sub> additional uptake into the land surface in the 1500s compared to the 1400s, 47–67% of the atmospheric CO<sub>2</sub> decline. Furthermore, we show that the global carbon budget of the 1500s cannot be balanced until large-scale vegetation regeneration in the Americas is included. The Great Dying of the Indigenous Peoples of the Americas resulted in a human-driven global impact on the Earth System in the two centuries prior to the Industrial Revolution.

**Keywords:** South America | Central America | Vegetation dynamics | Disease epidemics | Archaeology | Land use change | Carbon cycle dynamics | Anthropocene | De-population | Great dying

## MORI 2019

Masato Mori, Yu Kosaka, Masahiro Watanabe, Hisashi Nakamura & Masahide Kimoto, *A reconciled estimate of the influence of Arctic sea-ice loss on recent Eurasian cooling*. *nature climate change* (2019), preprint, 1–9. DOI:10.1038/s41558-018-0379-3.

NatClimCh2019.01-Mori-Supplement.pdf

Northern midlatitudes, over central Eurasia in particular, have experienced frequent severe winters in recent decades<sup>1–3</sup>. A remote influence of Arctic sea-ice loss has been suggested<sup>4–14</sup>; however, the importance of this connection remains controversial because of discrepancies among modelling and between modelling and observational studies<sup>15–17</sup>. Here, using a hybrid analysis of observations and multi-model large ensembles from seven atmospheric general circulation models, we examine the cause of these differences. While all models capture the observed structure of the forced surface temperature response to sea-ice loss in the Barents–Kara Seas—including Eurasian cooling—we show that its magnitude is systematically underestimated. Owing to the varying degrees of this underestimation of sea-ice-forced signal, the signal-to-noise ratio differs markedly. Correcting this underestimation reconciles the discrepancy between models and observations, leading to the conclusion that  $\approx 44\%$  of the central Eurasian cooling trend for 1995–2014 is attributable to sea-ice loss in the Barents–Kara Seas. Our results strongly suggest that anthropogenic forcing has significantly amplified the probability of severe winter occurrence in central Eurasia via enhanced melting of the Barents–Kara sea ice. The difference in underestimation of signal-to-noise ratio between models therefore calls for careful experimental design and interpretation for regional climate change attribution.

## ZANNA 2019

Laure Zanna, Samar Khatiwala, Jonathan M. Gregory, Jonathan Ison & Patrick Heimbach, *Global reconstruction of historical ocean heat storage and transport*. *PNAS* **116** (2019), 1126–1131.

pnas116-01126-Supplement.pdf

Most of the excess energy stored in the climate system due to anthropogenic greenhouse gas emissions has been taken up by the oceans, leading to thermal expansion and sea-level rise. The oceans thus have an important role in the Earth’s energy imbalance. Observational constraints on future anthropogenic warming critically depend on accurate estimates of past ocean heat content (OHC) change. We present a reconstruction of OHC since 1871, with global coverage of the full ocean depth. Our estimates combine timeseries of observed sea surface temperatures with much longer historical coverage than those in the ocean interior together with a representation (a Green’s function) of time-independent ocean transport processes. For 1955–2017, our estimates are comparable with direct estimates made by infilling the available 3D time-dependent ocean temperature observations. We find that the global ocean absorbed heat during this period at a rate of  $0.30 \pm 0.06$  W/m<sup>2</sup> in the upper 2,000 m and  $0.028 \pm 0.026$  W/m<sup>2</sup> below 2,000 m, with large decadal fluctuations. The total OHC change since 1871 is estimated at  $436 \pm 91 \times 10^{21}$  J, with an increase during 1921–1946 ( $145 \pm 62 \times 10^{21}$  J) that is as large as during 1990–2015. By comparing with direct estimates, we also infer that, during 1955–2017, up to one-half of the Atlantic Ocean warming and thermosteric sea-level rise at low latitudes to midlatitudes emerged due to heat convergence from changes in ocean transport.

**Keywords:** ocean heat content | Earth’s energy imbalance | sea-level rise | climate change | ocean processes

**Significance:** Since the 19th century, rising greenhouse gas concentrations have caused the ocean to absorb most of the Earth's excess heat and warm up. Before the 1990s, most ocean temperature measurements were above 700 m and therefore, insufficient for an accurate global estimate of ocean warming. We present a method to reconstruct ocean temperature changes with global, full-depth ocean coverage, revealing warming of  $436 \cdot 10^{21}$  J since 1871. Our reconstruction, which agrees with other estimates for the well-observed period, demonstrates that the ocean absorbed as much heat during 1921–1946 as during 1990–2015. Since the 1950s, up to one-half of excess heat in the Atlantic Ocean at midlatitudes has come from other regions via circulation-related changes in heat transport.

## Kultur

GROSS 2019

Eda Gross & Renata Huber, *Thinking outside the Box, Life beyond 'House – Farmstead – Village' in Neolithic Wetland Sites*. [Archäologische Informationen 41 \(2019\), 255–274](#).

The approach to analyse Neolithic settlement structures only on a strict scale of 'house – farmstead – village' is unrewarding in our opinion. Even individualisation, and therefore reconstruction, of separate houses in Neolithic wetland sites is much more problematic than commonly assumed (e.g. distinction of architectural units, rate of dated vs. undated piles, scarce evidence for superstructures and their connection to the house layout). Many current reconstructions of houses and village layouts are mostly based on unproven presumptions. Taphonomic complexity in wetland layers is so difficult to understand that trivial connections between layers and architectural structures cannot be assumed. Concerning its basic hypothesis and the consequential economical and social implications, this paper focuses on discussing settlement patterns in the Canton of Zug (Switzerland) and highlighting two examples of current research in pile dwellings at Lake Zug (Cham-Eslen, Zug-Riedmatt). The high density of (potentially) contemporary sites in certain periods as well as the evidence of specialised – and possibly only or predominantly seasonal – lake dwellings speak in favour of complex patterns of settlement, exploitation and communication structured on a large scale as opposed to small, economically autarchic and self-contained village units. Hence we would like to contrast the traditional hierarchical model ('house – farmstead – village'), based on historic analogies, incorrectly perceived as obvious, with a relational network-model, which is close-knit especially in the bodies of water as lifelines (routes of transport and communication, important food resources). This approach opens a broad interpretive framework regarding the results of many disciplines like archaeology of economies, demography and settlement geography.

**Keywords:** archaeology | lake dwelling | pile dwelling | wetland site | low-level food production | autarky | network model | bodies of water as lifelines | seasonality

Aufgrund unserer Erfahrungen mit zirkumalpinen Ufersiedlungen stellen wir den Ansatz, Siedlungsstrukturen des Neolithikums auf der Skala ‚Haus – Hof – Dorf‘ untersuchen zu wollen, grundsätzlich in Frage. Nur schon die Ansprache und infolgedessen die Rekonstruktion einzelner Gebäude ist im Ufersiedlungsneolithikum problematischer als es ein erster Blick auf die Forschungslage suggerieren mag: Die Abgrenzung der architektonischen Einheiten zueinander, der Anteil datierter bzw. undatierter Pfähle, mangelhafte Informationen zur Gestaltung des Oberbaus bzw. dessen Bezug zum Grundriss – all diese Umstände erschweren die Lesbarkeit der Pfahlpläne. Viele der aktuellen Rekonstruktionen von Einzelhäusern



sowie von gesamten Siedlungsplänen beruhen auf unbewiesenen Vorannahmen. Die taphonomischen Probleme in den Ufersiedlungen erweisen sich als derart komplex, dass ein Zusammenhang zwischen Schichteinheiten und architektonischen Strukturen nicht einfach und eindeutig hergestellt werden kann. Diese Skizze muss sich bezüglich der Grundthese und den wirtschaftlichen und gesellschaftlichen Konsequenzen auf die Diskussion der Fundverteilung im Kanton Zug (Schweiz) und hier auf zwei aktuelle Beispiele, nämlich die Ufersiedlungen Cham-Eslen und Zug-Riedmatt, beschränken. Die zum Teil hohe Dichte von (potentiell oder tatsächlich) gleichzeitigen und die Nachweise von spezialisierten (möglicherweise ausschliesslich oder schwergewichtig saisonal genutzten) Siedlungsplätzen an den Seeufnern sprechen für komplex und grossräumig strukturierte Siedlungs-, Nutzungs- und Kommunikationsmuster und nicht für kleinräumig territorial organisierte, ökonomisch autarke, in sich abgeschlossene Dorfeinheiten. Deshalb möchten wir dem traditionell hierarchischen Modell ('Haus – Hof – Dorf'), das sich an uns naheliegenden historischen Analogien orientiert, ein relationales Netzwerk-Modell gegenüberstellen, das sich im Bereich der Gewässer als Lebensadern, als Verkehrs- und Kommunikationswege und als Quelle wichtiger Nahrungsressourcen besonders dicht knüpft. Dieser Ansatz öffnet den Interpretationsrahmen in Bezug auf die Untersuchungsergebnisse zahlreicher Disziplinen wie Wirtschaftsarchäologie, Demograie oder Siedlungsgeographie.

**Keywords:** Archäologie | Seeufersiedlung | Pfahlbau | Feuchtbodenfundstelle | Low-Level Food Production | Autarkie | Netzwerkmodell | Gewässer als Lebensadern | Saisonalität

## HERTEN 2019

Friedel Herten & Georg Waldmann, *Functional principles of early time measurement at Stonehenge and Nebra*. [Archäologische Informationen 41 \(2019\), 275–288](#).

The world-famous Neolithic circle of Stonehenge might possibly have been used as a precise open-air lunisolar calendar over thousands of years. The Nebra Sky Disc, dating from the Bronze Age, and 1500 years later in age, offers surprisingly the same constructional features and characteristics. In this study, it is emphasised that Stonehenge and the Nebra Sky Disc served as lunisolar calendars based on an 18.6 yr cycle, made possible by the observation of the motion of the northern lunar standstills solely. With both calendarsystems, solar and lunar eclipses could be predicted precisely on the day — more than 5000 years ago. With this study, a solution of the enigma about the astronomical function principles of henge architectures in the British Isles is discussed. The functional principles of the lunisolar calendars are similar to a modern computer: the moon serves as an impulse generator (processor), the circular arrangement of posts memorises data and an algorithm in a form of a software or calendar is performed with simple equipment. The Nebra Sky Disc could possibly be referred to as a portable and progressed laptop version of this computer.

**Keywords:** Stonehenge | lunisolar calendar | henge | Nebra Sky Disc | computer science | archaeoastronomy | lunar standstills | Neolithic | Bronze Age | Woodhenge | Avebury

Die weltberühmte neolithische Kreisanlage von Stonehenge könnte möglicherweise über Jahrtausende als ein präziser Lunisolarkalender genutzt worden sein. Die aus der Bronzezeit stammende Himmelsscheibe von Nebra, die 1500 Jahre jünger datiert ist, verfügt in erstaunlicher Weise über die gleichen Konstruktionsmerkmale und Charakteristiken. In dieser Studie wird vermutet, dass die Lunisolarkalender von Stonehenge und der Himmelsscheibe von Nebra auf einem 18,6-Jahreszyklus basierten und aus schließlich auf der Beobachtung der

Bewegung der nördlichen Mondwenden beruhten. Mit beiden Systemen hätten bereits vor mehr als 5000 Jahren Sonnen- und Mondinsternisse auf den Tag genau vorhergesagt werden können. Mit den Ergebnissen dieses Beitrags könnte das große Rätsel gelöst worden sein, über welche astronomischen und funktionellen Möglichkeiten die Henge-Architekturen auf den britischen Inseln verfügten. Die Funktionsprinzipien der Lunisolarkalender erinnern an einen modernen Computer: Der Mond fungiert als Taktgeber (Prozessor), die kreisförmig angeordneten Pfosten speichern Informationen und es wird mit einfachen Mitteln ein Algorithmus in Form einer Kalendersoftware ausgeführt. Die Himmelscheibe von Nebra könnte – bildlich gesprochen – als portable und weiterentwickelte Laptop-Version dieses Computers angesehen werden.

**Keywords:** Stonehenge | Lunisolarkalender | Henge | Kreisgrabenanlage | Himmelscheibe von Nebra | Informatik | Archäoastronomie | Mondwenden | Neolithikum | Bronzezeit | Woodhenge | Avebury

## Metallzeiten

KLONTZA-JAKLOVÁ 2019

Věra Klontza-Jaklová, *Use of Aegean Bronze Age symbols by the local elites of prehistoric Europe*. In: *Inspiracje i funkcje sztuki pradziejowej i wczesnosredniowiecznej, Biskupin 27–29. 06. 2016*. (Biskupin 2019).

It would be flying in the face of probability today to present the use of these motifs during the Bronze Age as random. They were used over a very wide area and surely bear cosmological connotations. Some of the similarities in their use have already been pointed out, from G. Childe (1929) to Kristiansen and Larsson (2005) and others. Their choice and their combinations are also part of one logical, meaningful system which was understandable to all European populations, to the Near Eastern peoples, the Egyptians and those even farther afield.

## Methoden

SAPIR 2019

Yair Sapir, Yuval Sapir & Avraham Faust, *Using floristic characteristics of contemporary vegetation for identifying archaeological sites, Tel ‘Eton archaeological site as a test case*. *Israel Journal of Plant Sciences* (2019), preprint, 1–9. DOI:10.1163/22238980-00001029.

Over the last century, crosstalk between archaeologists and botanists had focused on the identification of plants remnants, such as charcoal or seeds found in archaeological inventory. Here we demonstrate how botany can play a fundamental role in identifying ancient landscape by using current vegetation. Identifying the loci of ancient human activity is the initial step of any archaeological study, enabling analyses such as settlement patterns, economic structures and land use, as well as devising excavations strategy. While mounds (tells) are standing out of their surroundings and are easily detected, other sites are hidden underground, and require various methods for detection. The cost and intensity of these methods vary, but most are time-consuming, require a team of specialists, and show somewhat limited success, leading archaeologists to seek new methods of site detection. Here, we describe a study of vegetational parameters at Tel ‘Eton (Israel), located in a semi-arid climatic region, where vegetation is mostly herbaceous, mainly comprised of annual plants. We compared above ground biomass, species richness and species composition among four plots in Tel ‘Eton and its surrounding. Two



plots were located where ancient settlement found in a previous study, one on top of the mound and one below, where a “lower city” was previously identified. The other two plots were located in similar topographies, namely one on a hill and the other below, but in neversettled areas. While above ground biomass was similar between settled and not-settled plots, species richness was significantly higher in settled plots (40 and 32 species in settled plots, versus 28 and 9 species in non-settled) and species composition was significantly different between them. Our results demonstrate that loci of buried remains of human activity significantly differ from non-settled ones, hence providing the basis for an above ground indirect method of identification of human remains. We propose that floristic sampling of ground-level vegetation may allow archaeologists to identify buried sites, and hence increase the validity of various types of archaeological analyses, such as creating maps of settlements, which rely on the identification of sites without excavating them.

**Keywords:** Archaeological survey | herbaceous plants | semi-arid climate | species diversity | species richness

## Neolithikum

LEFRANC 2018

Philippe Lefranc & Anthony Denaire, *A New Model for the Internal Organization of LBK Settlements, The Site Of Bischoffsheim (Dép. Bas-Rhin/F) and the “Orthogonal Model”*. [Archäologisches Korrespondenzblatt 48 \(2018\), 307–322](#).

The spatial analysis of the Neolithic village of Bischoffsheim led to the development of a new model of internal organisation of the Linear Pottery culture settlements based on a series of precisely dated houses and on a Bayesian modelling of numerous radiocarbon dates. The “orthogonal model”, similar in principle to the Hofplatz model but also reflecting the row organisation observed at many sites, proposes the partition of the village, which displays a regular division into quadrangular lots with successive buildings. These were rebuilt repeatedly (approximately every quarter of a century) by the same social unit.

**Keywords:** France | Alsace | Neolithic | Linear Pottery culture | settlement organisation | LBK chronology | Bayesian modelling

Die räumliche Analyse des neolithischen Dorfes von Bischoffsheim führte zur Entwicklung eines neuen Modells interner Organisation von Siedlungen der Linearbandkeramischen Kultur, das auf einer Serie exakt datierter Häuser basiert sowie auf einem Bayesschen Modell zahlreicher Radiokarbondatierungen. Das “orthogonale Modell” – im Prinzip ähnlich zum Hofplatz-Modell – spiegelt auch die Reihung wider, die an vielen Plätzen beobachtet wurde. Es postuliert eine regelmäßige Unterteilung des Dorfareals in viereckige Grundstücke mit Abfolgen von Gebäuden, die regelmäßig (ungefähr jedes Vierteljahrhundert) durch dieselbe soziale Einheit neu erbaut wurden. Übersetzung: M. Struck

**Keywords:** Frankreich | Elsass | Neolithikum | Linienbandkeramik | Siedlungsorganisation | LBK-Chronologie | Bayessches Modell

## Story or Book

FAUST 2018

Abraham Faust, *Beyond the Texts*. [RBL \(2018\), 1–6](#).

William G. Dever. *Beyond the Texts: An Archaeological Portrait of Ancient Israel and Judah*. Atlanta: SBL Press, 2017. Pp. xxii + 750. Cloth. \$ 49.95. ISBN 9780884142188.

While a few attempts were made by biblical scholars to write “secular” histories of ancient Israel/Canaan/Palestine, these were based mainly on assumptions as to what lies behind the “nonhistorical” Bible, and the authors paid only partial attention to the archaeological record. Most of these attempts were therefore unsuccessful, and these histories did not have a major impact in biblical studies or the study of ancient Israel.

The result, a culmination of Dever’s decades-long involvement in the field, is a bold and daring attempt to write a history of ancient Israel that is similar in scope to the older, unfashionable histories of ancient Israel but that relies on the archaeological evidence and not the biblical narrative. This is a new type of history, filling a void created by the development of scholarship. As such, the book is addressed to biblical scholars more than to archaeologists.

As for the political history that Dever reconstructs, which may be the main interest of many potential readers, the book represents a mainstream view on the historicity of these periods. The book explicitly opposes the minimalist attempts at reconstructing these events and rejects more conservative views as in its exclusion of the ancestors and the exodus, for example, from this history. From the tenth century BCE onward, however, Dever finds at least a core of historicity in the stories, including these about the united monarchy.

#### MISCHKA 2019

Doris Mischka, *Ritualised Destruction in the Early Neolithic, The Exceptional Site of Herxheim*. [Archäologische Informationen 41 \(2019\), 422–425](#).

Zeeb-Lanz, A. (ed.) (2016). *Ritualised Destruction in the Early Neolithic – the Exceptional Site of Herxheim (Palatinate, Germany)*. (Forschungen zur Pfälzischen Archäologie 8.1). Speyer: Generaldirektion Kulturelles Erbe Rheinland-Pfalz. 152 Seiten, 139 Tafeln, durchgängig farbig, E 39,90. ISBN 978-3-936113-09-9.

Die Befundvorlage ist spannend zu lesen und hält zahlreiche Details bereit, die sicher in Zukunft Stoff für weitere Diskussionen geben. Die vorgelegten Ergebnisse lassen die ungewöhnlichen Geschehnisse in Herxheim, deren Entdeckung der Bandkeramikforschung eine neue Richtung gab und deren Entschlüsselung wichtige Erkenntnisse bereithält, ein gutes Stück weit besser nachvollziehen. Das Erscheinen von Band 2 mit weiteren Fundanalysen und den naturwissenschaftlichen Studien darf mit Spannung erwartet werden.