

## References

### Aktuell

#### HEUDORF 2020

Ursel Heudorf & René Gottschalk, *Die Covid-19-Pandemie in Frankfurt am Main, Was sagen die Daten?* [Hessisches Ärzteblatt 10 \(2020\), 548–552.](#)

Nach anfänglich vielen schweren Covid19-Verläufen und Todesfällen, die aber nicht zwingend durch SARS-CoV-2 hervorgerufen wurden, werden seit Monaten weniger schwere Erkrankungen mit weniger Krankenhauseinweisungen gemeldet, auch treten Todesfälle seltener auf.

Bei niedriger Prävalenz sind die PCR-Tests häufig falsch positiv. Ein PCR-Test alleine sagt nichts über eine mögliche Infektiosität des Betroffenen aus.

Daraus ergeben sich Fragen zur Sinnhaftigkeit der derzeitigen Teststrategie und der darauf aufbauenden Maßnahmen.

- Soll bei auf längere Sicht fehlenden Impfmöglichkeiten weiterhin die Verhütung aller, auch asymptomatischer Infektionen das Ziel bleiben (Containment)?
- Oder sollte – entsprechend dem nationalen Pandemieplan des RKI – zunehmend die Schutzstrategie für vulnerable Gruppen (Protection) sowie die Folgenminderungsstrategie (Mitigation) in den Fokus genommen werden?

#### NELDE 2020

Annika Nelde et al., *SARS-CoV-2 T-cell epitopes de ne heterologous and COVID-19-induced T-cell recognition.* [Online \(2020\), preprint, 1–26. DOI:10.21203/rs.3.rs-35331/v1.](#)

[WWW2020.10-Nelde-Supplement1.pdf](#), [WWW2020.10-Nelde-Supplement2.pdf](#), [WWW2020.10-Nelde-Supplement3.pdf](#), [WWW2020.10-Nelde-Supplement4.pdf](#)

The SARS-CoV-2 pandemic calls for the rapid development of diagnostic, preventive, and therapeutic approaches. CD4+ and CD8+ T cell-mediated immunity is central for control of and protection from viral infections[1-3]. A prerequisite to characterize T-cell immunity, but also for the development of vaccines and immunotherapies, is the identification of the exact viral T-cell epitopes presented on human leukocyte antigens (HLA)[2-8]. This is the first work identifying and characterizing SARS-CoV-2-specific and crossreactive HLA class I and HLA-DR T-cell epitopes in SARS-CoV-2 convalescents (n = 180) as well as unexposed individuals (n = 185) and confirming their relevance for immunity and COVID-19 disease course. SARS-CoV-2-specific T-cell epitopes enabled detection of post-infectious T-cell immunity, even in seronegative convalescents. Cross-reactive SARS-CoV-2 T-cell epitopes revealed preexisting T-cell responses in 81% of unexposed individuals, and validation of similarity to common cold human coronaviruses provided a functional basis for postulated heterologous immunity[9] in SARS-CoV-2 infection[10,11]. Intensity of T-cell responses and recognition rate of T-cell epitopes was significantly higher in the convalescent donors compared to unexposed individuals, suggesting that not only expansion, but also diversity spread of SARS-CoV-2 T-cell responses occur upon active infection. Whereas anti-SARSCoV2 antibody levels were associated with severity of symptoms in our SARS-CoV-2 donors, intensity of T-cell responses did not negatively affect COVID-19 severity. Rather, diversity of SARS-CoV-2 T-cell responses was increased in case of mild symptoms

of COVID-19, providing evidence that development of immunity requires recognition of multiple SARS-CoV-2 epitopes. Together, the specific and cross-reactive SARS-CoV-2 T-cell epitopes identified in this work enable the identification of heterologous and postinfectious T-cell immunity and facilitate the development of diagnostic, preventive, and therapeutic measures for COVID-19.

Keywords: SARS-CoV-2 | COVID-19 | T-cell epitopes | HLA peptides | vaccine design | T-cells | immunity

## PEEPLES 2020

Lynne Peoples, *What The Data Say About Wearing Face Masks*. *nature* **586** (2020), 186–189.

The science supports that face coverings save lives, and yet they're still endlessly debated. How much evidence is enough?

## VOGEL 2020

Gretchen Vogel, *Sweden's Gamble*. *science* **370** (2020), 159–163. DOI:10.1126/science.370.6513.159.

The country's pandemic policies came at a high price—and created painful rifts in its scientific community.

Sweden's light approach is more sustainable than the harsher methods used in other countries, Tegnell also argues. He regrets the death toll in nursing homes, he told *Science*, and says Sweden should have made it easier financially for caregivers to stay home. "It was a very bad situation for a month," he says, "but after that it changed completely." Once strong restrictions were in place, transmission in nursing homes "became lower than in the community." Tegnell has also said he suspects the number of infections and deaths in other countries will eventually match Sweden's.

## Archäologie

## KÄPPEL 2020

LUTZ KÄPPEL, CHERYL MAKAREWICZ & JOHANNES MÜLLER (Hrsg.), *Distant Times So Close, Pandemics and Crises Reloaded*. Roots Booklet Series 1 (Kiel 2020).

From the emergence of agriculture more than 10,000 years ago to the Russian colonisation of Siberia a few hundred years ago, a fundamental pattern is becoming apparent: crises, including those caused by disease, can only be managed by increasing diversity. Acceptance of diversity, the introduction of new technologies and socially responsible action have always led to the mastering of crises.

It is also clear that values can only be preserved or updated in crises through active involvement. For example, scientists describe that when people are passive, other social groups can easily bind power to themselves, whereas when people actively participate, more democratic structures can develop even in crisis scenarios.

## STUURMAN 2008

Siep Stuurman, *Herodotus and Sima Qian, History and the Anthropological Turn in Ancient Greece and Han China*. *JWoHist* **19** (2008), 1–40.

The conclusion I propose to draw is that we should not overemphasize, nor simply invert, the significance of Othering and "orientalism" in intellectual history. I have sought to show that it was precisely the frontier experience that enabled

Herodotus and Sima Qian to include ethnography in their historical accounts, to formulate critical perspectives on empire, and to engage in a serious and open-minded investigation of “barbarian” culture. The similarities between Herodotus’s Scythian ethnography and Sima Qian’s Xiongnu ethnography are much greater than an undue emphasis on the Greekness of the former and the Chineseness of the latter might induce us to believe, to say nothing approach in terms of Chinese versus European or “Western” It is only in the context of the similarities that we can appreciate significance of the differences between the two historians. Those differences, I have sought to demonstrate, can be explained by geographical position and the political history of Greece and China, by the peculiarities of Greek and Chinese intellectual history, than by essentialist conceptions of Greek, European, or Chinese identity. In the new historical mode of inquiry into the human condition pioneered by Herodotus and Sima Qian such identities became, perhaps for the first time, thinkable as objects of historical inquiry than its unquestionable starting points.

## Bibel

SHAUS 2020

Arie Shaus, Yana Gerber, Shira Faigenbaum-Golovin, Barak Sober, Eli Piasetzky & Israel Finkelstein, *Forensic document examination and algorithmic handwriting analysis of Judahite biblical period inscriptions reveal significant literacy level*. *PLoS ONE* **15** (2020), e237962. DOI:10.1371/journal.pone.0237962.

[pone15-e0237962-Supplement.pdf](#)

Arad is a well preserved desert fort on the southern frontier of the biblical kingdom of Judah. Excavation of the site yielded over 100 Hebrew ostraca (ink inscriptions on potsherds) dated to ca. 600 BCE, the eve of Nebuchadnezzar’s destruction of Jerusalem. Due to the site’s isolation, small size and texts that were written in a short time span, the Arad corpus holds important keys to understanding dissemination of literacy in Judah. Here we present the handwriting analysis of 18 Arad inscriptions, including more than 150 pair-wise assessments of writer’s identity. The examination was performed by two new algorithmic handwriting analysis methods and independently by a professional forensic document examiner. To the best of our knowledge, no such large-scale pair-wise assessments of ancient documents by a forensic expert has previously been published. Comparison of forensic examination with algorithmic analysis is also unique. Our study demonstrates substantial agreement between the results of these independent methods of investigation. Remarkably, the forensic examination reveals a high probability of at least 12 writers within the analyzed corpus. This is a major increment over the previously published algorithmic estimations, which revealed 4–7 writers for the same assemblage. The high literacy rate detected within the small Arad stronghold, estimated (using broadly-accepted paleo-demographic coefficients) to have accommodated 20–30 soldiers, demonstrates widespread literacy in the late 7th century BCE Judahite military and administration apparatuses, with the ability to compose biblical texts during this period a possible by-product.

## Klima

FANG 2020

Xiaomin Fang, Zhisheng An, Steven C. Clemens, Jinbo Zan, Zhengguo

Shi, Shengli Yang & Wenxia Han, *The 3.6-Ma aridity and westerlies history over midlatitude Asia linked with global climatic cooling*. [PNAS 117 \(2020\), 24729–24734](#).

[pnas117-24729-Supplement.pdf](#)

Midlatitude Asia (MLA), strongly influenced by westerlies-controlled climate, is a key source of global atmospheric dust, and plays a significant role in Earth's climate system. However, it remains unclear how the westerlies, MLA aridity, and dust flux from this region evolved over time. Here, we report a unique high-resolution eolian dust record covering the past 3.6 Ma, retrieved from the thickest loess borehole sequence (671 m) recovered to date, at the southern margin of the Taklimakan desert in the MLA interior. The results show that eolian dust accumulation, which is closely related to aridity and the westerlies, indicates existence of a dry climate, desert area, and stable land surface, promoting continuous loess deposition since at least  $\approx 3.6$  Ma. This region experienced long-term stepwise drying at  $\approx 2.7$ , 1.1, and 0.5 Ma, coeval with a dominant periodicity shift from 41-ka cyclicity to 100-ka cyclicity between 1.1 Ma and 0.5 Ma. These features match well with global ice volume variability both in the time and frequency domains (including the Mid-Pleistocene Transition), highlighting global cooling-forced aridity and westerlies climate changes on these timescales. Numerical modeling demonstrates that global cooling can dry MLA and intensify the westerlies, which facilitates dust emission and transport, providing an interpretive framework. Increased dust may have promoted positive feedbacks (e.g., decreasing atmospheric CO<sub>2</sub> concentrations and modulating radiation budgets), contributing to further cooling. Unraveling the long-term evolution of MLA aridity and westerlies climate is an indispensable component of the unfolding mystery of global climate change.

**Keywords:** dust emission | Taklimakan loess sequence | Asian inland aridification | global cooling | Plio-Quaternary

**Significance:** We recovered the world's thickest continuous loess record from the southern margin of the Taklimakan desert, a global-scale dust source area. The continuous high-resolution grain size and flux records of dust emission, reflecting histories of aridity and westerlies climate, indicate an extant dry climate, desert area, and stable land surface supporting continuous loess deposition at least since  $\approx 3.6$  Ma, and that global cooling, rather than Tibet uplift, modulated the histories of aridity and westerlies climate changes in inland Asia since  $\approx 3.6$  Ma. Moreover, our study may suggest potential positive linkages and feedback among dust emission, marine biogeochemical activity, atmospheric CO<sub>2</sub>, and global cooling, which might provide insights into dynamics of Earth's climate system and improve predictions for the future.

#### GARBRECHT 1987

Günther Garbrecht, *Water storage (Lake Moeris) in the Fayum Depression, legend or reality?* [Irrigation and Drainage Systems 1 \(1987\), 143–157](#).

Historical references and archaeological evidence indicate that a man-made lake existed in the Fayum in historical times. There are few historical structures in the field of water resources development which are discussed as controversially as this storage lake. The various theories are described, a certain assessment is attempted and planned investigations are mentioned.

**Keywords:** history | water management | irrigation | Egypt.

#### GARBRECHT 1996

Günther Garbrecht, *Historical water storage for irrigation in the Fayum depression (Egypt)*. [Irrigation and Drainage Systems 10 \(1996\), 47–76](#).

Investigations into the much-discussed question of a historical manmade water storage lake within the Fayum depression were carried out in spring 1988. The results of the research into the dam between Itsa and Shidmuh indicate that there existed an artificial lake in the south-east of the Fayum as early as the 3rd Cent. B.C. The findings are in agreement with the reports of the classical writers. There is no reason not to identify this lake in the E1-Mala'a basin with the lake the ancient (post-Ptolemaic) historians and geographers referred to as Lake Moeris. The question as to whether Herodotus in the 5th Cent. B.C. described the same lake or whether he saw the water level of the Birket el-Qarun at 19 to 21 m must, at present, remain unanswered.

Keywords: History | water management | irrigation | Egypt

#### HASSAN 1986

Fekri A. Hassan, *Holocene Lakes and Prehistoric Settlements of the Western Faiyum, Egypt*. [Journal of Archaeological Science](#) **13** (1986), 483–501.

Holocene lake stages in the Faiyum depression commenced with a high lake stand during the 10th millennium bp, followed by an early Holocene lake from 8500 to 7000 bp. A pronounced recession and the development of a palaeosol preceded another rise to a mid-Holocene, high lake level from 6500 to 5100 bp. A major drop in level coincided with the late Neolithic and Early Dynastic. The Moeris lake witnessed by Herodotus is also documented. The drop in lake level during early Ptolemaic times marked the end of the freshwater lake and was apparently, in part, a result of declining Nile floods. Terminal Palaeolithic sites are associated with the early Holocene lake and Neolithic sites with the mid-Holocene phase. Prehistoric settlements were placed near lake-margin marshes and ponds. The richness of the lake margin in aquatic resources and its susceptibility to short- and long-term fluctuations influenced both subsistence and settlements and is believed to have encouraged a para-agricultural economy.

Keywords: Egypt | Faiyum | Geoarchaeology | Holocene | Neolithic | Egyptian Predynastic | Nile Floods | Sediments

#### NESBITT 2020

Jason Nesbitt, *Ancient agriculture and climate change on the north coast of Peru*. [PNAS](#) **117** (2020), 24617–24619.

#### SISTIAGA 2020

Ainara Sistiaga, David M. Martín-Perea, Fernando Diez-Martín, Enrique Baquedano & Audax Mabulla et al., *Microbial biomarkers reveal a hydrothermally active landscape at Olduvai Gorge at the dawn of the Acheulean, 1.7 Ma*. [PNAS](#) **117** (2020), 24720–24728.

[pnas117-24720-Supplement.pdf](#)

Landscape-scale reconstructions of ancient environments within the cradle of humanity may reveal insights into the relationship between early hominins and the changing resources around them. Many studies of Olduvai Gorge during Pliocene–Pleistocene times have revealed the presence of precession-driven wet–dry cycles atop a general aridification trend, though may underestimate the impact of local-scale conditions on early hominins, who likely experienced a varied and more dynamic landscape. Fossil lipid biomarkers from ancient plants and microbes encode information about their surroundings via their molecular structures and composition, and thus can shed light on past environments. Here, we employ

fossil lipid biomarkers to study the paleolandscape at Olduvai Gorge at the emergence of the Acheulean technology, 1.7 Ma, through the Lower Acheulean Sandstones layer. In the context of the expansion of savanna grasslands, our results represent a resource-rich mosaic ecosystem populated by groundwater-fed rivers, aquatic plants, angiosperm shrublands, and edible plants. Evidence of a geothermally active landscape is reported via an unusual biomarker distribution consistent with the presence of hydrothermal features seen today at Yellowstone National Park. The study of hydrothermalism in ancient settings and its impact on hominin evolution has not been addressed before, although the association of thermal springs in the proximity of archaeological sites documented here can also be found at other localities. The hydrothermal features and resources present at Olduvai Gorge may have allowed early hominins to thermally process edible plants and meat, supporting the possibility of a prefire stage of human evolution.

**Keywords:** biomarkers | thermophiles | hydrothermalism | Olduvai Gorge | paleoenvironment

Ainara Sistiaga, Fatima Husain, David Uribe Larrea, David M. Martín-Perea, Troy Ferland, Katherine H. Freeman, Fernando Díez-Martín, Enrique Baquedano, Audax Mabulla, Manuel Domínguez-Rodrigo & Roger E. Summons

**Significance:** Molecular fossil biomarkers illuminate a geothermally active oasis landscape at Olduvai Gorge 1.7 Ma at the emergence of the Acheulean technology. This study on the local paleolandscape reveals a mosaic ecosystem with great biodiversity, rivers, edible resources, and hydrothermal features. Evidence of hydrothermalism was found near sites intensively used by early hominins. The geothermal activity described here may have influenced the use of the space at Olduvai Gorge and may have provided advantages, such as cooking, which has not been previously contemplated in the context of human evolution.

## Metallzeiten

### GERLOFF 2010

Sabine Gerloff, *Von Troja an die Saale, von Wessex nach Mykene, Chronologie, Fernverbindungen und Zinnrouten der Frühbronzezeit Mittel- und Westeuropas*. In: HARALD MELLER & FRANÇOIS BERTEMES (Hrsg.), *Der Griff nach den Sternen, Internationales Symposium in Halle (Saale) 16.–21. Februar 2005*. Tagungen des Landesmuseums für Vorgeschichte Halle 5 ([Halle 2010](#)), 603–639.

From Troy to the River Saale, from Wessex to Mycenae – chronology, long-distance contacts and “tin routes” in the central and western European Early Bronze Age The central European and British Early Bronze Age can be roughly divided into three phases: Bz A1–A3 in Central Europe and EBA 1–3 in Britain, these phases being more or less contemporary. Special attention will be given to those finds of each phase which document contacts between these two areas with the richest tin deposits in Europe as well as their respective contacts with the Aegean, east Mediterranean and Mycenae, areas which have no tin. The trade in central and west European tin is thus seen as the launching-pad for long-distance relations.

During the first phase (Bz A1) the route of contact or “tin route” led primarily from Central Europe along the Danube to the east while the second phase (Bz A2/EBA 2) witnessed strong links between tin-producing Britain and Únětice Central Europe. It was only towards the end of the Early Bronze Age, during Bz A3/EBA 3, that the “Wessex Mycenae link” became established, in the second quarter of the second millennium BC. This route of contact did not lead across

Central Europe and the Danube but along the Rhine, Alps and Rhône directly to the Mediterranean, and the Garonne Aude transit may also have been used. A direct sea route through the Straits of Gibraltar seems less likely.

This phase also includes the hoard of Nebra with its famous disc showing gold-plated heavenly bodies. Its plating technique is generally connected to Mycenaean metalwork. It will be shown, however, that this technique together with that of metal inlay had its origins in Britain, where it was already applied to organic material during the first phase of the Early Bronze Age, and flourished during the second and third phases when it was introduced on the continent and used on prestige metalwork.

**Keywords:** Early Bronze Age | chronology | tin trade | Wessex culture | Mycenae

In diesem Beitrag wird für eine konforme dreiphasige Untergliederung der mitteleuropäischen und auch britischen Frühbronzezeit plädiert, die in Mitteleuropa einheitlich als Bz A1–A3, in Großbritannien als EBA (Early Bronze Age) 1–3 bezeichnet werden sollte. Es werden ihre Kontakte untereinander als auch ihre jeweiligen Fernbeziehungen untersucht, wobei der Zinnhandel als auslösendes Moment betrachtet wird.

Während die Fernkontakte während der ältesten Stufe, Bz A1, und wohl auch noch in Bz A2 zwischen dem geologisch zinnreichen Mitteleuropa auf dem Landweg über die Donau in die zinnlosen Gebiete des östlichen Mittelmeerraumes und Kleinasiens führten, zeichnet sich in Bz A2 eine stärkere Verbindung zwischen dem zinnreichen atlantischen und dem Aunjetitzer Gebiet ab. Eine direkte Seeverbindung aus dem atlantischen Raum in das östliche Mittelmeer bzw. nach Mykene ist erst ab der mykenischen Schachtgräberzeit bezeugt, die in etwa mit der dritten Stufe der west- und mitteleuropäischen Frühbronzezeit korreliert werden kann. Die “Zinnroute” aus Westeuropa führte nun nicht mehr über den zentralen mitteleuropäischen Raum, sondern über Rhein, Alpen und Rhône direkt an das Mittelmeer. Eine Verbindung über Garonne und Aude, wohl weniger über die Strasse von Gibraltar, dürfte hier auch eine Rolle gespielt haben.

Die Technik der Tauschierung der Himmelsscheibe von Nebra wird nicht mit vergleichbarer mykenischer Technik in Zusammenhang gebracht, sondern aus Westeuropa hergeleitet. Hier sind ihre Vorläufer in Form von Metallbeschlägen bzw. -einlagen in organischem Material schon seit Ende des 3. Jt. v. Chr. bekannt.

**Keywords:** Frühbronzezeit | Chronologie | Zinnhandel | Wessex-Kultur | Mykene

## SIMS-WILLIAMS 2020

Patrick Sims-Williams, *An Alternative to ‘Celtic from the East’ and ‘Celtic from the West’*. [Cambridge Archaeological Journal](#) **30** (2020), 511–529.

This article discusses a problem in integrating archaeology and philology. For most of the twentieth century, archaeologists associated the spread of the Celtic languages with the supposed westward spread of the ‘eastern Hallstatt culture’ in the first millennium BC. More recently, some have discarded ‘Celtic from the East’ in favour of ‘Celtic from the West’, according to which Celtic was a much older lingua franca which evolved from a hypothetical Neolithic Proto-Indo-European language in the Atlantic zone and then spread eastwards in the third millennium BC. This article (1) criticizes the assumptions and misinterpretations of classical texts and onomastics that led to ‘Celtic from the East’ in the first place; (2) notes the unreliability of the linguistic evidence for ‘Celtic from the West’, namely (i) ‘glottochronology’ (which assumes that languages change at a steady rate), (ii) misunderstood place-name distribution maps and (iii) the undeciphered inscriptions in southwest Iberia; and (3) proposes that Celtic radiating from France during the first millennium BC would be a more economical explanation of the known facts.

## Neolithikum

### FURHOLT 2020

Martin Furholt, Nils Müller-Scheeßel, Maria Wunderlich, Ivan Cheben & Johannes Müller, *Communality and Discord in an Early Neolithic Settlement Agglomeration, The LBK Site of Vráble, Southwest Slovakia*. *Cambridge Archaeological Journal* **30** (2020), 469–489.

Our research at the large LBK settlement site of Vráble, southwest Slovakia, revealed dynamics of social integration and antagonisms unfolding in an agglomerated, early farming community. During its lifespan from 5250 to 4950 BC, it constantly grew until around 5050 BC it was inhabited by about 70 contemporaneous longhouses. We found that Vráble consisted of markedly autonomous farmstead units that were held together by village-wide social institutions including sharing and communality. Nevertheless, from the beginning, a contradiction between particular farmstead and collective village and neighbourhood interests existed and rose. Towards the end of the village's existence, around 5075 BC an elaborate enclosure was constructed around one of the three neighbourhoods, actively blocking contact with the others. Along this enclosure, human bodies were deposited, showing a social categorization that we interpret as relating to social inequality. This rising level of conflict and emerging social inequality was, we argue, not sustainable under the conditions of early farming societies and led to the village's abandonment at 4950 BC.

### LINK 2012

Thomas Link, "Hofplatz" und "Zeilensiedlung", *Konkurrierende Modelle oder zwei Seiten derselben Medaille?* In: REGINA SMOLNIK (Hrsg.), *Siedlungsstruktur und Kulturwandel in der Bandkeramik, Internationale Tagung „Neue Fragen zur Bandkeramik oder alles beim Alten?!“ Leipzig, 23. bis 24. September 2010*. Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege Beiheft 25 (Berlin 2012), 43–46.

### RÜCK 2012

Oliver Rück, *Vom Hofplatz zur Häuserzeile*. In: REGINA SMOLNIK (Hrsg.), *Siedlungsstruktur und Kulturwandel in der Bandkeramik, Internationale Tagung „Neue Fragen zur Bandkeramik oder alles beim Alten?!“ Leipzig, 23. bis 24. September 2010*. Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege Beiheft 25 (Berlin 2012), 20–42.

Das bandkeramische Dorf – Zeilenstrukturen und befundfreie Bereiche offenbaren ein neues Bild der Siedlungsstrukturen.