

References

Aktuell

BA 2021

Bocar A. Ba, Dean Knox, Jonathan Mummolo & Roman Rivera, *The role of officer race and gender in police-civilian interactions in Chicago*. *science* **371** (2021), 696–702.

[s371-0696-Supplement.pdf](#)

Diversification is a widely proposed policing reform, but its impact is difficult to assess. We used records of millions of daily patrol assignments, determined through fixed rules and preassigned rotations that mitigate self-selection, to compare the average behavior of officers of different demographic profiles working in comparable conditions. Relative to white officers, Black and Hispanic officers make far fewer stops and arrests, and they use force less often, especially against Black civilians. These effects are largest in majority-Black areas of Chicago and stem from reduced focus on enforcing low-level offenses, with greatest impact on Black civilians. Female officers also use less force than males, a result that holds within all racial groups. These results suggest that diversity reforms can improve police treatment of minority communities.

GOFF 2021

Phillip Atiba Goff, *Asking the right questions about race and policing, When is policing the right tool, and when is it the problem?* *science* **371** (2021), 677–678.

GUGLIELMI 2021

Giorgia Guglielmi, *Rapid Coronavirus Tests, A Guide For The Perplexed*. *nature* **590** (2021), 202–205.

Scientists still debate whether millions of cheap, fast diagnostic kits will help control the pandemic. Here's why.

KEMP 2021

Steven A. Kemp et al., *SARS-CoV-2 evolution during treatment of chronic infection*. *nature* (2021), preprint, 1–26. DOI:10.1038/s41586-021-03291-y.

SARS-CoV-2 Spike protein is critical for virus infection via engagement of ACE2, and is a major antibody target. Here we report chronic SARS-CoV-2 with reduced sensitivity to neutralising antibodies in an immune suppressed individual treated with convalescent plasma, generating whole genome ultradeep sequences over 23 time points spanning 101 days. Little change was observed in the overall viral population structure following two courses of remdesivir over the first 57 days. However, following convalescent plasma therapy we observed large, dynamic virus population shifts, with the emergence of a dominant viral strain bearing D796H in S2 and A69V/ V70I in the S1 N-terminal domain NTD of the Spike protein. As passively transferred serum antibodies diminished, viruses with the escape genotype diminished in frequency, before returning during a final, unsuccessful course of convalescent plasma. In vitro, the Spike escape double mutant bearing

ÄH69/ÄV70 and D796H conferred modestly decreased sensitivity to convalescent plasma, whilst maintaining infectivity similar to wild type. D796H appeared to be the main contributor to decreased susceptibility but incurred an infectivity defect. The ÄH69/ÄV70 single mutant had two-fold higher infectivity compared to wild type, possibly compensating for the reduced infectivity of D796H. These data reveal strong selection on SARS-CoV-2 during convalescent plasma therapy associated with emergence of viral variants with evidence of reduced susceptibility to neutralising antibodies.

Steven A. Kemp, Dami A. Collier, Rawlings P. Datir, Isabella A. T. M. Ferreira, Salma Gayed, Aminu Jahun, Myra Hosmillo, Chloe Rees-Spear, Petra Ml-cochova, Ines Ushiro Lumb, David J. Roberts, Anita Chandra, Nigel Temperton, The CITI-N. I. H. R. BioResource COV- Collaboratio, The COV- Genomics U. K. Consortiu, Katherine Sharrocks, Elizabeth Blane, Yorgo Modis, Kendra Leigh, John Briggs, Marit van Gils, Kenneth G. C. Smith, John R. Bradley, Chris Smith, Rainer Doffinger, Lourdes Ceron-Gutierrez, Gabriela Barcenas-Morales, David D. Pollock, Richard A. Goldstein, Anna Smielewska, Jordan P. Skittrall, Theodore Gouliouris, Ian G. Goodfellow, Effrossyni Gkrania-Klotsas, Christopher J. R. Illingworth, Laura E. McCoy & Ravindra K. Gupta

KOENIG 2021

Paul-Albert Koenig et al., *Structure-guided multivalent nanobodies block SARS-CoV-2 infection and suppress mutational escape.* [science](#) **371** (2021), 691. DOI:10.1126/science.abe6230.

s371-0691-Supplement.pdf

The pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) continues to spread, with devastating consequences. For passive immunization efforts, nanobodies have size and cost advantages over conventional antibodies. In this study, we generated four neutralizing nanobodies that target the receptor binding domain of the SARS-CoV-2 spike protein. We used x-ray crystallography and cryo-electron microscopy to define two distinct binding epitopes. On the basis of these structures, we engineered multivalent nanobodies with more than 100 times the neutralizing activity of monovalent nanobodies. Biparatopic nanobody fusions suppressed the emergence of escape mutants. Several nanobody constructs neutralized through receptor binding competition, whereas other monovalent and biparatopic nanobodies triggered aberrant activation of the spike fusion machinery. These premature conformational changes in the spike protein forestalled productive fusion and rendered the virions noninfectious.

Paul-Albert Koenig, Hrishikesh Das, Hejun Liu, Beate M. Kümmerer, Florian N. Gohr, Lea-Marie Jenster, Lisa D. J. Schiffelers, Yonas M. Tesfamariam, Miki Uchima, Jennifer D. Wuerth, Karl Gatterdam, Natalia Ruetalo, Maria H. Christensen, Caroline I. Fandrey, Sabine Normann, Jan M. P. Tödtmann, Steffen Pritzl, Leo Hanke, Jannik Boos, Meng Yuan, Xueyong Zhu, Jonathan L. Schmid-Burgk, Hiroki Kato, Michael Schindler, Ian A. Wilson, Matthias Geyer, Kerstin U. Ludwig, B. Martin Hällberg, Nicholas C. Wu & Florian I. Schmidt

MALLAPATY 2021

Smriti Mallapaty, *Is The Coronavirus Getting Deadlier? The Data Are Inconclusive.* [nature](#) **590** (2021), 191–192.

Deaths linked to the B.1.1.7 variant are rising, but questions remain about what is causing them.

NELSON 2021

Martha I. Nelson, *Tracking the UK SARS-CoV-2 outbreak*. [science](#) **371** (2021), 680–681. DOI:10.1126/science.abg2297.

The UK epidemic was seeded by more than 1000 imported viruses from Europe.

Notably, they find that the UK epidemic resulted from more than 1000 transmission lineages seeded by travelers from Europe. The study shows how last winter’s control efforts were consistently one step behind the virus, allowing SARS-CoV-2 to permeate national borders. Travel restrictions can be highly effective when stringently implemented, but these studies collectively highlight how easily SARS-CoV-2 infection can arise during even small lapses in border control, including the repatriation of Americans from Asia at the beginning of the pandemic.

O’DRISCOLL 2021

Megan O’Driscoll, Gabriel Ribeiro Dos Santos, Lin Wang, Derek A. T. Cummings, Andrew S. Azman, Juliette Paireau, Arnaud Fon, *Age-specific mortality and immunity patterns of SARS-CoV-2*. [nature](#) **590** (2021), 140–145. DOI:10.1038/s41586-020-2918-0.

n590-0140-Supplement.pdf

Estimating the size of the coronavirus disease 2019 (COVID-19) pandemic and the infection severity of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is made challenging by inconsistencies in the available data. The number of deaths associated with COVID-19 is often used as a key indicator for the size of the epidemic, but the observed number of deaths represents only a minority of all infections^{1,2}. In addition, the heterogeneous burdens in nursing homes and the variable reporting of deaths of older individuals can hinder direct comparisons of mortality rates and the underlying levels of transmission across countries³. Here we use age-specific COVID-19-associated death data from 45 countries and the results of 22 seroprevalence studies to investigate the consistency of infection and fatality patterns across multiple countries. We find that the age distribution of deaths in younger age groups (less than 65 years of age) is very consistent across different settings and demonstrate how these data can provide robust estimates of the share of the population that has been infected. We estimate that the infection fatality ratio is lowest among 5–9-year-old children, with a log-linear increase by age among individuals older than 30 years. Population age structures and heterogeneous burdens in nursing homes explain some but not all of the heterogeneity between countries in infection fatality ratios. Among the 45 countries included in our analysis, we estimate that approximately 5% of these populations had been infected by 1 September 2020, and that much higher transmission rates have probably occurred in a number of Latin American countries. This simple modelling framework can help countries to assess the progression of the pandemic and can be applied in any scenario for which reliable age-specific death data are available.

Megan O’Driscoll, Gabriel Ribeiro Dos Santos, Lin Wang, Derek A. T. Cummings, Andrew S. Azman, Juliette Paireau, Arnaud Fontanet, Simon Cauchemez & Henrik Salje

DU PLESSIS 2021

Louis du Plessis et al., *Establishment and lineage dynamics of the SARS-CoV-2 epidemic in the UK*. [science](#) **371** (2021), 708–712. DOI:10.1126/science.abf2946.

s371-0708-Supplement.pdf

The United Kingdom’s COVID-19 epidemic during early 2020 was one of world’s largest and was unusually well represented by virus genomic sampling. We determined the fine-scale genetic lineage structure of this epidemic through analysis of

50,887 severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) genomes, including 26,181 from the UK sampled throughout the country's first wave of infection. Using large-scale phylogenetic analyses combined with epidemiological and travel data, we quantified the size, spatiotemporal origins, and persistence of genetically distinct UK transmission lineages. Rapid fluctuations in virus importation rates resulted in >1000 lineages; those introduced prior to national lockdown tended to be larger and more dispersed. Lineage importation and regional lineage diversity declined after lockdown, whereas lineage elimination was size-dependent. We discuss the implications of our genetic perspective on transmission dynamics for COVID-19 epidemiology and control.

Louis du Plessis, John T. McCrone, Alexander E. Zarebski, Verity Hill, Christopher Ruis, Bernardo Gutierrez, Jayna Raghvani, Jordan Ashworth, Rachel Colquhoun, Thomas R. Connor, Nuno R. Faria, Ben Jackson, Nicholas J. Loman, Áine O'Toole, Samuel M. Nicholls, Kris V. Parag, Emily Scher, Tetyana I. Vasylyeva, Erik M. Volz, Alexander Watts, Isaac I. Bogoch, Kamran Khan, COV-Genomics U.K. Consortium, David M. Aanensen, Moritz U. G. Kraemer, Andrew Rambaut & Oliver G. Pybus

SAELENS 2021

Xavier Saelens & Bert Schepens, *Single-domain antibodies make a difference*. *science* **371** (2021), 681–682. DOI:10.1126/science.abg2294.

A double hit with one antibody construct may avoid viral escape.

Koenig et al. showed that tandem repeats of two neutralizing VHHs that bind nonoverlapping epitopes strongly reduced the chance that mutant viruses that escape neutralization were selected in vitro.

This need will likely persist even after the widespread use of COVID-19 vaccines to treat those for whom the vaccine provided no protection, was not used, or was not available, or, in a most alarming scenario, to provide treatment if vaccine-escape mutants arise. Perhaps, in the future, a positive rapid SARS-CoV-2 test outcome will go hand in hand with an easily administered, affordable, subcutaneous injection or nebulized inhalation of an antibody targeting highly conserved epitopes not recognized by the human immune system.

STARR 2021

Douglas Starr, *Study: Police diversity matters*. *science* **371** (2021), 661.

Landmark analysis of 7000 Chicago police shows nonwhite and female officers make fewer stops.

TANG 2021

Ming Tang, Xu Chu, Jihua Hao & Bing Shen, *Orogenic quiescence in Earth's middle age*. *science* **371** (2021), 728–731.

s371-0728-Supplement.pdf

Mountain belts modulate denudation flux and hydrologic processes and are thus fundamental to nutrient cycling on Earth's surface. We used europium anomalies in detrital zircons to track mountain-building processes over Earth's history. We show that the average thickness of active continental crust varied on billion-year time scales, with the thickest crust formed in the Archean and Phanerozoic. By contrast, the Proterozoic witnessed continuously decreasing crustal thickness, leaving the continents devoid of high mountains until the end of the eon. We link this gradually diminished orogenesis to the long-lived Nuna-Rodinia supercontinent, which altered the mantle thermal structure and weakened the continental lithosphere. This prolonged orogenic quiescence may have resulted in a persistent famine in the oceans and stalled life's evolution in Earth's middle age.

Altpaläolithikum

VOORMOLEN 2008

Boudewijn Voormolen, *Ancient Hunters, Modern Butchers, Schöningen 13II-4, a kill-butchery site dating from the northwest European Lower Palaeolithic*. Dissertation, Universiteit van Leiden ([Leiden 2008](#)).

Summarised, the observed patterns of horse butchery conducted at the site indicate selective butchery, which probably is related to complete horse carcass abundance involving several events of killing multiple horse individuals. The co-occurrence of wooden spears with the butchered horse remains seems no coincidence. The site of Schöningen 13II-4 yields the first known European Lower Palaeolithic archaeological assemblage in which a complete early hominid subsistence toolkit is preserved, tools used to kill and tools used to butcher what has been killed. The present author would like to define hunting as “the exploitation of faunal products facilitated by tactical intentional killing and systematic butchery of animals”. The studied horse remains found at the site of Schöningen 13II-4 fit this definition and in the author’s opinion represent an example of Lower Palaeolithic hunting. One well-preserved faunal assemblage such as from Schöningen 13II-4 does not suffice to resolve the many questions in Lower Palaeolithic subsistence research though. It will however hopefully provide an important contribution to our understanding of Lower Palaeolithic faunal assemblage variability and early hominid faunal exploitation, which in the future will assist the development of more elaborate models for Lower Palaeolithic hominid subsistence strategies. For now it can be concluded that about 350 to 300,000 years ago at least along one European lakeshore there were ancient hunters who butchered in a modern fashion.

Anthropologie

BERGSTRÖM 2021

Anders Bergström, Chris Stringer, Mateja Hajdinjak, Eleanor M. L. Scerri & Pontus Skoglund, *Origins of modern human ancestry*. [nature 590 \(2021\), 229–237](#).

New finds in the palaeoanthropological and genomic records have changed our view of the origins of modern human ancestry. Here we review our current understanding of how the ancestry of modern humans around the globe can be traced into the deep past, and which ancestors it passes through during our journey back in time. We identify three key phases that are surrounded by major questions, and which will be at the frontiers of future research. The most recent phase comprises the worldwide expansion of modern humans between 40 and 60 thousand years ago (ka) and their last known contacts with archaic groups such as Neanderthals and Denisovans. The second phase is associated with a broadly construed African origin of modern human diversity between 60 and 300 ka. The oldest phase comprises the complex separation of modern human ancestors from archaic human groups from 0.3 to 1 million years ago. We argue that no specific point in time can currently be identified at which modern human ancestry was confined to a limited birthplace, and that patterns of the first appearance of anatomical or behavioural traits that are used to define *Homo sapiens* are consistent with a range of evolutionary histories.

Bibel

GROSS 1992

Walter Groß & Karl-Josef Kuschel, „*Ich schaffe Finsternis und Unheil!*“, *Ist Gott verantwortlich für das Übel?* (Mainz 1992).

LÜDEMANN 2008

Gerd Lüdemann, *Der erfundene Jesus, Unechte Jesusworte im Neuen Testament: ein Lesebuch.* (Springe 2008).

SERGI 2017

Omer Sergi, *Rethinking Israel and the Kingdom of Saul.* In: ODED LIPSCHITS, YUVAL GADOT & MATTHEW J. ADAMS (Hrsg.), *Rethinking Israel, Studies in the History and Archaeology of Ancient Israel in Honor of Israel Finkelstein.* (Winona Lake 2017), 371–388.

Finkelstein's hypothesis about Saul and the early formation of the kingdom of Israel is based on two presuppositions: that the Benjamin Plateau was affiliated with the Kingdom of Israel (until the second half of the 9th century BCE); and that the literary traditions about Saul originated in Israel. However, as was demonstrated in this study, the Benjamin Plateau came under the political hegemony of Jerusalem in the early 10th century at the latest. Early stages of state formation in the region reflect, therefore, the formation of a Jerusalemite polity that should be seen as the forerunner of the kingdom of Judah, not Israel. That Shishak's campaign was directed also at the Benjamin Plateau was probably the result of the growing political power of Jerusalem. That is, it is the early stages of state formation in Judah that attracted Egyptian attention, as is also evidenced in the short factual report depicting Rehoboam's subjugation to Shishak (1 Kgs 14:25–28). Saul, evidently, should not be related to the kingdom of Israel or to Shishak's campaign.

As for the literary point of view, the early Saul traditions (1 Sam 9–14, 31) completely ignore Israel's main political or cultic centers and hardly reflect its political history or territorial aspirations; their restricted geographical scope (to the regions north of Jerusalem) and the political realities they portray seem to better reflect the geopolitical status of Judah vis-à-vis its western neighbors in the early monarchic period. In light of this, and since Benjamin was affiliated with Jerusalem as early as the 10th century BCE, it is more reasonable to assume that the early Saul traditions were composed, redacted, and preserved in Jerusalem. Saul was therefore not less Judahite than David, at least in the sense that the early traditions about both kings were commemorated in the court of Jerusalem.

In this regard, the early traditions about Saul and David preserve the memory of a struggle for power in the early monarchic period: the rise of dynastic monarchy in Jerusalem was the result of a struggle between two Israelite ruling families engaged in an attempt to establish their political hegemony over their own Israelite kinsmen settled in the regions north and south of Jerusalem.

SERGI 2017

Omer Sergi, *The Emergence of Judah as a Political Entity between Jerusalem and Benjamin.* *Zeitschrift des Deutschen Palästina-Vereins* **133** (2017), 1–23.

In spite of the fact that the narrators of the account 1 Kgs 15:17–22 were only vaguely acquainted with the geopolitical reality of the early 9th cent. B.C.E., it still preserves an authentic historical memory regarding the conflicts on the northern and southern borders of Israel, when the kingdom was in its formative

phases. According to 1 Kgs 15:17-22 Asa managed to “push” the border with Israel to the southern edge of the Ephraimite hill country, north of Mizpah, only because Baasha, king of Israel, was too busy fighting in the north with much stronger enemies. Considering the superior status of Israel, the victory of Asa over Baasha in Benjamin was probably an important stage in the formation of Judah as a territorial kingdom under the centralized rule of the House of David. The fact that not long afterwards the kings of Judah allied themselves with the king of Israel (1 Kgs 22:45; 2 Kgs 3:4-27; 8:18.26.28-29) and that under Israelite hegemony they even extended their political authority beyond the central Canaanite hill country¹⁰⁸, only strengthens this conclusion.

Grabung

DIETRICH 2020

Laura Dietrich et al., *Investigating the function of Pre-Pottery Neolithic stone troughs from Göbekli Tepe – An integrated approach*. [Journal of Archaeological Science: Reports](#) **34** (2020), 102618, 1–20.

An integrated approach using contextual, use-wear, scientific and experimental methods was used to analyze the role of stone troughs of up to 165 l capacity at the Early Neolithic site Göbekli Tepe in the context of other stone containers found there. Around 600 (mostly fragmentary) vessels from the site constitute the largest known assemblage from the Pre-Pottery Neolithic of the Near East. Besides the large limestone troughs, it encompasses middle-sized, coarsely made limestone vessels, finely executed platters and ‘greenstone’ vessels. All lines of evidence taken together indicate the use of limestone troughs for the cooking of cereals.

Keywords: Neolithic | Near East | Experimental archaeology | Stone vessels | Residue analysis | Use-wear

Laura Dietrich, Eva Götting-Martin, Jasmine Hertzog, Philippe Schmitt-Kopplin, Patrick E. McGovern, Gretchen R. Hall, W. Christian Petersen, Martin Zarnkow, Mathias Hutzler, Fritz Jacob, Christina Ullman, Jens Notroff, Marco Ulbrich, Eckhard Flöter, Julia Heeb, Julia Meister & Oliver Dietrich

GARFINKEL 2018

YOSEF GARFINKEL, SAAR GANOR & MICHAEL G. HASEL (Hrsg.), *Khirbet Qeiyafa Vol. 4, Excavation Report 2007–2013: Art, Cult, and Epigraphy*. ([Jerusalem 2018](#)).

The current volume, Khirbet Qeiyafa Vol. 4, deals with aspects of art, cult, and epigraphy, focusing on the discovery of three sanctuaries or cult rooms in Areas C and D and objects related to them, all of the inscriptions of various periods found at the site, and the seals and other important art objects.

Islam

GEORGE 2011

Alain George, *On an Early Qur’anic Palimpsest and Its Stratigraphy: Cambridge Or. 1287, Le palimpseste Lewis-Mingana de Cambridge, témoin ancien de l’histoire du Coran*. [Comptes Rendus de l’Académie des Inscriptions et Belles Lettres](#) **2011**, i, 377–429.

English summary only

Virtually all extant early Qur'ans were written on new parchment, despite its high cost. The contrast could not be greater with Christian manuscripts of the same period, where reuses are extremely common. In fact, apart from the Cambridge palimpsest, only the Sanaa palimpsest mentioned earlier also contains a Qur'anic lower text; with its Christian upper text, the Cambridge manuscript truly represents an extraordinary situation. Countless scenarios may be proposed to explain the unusual: I will limit myself to two of the more plausible hypotheses: (1) The transfer of folios from one community to another through looting or some other use of force; (2) The copy of Qur'anic leaves by Christian scribes in the seventh century.

Jungpaläolithikum

PERRI 2021

Angela R. Perri et al., *Dog domestication and the dual dispersal of people and dogs into the Americas*. [PNAS 118 \(2021\), e2010083118](#).
[pnas118-e2010083118-Supplement.pdf](#)

Advances in the isolation and sequencing of ancient DNA have begun to reveal the population histories of both people and dogs. Over the last 10,000 y, the genetic signatures of ancient dog remains have been linked with known human dispersals in regions such as the Arctic and the remote Pacific. It is suspected, however, that this relationship has a much deeper antiquity, and that the tandem movement of people and dogs may have begun soon after the domestication of the dog from a gray wolf ancestor in the late Pleistocene. Here, by comparing population genetic results of humans and dogs from Siberia, Beringia, and North America, we show that there is a close correlation in the movement and divergences of their respective lineages. This evidence places constraints on when and where dog domestication took place. Most significantly, it suggests that dogs were domesticated in Siberia by $\approx 23,000$ y ago, possibly while both people and wolves were isolated during the harsh climate of the Last Glacial Maximum. Dogs then accompanied the first people into the Americas and traveled with them as humans rapidly dispersed into the continent beginning $\approx 15,000$ y ago.

Keywords: archaeology | genetics | domestication | dogs | peopling of the Americas

Angela R. Perri, Tatiana R. Feuerborn, Laurent A. F. Frantz, Greger Larson, Ripan S. Malhi,^{k 3}, David J. Meltzer & Kelsey E. Witt

Klima

TODOROVA 2011

Henrieta Todorova, *Die überregionalen komplexen Gemeinschaften, Kulturblöcke und ökologischen Krisen in der Urgeschichte im Raum der unteren Donau (VII-I Jahrtausend v. Chr.)*. [Studia Praehistorica 14 \(2011\), 143–153](#).

Bekanntlich ist Kulturwandel keine lokale Erscheinung, sondern er findet im weiträumigen Zusammenhang statt. Die Ursachen für Kulturkollapse und Kulturwandel blieben bislang nicht zufriedenstellend geklärt. Die Bemühungen in dieser Richtung gingen meistens dahin, Bevölkerungsverschiebungen und Invasionen zu postulieren. Aber auch diese haben ihre Ursachen, die leider wiederum ungeklärt bleiben.

Die fundamentalen Kulturumbrüche sind durch Kulturzäsuren und tief reichende Diskontinuitätserscheinungen markiert, eine Tatsache, die oft entweder nicht beachtet oder sogar ignoriert wurde, was eine Folge des entsprechenden Forschungsstandes war. Das elementarste Beispiel dafür bietet Thrakien, wo man aus “stratigraphischen” Gründen annahm, dass Karanovo VII unmittelbar auf Karanovo VI folgte. Heute wissen wir, dass dazwischen eine beinahe 2000-jährige Zäsur liegt.

Was dieser Überblick zu verdeutlichen vermag, ist die Tatsache, dass paläoklimatische Kulturkollapse, Krisen und Kulturkatastrophen nicht zu unterschätzen sind und dass sie in der Urgeschichte durchaus kulturelle Umwälzungen verursacht haben. Da die paläoklimatischen Erscheinungen überregional sind, haben auch die großen kulturellen Brüche einen überregionalen Charakter und ganze prähistorische Kulturgemeinschaften betroffen.

Mesolithikum

EITAM 2020

David Eitam & James Schoenwetter, *Feeding the Living, Feeding the Dead, The Natufian as a Low-Level Food Production Society in the Southern Levant (15,000–11,500 Cal BP)*. [Journal of The Israel Prehistoric Society 50 \(2020\), 44–77](#).

The Natufian culture is generally accepted as a hunter-gatherer’s society positioned on the “threshold of agriculture.” This is based on the culture’s sedentary nature and the numerous plant processing tools – sickle blades and ground stones – it had created and used, but preceding plant domestication by thousands of years. Here we describe the Natufian agro-technological system, including the first appearance of a threshing floor, hundreds of conical mortars for peeling and milling, and grinding implements that had enabled the production and supply of wild plant-food to the Natufian population in the southern Levant. The narrow conical mortar was a central component in this system. It was specially designed to dehull wild barley, and mill cereal grains into fine flour for bread making, attested by the discovery of bread remains in Early Natufian site of Shubayqa 1 in Jordan and the starch of cereals and legumes and striations in the mortars’ walls. Additionally, few, exceptional pierced narrow conical mortars cut into large boulders deliberately placed in Natufian graves reveal a very early symbolic “feeding of the dead.” We propose that cereal food and bread were a central part of the culture’s subsistence strategy and way of life, which positions the Natufian as a low-level foodproducing society, between hunter-gatherers and early agriculturalists in the Levant.

Keywords: Natufian | Narrow conical mortar | Agro-technological system | Cereal food | Barley bread | Mortuary ritual | Low-level food production society.

Neolithikum

IMMEL 2021

Alexander Immel, Tobias L. Lenz, Almut Nebel & Ben Krause-Kyora et al., *Genome-wide study of a Neolithic Wartberg grave community reveals distinct HLA variation and hunter-gatherer ancestry*. [Communications Biology 4 \(2021\), 113, 1–10. DOI:10.1038/s42003-020-01627-4](#).

The Wartberg culture (WBC, 3500-2800 BCE) dates to the Late Neolithic period, a time of important demographic and cultural transformations in western

Europe. We performed genome-wide analyses of 42 individuals who were interred in a WBC collective burial in Niedertiefenbach, Germany (3300-3200 cal. BCE). The results showed that the farming population of Niedertiefenbach carried a surprisingly large hunter-gatherer ancestry component (34–58%). This component was most likely introduced during the cultural transformation that led to the WBC. In addition, the Niedertiefenbach individuals exhibited a distinct human leukocyte antigen gene pool, possibly reflecting an immune response that was geared towards detecting viral infections.

Alexander Immel, Federica Pierini, Christoph Rinne, John Meadows, Rodrigo Barquera, András Szolek, Julian Susat, Lisa Böhme, Janina Dose, Joanna Bonczarowska, Clara Drummer, Katharina Fuchs, David Ellinghaus, Jan Christian Kässens, Martin Furholt, Oliver Kohlbacher, Sabine Schade-Lindig, Andre Franke, Stefan Schreiber, Johannes Krause, Johannes Müller, Tobias L. Lenz, Almut Nebel & Ben Krause-Kyora

Religion

ALTHOFF 2013

Gerd Althoff, „*Selig sind, die Verfolgung ausüben*“, *Päpste und Gewalt im Hochmittelalter*. (Stuttgart 2013).