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References

Afrika Mittelpaläolithikum

Backwell 2018

Lucinda Backwell, Justin Bradfield, Kristian J. Carlson, Tea Jashashvili, Lyn Wadley & Francesco d'Errico, *The antiquity of bow-and-arrow technology, Evidence from Middle Stone Age layers at Sibudu Cave*. Antiquity **92** (2018), 289–303.

Antiquity092-0304-Supplement.pdf

The bow and arrow is thought to be a unique development of our species, signalling higher-level cognitive functioning. How this technology originated and how we identify archaeological evidence for it are subjects of ongoing debate. Recent analysis of the putative bone arrow point from Sibudu Cave in South Africa, dated to 61.7 ± 1.5kya, has provided important new insights. High-resolution CT scanning revealed heat and impact damage in both the Sibudu point and in experimentally produced arrow points. These features suggest that the Sibudu point was first used as an arrowhead for hunting, and afterwards was deposited in a hearth. Our results support the claim that bone weapon tips were used in South African hunting long before the Eurasian Upper Palaeolithic.

Keywords: South Africa | Sibudu Cave | projectile technology | bow and arrow | experimental archaeology

Aktuell

Blättler 2018

C. L. Blättler et al., *Two-billion-year-old evaporites capture Earth's great oxidation*. science **360** (2018), 320–323.

s360-0320-Supplement.pdf

C. L. Blättler, M. W. Claire, A. R. Prave, K. Kirsimäe, J. A. Higgins, P. V. Medvedev, A. E. Romashkin, D. V. Rychanchik, A. L. Zerkle, K. Paiste, T. Kreitsmann, I. L. Millar, J. A. Hayles, H. Bao, A. V. Turchyn, M. R. Warke & A. Lepland

Major changes in atmospheric and ocean chemistry occurred in the Paleoproterozoic era (2.5 to 1.6 billion years ago). Increasing oxidation dramatically changed Earth's surface, but few quantitative constraints exist on this important transition. This study describes the sedimentology, mineralogy, and geochemistry of a 2-billion-year-old, ≈800-meter-thick evaporite succession from the Onega Basin in Russian Karelia. The deposit consists of a basal unit dominated by halite (≈100 meters) followed by units dominated by anhydrite-magnesite (≈500 meters) and dolomite-magnesite (≈200 meters). The evaporite minerals robustly constrain marine sulfate concentrations to at least 10 millimoles per kilogram of water, representing an oxidant reservoir equivalent to more than 20 % of the modern ocean-atmosphere oxidizing capacity. These results show that substantial amounts of surface oxidant accumulated during this critical transition in Earth's oxygenation.

Chhabra 2018

Arnav Chhabra, *Academia's forgotten footnote*. science **360** (2018), 350.

In my third year of grad school, everything seemed to fall apart. I was dealing with my grandmother's death, and then my girlfriend and I broke up. I spent the following year in a painful feedback loop of depression and despair. Every day, I would trudge into lab and try to get excited about my projects. But when I encountered minor hurdles such as a failed replication or contaminated samples, I would become discouraged and give up. Even when my experiments went smoothly, I felt guilty about the time I had wasted being unproductive. I knew I was struggling, but I didn't ask for help. I thought I could deal with my state of mind just as I had dealt with every other problem in my life: Bottle up my emotions, attack the problem with logic, and iterate until I arrived at a solution.

Phillips 2018

Carly Phillips, *My second coming out*. science **360** (2018), 458.

I told my dad using a "rip off the Band-Aid" strategy. I took a deep breath, dialed his cellphone, and said, "Hey Dad, it's Carly, I just, um, wanted to tell you that I'm, um, dating a woman. OK, talk to you later!" And just like that, I had both hung up on and come out to my dad. Fast forward 9 years: I'm an out and proud gay woman, accepted and loved by my family. I'm also in the depths of a Ph.D. program—and I've realized that I no longer want to be an academic. As I wrestled with whether and how to disclose this to my adviser, I was struck by how familiar the whole process felt, from a journey of self-discovery to a risk of rejection and loss of support. And I realized that I could learn from my queer experience to make this second coming out as smooth as possible.

Altpaläolithikum

White 2018

Mark White & Frederick Foulds, *Symmetry is its own reward, On the character and significance of Acheulean handaxe symmetry in the Middle Pleistocene*. Antiquity **92** (2018), 304–319.

Bilateral symmetry in handaxes has significant implications for hominin cognitive and socio-behavioural evolution. Here the authors show that high levels of symmetry occur in the British Late Middle Pleistocene Acheulean, which they consider to be a deliberate, socially mediated act. Furthermore, they argue that lithic technology in general, and handaxes in particular, were part of a pleasure-reward system linked to dopamine-releasing neurons in the brain. Making handaxes made Acheulean hominins happy, and one particularly pleasing property was symmetry.

Keywords: Great Britain | Palaeolithic | handaxes | symmetry | pleasure-reward

Anthropologie

de Barros Damgaard 2018

Peter de Barros Damgaard et al., *137 ancient human genomes from across the Eurasian steppes*. nature **557** (2018), 369–374.

n557-0369-Supplement.pdf

Peter de Barros Damgaard, Nina Marchi, Simon Rasmussen, Michaël Peyrot, Gabriel Renaud, Thorfinn Korneliussen, J. Víctor Moreno-Mayar, Mikkel Winther Pedersen, Amy Goldberg, Emma Usmanova, Nurbol Baimukhanov, Valeriy Loman, Lotte Hedeager, Anders Gorm Pedersen, Kasper Nielsen, Gennady Afanasiev, Kunbolot Akmatov, Almaz Aldashev, Ashyk Alpaslan, Gabit Baimbetov, Vladimir I. Bazaliiskii, Arman Beisenov, Bazartseren Boldbaatar, Bazartseren Boldgiv,

Choduraa Dorzhu, Sturla Ellingvag, Diimaajav Erdenebaatar, Rana Dajani, Evgeniy Dmitriev, Valeriy Evdokimov, Karin M. Frei, Andrey Gromov, Alexander Goryachev, Hakon Hakonarson, Tatyana Hegay, Zaruhi Khachatryan, Ruslan Khaskhanov, Egor Kitov, Alina Kolbina, Tabaldiev Kubatbek, Alexey Kukushkin, Igor Kukushkin, Nina Lau, Ashot Margaryan, Inga Merkyte, Ilya V. Mertz, Viktor K. Mertz, Enkhbayar Mijiddorj, Vyacheslav Moiyesev, Gulmira Mukhtarova, Bekmukhanbet Nurmukhanbetov, Z. Orozbekova, Irina Panyushkina, Karol Pieta, Václav Smrèka, Irina Shevnina, Andrey Logvin, Karl-Göran Sjögren, Tereza Štolcová, Kadicha Tashbaeva, Alexander Tkachev, Turaly Tulegenov, Dmitriy Voyakin, Levon Yepiskoposyan, Sainbileg Undrakhbold, Victor Varfolomeev, Andrzej Weber, Nikolay Kradin, Morten E. Allentoft, Ludovic Orlando, Rasmus Nielsen, Martin Sikora, Evelyne Heyer, Kristian Kristiansen & Eske Willerslev

For thousands of years the Eurasian steppes have been a centre of human migrations and cultural change. Here we sequence the genomes of 137 ancient humans (about 1× average coverage), covering a period of 4,000 years, to understand the population history of the Eurasian steppes after the Bronze Age migrations. We find that the genetics of the Scythian groups that dominated the Eurasian steppes throughout the Iron Age were highly structured, with diverse origins comprising Late Bronze Age herders, European farmers and southern Siberian hunter-gatherers. Later, Scythians admixed with the eastern steppe nomads who formed the Xiongnu confederations, and moved westward in about the second or third century bc, forming the Hun traditions in the fourth–fifth century ad, and carrying with them plague that was basal to the Justinian plague. These nomads were further admixed with East Asian groups during several shortterm khanates in the Medieval period. These historical events transformed the Eurasian steppes from being inhabited by Indo-European speakers of largely West Eurasian ancestry to the mostly Turkic-speaking groups of the present day, who are primarily of East Asian ancestry.

Bibel

Wells 2018

Bruce Wells, *The Grammar and Meaning of the Leviticus Texts on Same-Sex Relations Reconsidered*. unknown (2018), preprint, 1–23.

Does this reasoning fit with the overall rationale behind the other sexual taboos found in chapters 18 and 20? The question of a single rationale to explain all of these taboos is one around which very little consensus has been built. The proposals on this issue have ranged from expanded commentary on the Ten Commandments35 to individual defilement to the misuse of semen to the maintenance of familial stability. I do not claim to be able to resolve this problem here. I would point out, however, that the notion that certain individuals are to be considered off-limits sexually due to their relationship with some other individual runs through many of the prohibitions in these chapters. The priestly penchant for keeping categories separate has certainly been appealed to before as the basis for these taboos, and there may well be a connection between this tendency on the part of the priestly authors and the idea of a relationship-based rationale. The idea that the desire for familial and community stability underlies the authors' agenda in these prohibitions also commends itself.

If the prohibition in Lev 18:22 and 20:13 should be connected with the other taboos that are listed around it, then we ought to be looking at how the persons declared off-limits are qualified by the text, as they clearly are in almost every instance. And for males, that qualification comes with the phrase miškebê 'iššâ.

Wendland 1995

Ernst R. Wendland, *Seeking the Path Through a Forest of Symbols, A Figurative and Structural Survey of the Song Of Songs*. Journal for Translation and Textlinguistics **7** (1995), ii, 13–59.

What is the Song of Songs about and what characterizes its singing? It is the contention of this article that one can answer the first half of the preceding question only after properly analyzing the second. Accordingly, the Song's two chief and interrelated stylistic features, analogic imagery and verbal recursion, are described and illustrated as a means of determining the main contours of its overall structural organization. This leads in turn to a (partial) explication of the symbolic nature of its fundamentally theological message—one that is firmly grounded in the divinely established love between a man and a woman, but which figuratively reaches beyond that to reflect upon the ineffable affection of the LORD for his people. This study employs a discourse-oriented, literary-structural methodology that should be applicable also to the other poetic texts of Scripture.

Biologie

Hovenden 2018

Mark Hovenden & Paul Newton, *Plant responses to CO2 are a question of time*. science **360** (2018), 263–264.

Long-term experiments show unexpected plant responses to elevated CO2 concentrations.

Over the initial years of Reich et al.'s experiment, the results conformed to this expectation: C3 plants responded strongly to elevated CO2, whereas C4 plants were unresponsive. However, as the experiment progressed, the response of the C3 plants declined, and the response of the C4 plants became stronger. These changes were so marked and consistent that after 15 to 20 years, the response of C3 plants to CO2 was negligible but that of C4 plants was strong. Indeed, the growth stimulation from the CO2 in the C4 plants during the final 5 years of the experiment exceeded that in C3 plants at any stage of the experiment.

Mühlemann 2018

Barbara Mühlemann et al., *Ancient hepatitis B viruses from the Bronze Age to the Medieval period*. nature **557** (2018), 418–423.

Barbara Mühlemann, Terry C. Jones, Peter De Barros Damgaard, Morten E. Allentoft, Irina Shevnina, Andrey Logvin, Emma Usmanova, Irina P. Panyushkina, Bazartseren Boldgiv, Tsevel Bazartseren, Kadicha Tashbaeva, Victor Merz, Nina Lau, Václav Smrèka, Dmitry Voyakin, Egor Kitov, Andrey Epimakhov, Dalia Pokutta, Magdolna Vicze, T. Douglas Price, Vyacheslav Moiseyev, Anders J. Hansen, Ludovic Orlando, Simon Rasmussen, Martin Sikora, Lasse Vinner, Albert D. M. E. Osterhaus, Derek J. Smith, Dieter Glebe, Ron A. M. Fouchier, Christian Drosten, Karl-Göran Sjögren, Kristian Kristiansen & Eske Willerslev

Hepatitis B virus (HBV) is a major cause of human hepatitis. There is considerable uncertainty about the timescale of its evolution and its association with humans. Here we present 12 full or partial ancient HBV genomes that are between approximately 0.8 and 4.5 thousand years old. The ancient sequences group either within or in a sister relationship with extant human or other ape HBV clades. Generally, the genome properties follow those of modern HBV. The root of the HBV tree is projected to between 8.6 and 20.9 thousand years ago, and we estimate a substitution rate of 8.04 × 10-6 – 1.51 × 10-5 nucleotide substitutions per site per year. In several cases, the geographical locations of the ancient genotypes do

not match present-day distributions. Genotypes that today are typical of Africa and Asia, and a subgenotype from India, are shown to have an early Eurasian presence. The geographical and temporal patterns that we observe in ancient and modern HBV genotypes are compatible with well-documented human migrations during the Bronze and Iron Ages1,2. We provide evidence for the creation of HBV genotype A via recombination, and for a long-term association of modern HBV genotypes with humans, including the discovery of a human genotype that is now extinct. These data expose a complexity of HBV evolution that is not evident when considering modern sequences alone.

Reich 2018

Peter B. Reich, Sarah E. Hobbie, Tali D. Lee & Melissa A. Pastore, *Unexpected reversal of C3 versus C4 grass response to elevated CO2 during a 20-year field experiment*. science **360** (2018), 317–320.

s360-0317-Supplement.pdf

Theory predicts and evidence shows that plant species that use the C4 photosynthetic pathway (C4 species) are less responsive to elevated carbon dioxide (eCO2) than species that use only the C3 pathway (C3 species). We document a reversal from this expected C3-C4 contrast. Over the first 12 years of a 20-year free-air CO2 enrichment experiment with 88 C3 or C4 grassland plots, we found that biomass was markedly enhanced at eCO2 relative to ambient CO2 in C3 but not C4 plots, as expected. During the subsequent 8 years, the pattern reversed: Biomass was markedly enhanced at eCO2 relative to ambient CO2 in C4 but not C3 plots. Soil net nitrogen mineralization rates, an index of soil nitrogen supply, exhibited a similar shift: eCO2 first enhanced but later depressed rates in C3 plots, with the opposite true in C4 plots, partially explaining the reversal of the eCO2 biomass response.These findings challenge the current C3-C4 eCO2 paradigm and show that even the best-supported short-term drivers of plant response to global change might not predict long-term results.

Smith 2018

Felisa A. Smith, Rosemary E. Elliott Smith, S. Kathleen Lyons & Jonathan L. Payne, *Body size downgrading of mammals over the late Quaternary*. science **360** (2018), 310–313.

s360-0310-Supplement.pdf

Since the late Pleistocene, large-bodied mammals have been extirpated from much of Earth. Although all habitable continents once harbored giant mammals, the few remaining species are largely confined to Africa. This decline is coincident with the global expansion of hominins over the late Quaternary. Here, we quantify mammalian extinction selectivity, continental body size distributions, and taxonomic diversity over five time periods spanning the past 125,000 years and stretching approximately 200 years into the future. We demonstrate that size-selective extinction was already under way in the oldest interval and occurred on all continents, within all trophic modes, and across all time intervals. Moreover, the degree of selectivity was unprecedented in 65 million years of mammalian evolution. The distinctive selectivity signature implicates hominin activity as a primary driver of taxonomic losses and ecosystem homogenization. Because megafauna have a disproportionate influence on ecosystem structure and function, past and present body size downgrading is reshaping Earth's biosphere.

Datierung

Clark-Balzan 2018

Laine Clark-Balzan, Ash Parton, Paul S. Breeze, Huw S. Groucutt & Michael D. Petraglia, *Resolving problematic luminescence chronologies for carbonate- and evaporite-rich sediments spanning multiple humid periods in the Jubbah Basin, Saudi Arabia.* Quaternary Geochronology **45** (2018), 50–73.

QuGeochr45-050-Supplement.docx

Most of the world's presently hyper-arid desert regions have experienced previous periods of significantly higher humidity and milder environmental conditions. The timing of these 'greening events' is critical to research upon global climatic fluctuations and for studies of hominin palaeodemography and range expansion, contraction, and extinction, but dating these climatic shifts via terrestrial sedimentary records can be difficult. Here, we outline the challenges inherent in the radiometric dating of carbonateand evaporite-rich sediments preserved in the Jubbah basin (Nefud Desert, northern Saudi Arabia), a critical area for reconstructing the evolution of local hydrological regimes across long timescales. The Jubbah basin is surrounded by sandstone jebels (bedrock outcrops), which have prevented significant leeward dune accumulation for at least 400,000 years. The sedimentary sequences in the basin indicate repeated fluctuations between arid and humid climatic conditions, and provide key hydroclimatic records for northern Arabia. Quartz OSL and feldspar pIRIR290 luminescence measurements and radiocarbon dating efforts are reported from four palaeoenvironmental sections in the Jubbah basin. Dates from sand-rich levels are relatively unproblematic, but significant difficulties were encountered when calculating luminescence ages from carbonate and evaporite-rich sediments. Examination of the agedepth profiles, elemental composition, and sedimentological characteristics of these sections indicates that both secular disequilibrium and post-depositional alteration of the sediments has resulted in inaccurate dose rate assessment for multiple samples. In particular, we suggest that multiple groundwater pulses in the Jubbah basin have caused carbonate re-precipitation and concurrent uranium enrichment in subsurface deposits, whereas 'perched' sections (such as the carbonate-topped remnants reported elsewhere across the Nefud) seem to be free from such alteration. These difficulties highlight important considerations for the production of chronologies from comparable settings elsewhere. Careful evaluation of all results, however, yields a robust chronology indicating the presence of varying levels of groundwater from the Holocene, MIS 3, 5, and probably older sediments from MIS 7 through to 9 or 11. We therefore provide a detailed discussion of the production of a reliable chronological framework for the Jubbah basin as an exemplar of the challenges to be overcome in such settings, and the amount of information that can be derived in so doing.

Keywords: Luminescence dating | Quartz | Feldspar | Post-IR IRSL | Diagenetic alteration | Dose rate

Jungpaläolithikum

Tejero 2018

José-Miguel Tejero, Anna Belfer-Cohen, Ofer Bar-Yosef, Vitaly Gutkin & Rivka Rabinovich, *Symbolic emblems of the Levantine Aurignacians as a regional entity identifier (Hayonim Cave, Lower Galilee, Israel).* PNAS **115** (2018), 5145–5150.

pnas115-05145-Supplement.pdf

The Levantine Aurignacian is a unique phenomenon in the local Upper Paleolithic sequence, showing greater similarity to the West European classic Aurignacian than to the local Levantine archaeological entities preceding and following it. Herewith we highlight another unique characteristic of this entity, namely, the presence of symbolic objects in the form of notched bones (mostly gazelle scapulae) from the Aurignacian levels of Hayonim Cave, Lower Galilee, Israel. Through both macroscopic and microscopic analyses of the items, we suggest that they are not mere cut marks but rather are intentional (decorative?) human-made markings. The significance of this evidence for symbolic behavior is discussed in its chrono-cultural and geographical contexts. Notched bones are among the oldest symbolic expressions of anatomically modern humans. However, unlike other Paleolithic sites where such findings were reported in single numbers, the number of these items recovered at Hayonim Cave is sufficient to assume they possibly served as an emblem of the Levantine Aurignacian.

Keywords: Upper Paleolithic | Levantine Aurignacian | Near East | bone tools | human symbolic behavior

Significance: The emergence and diffusion of Upper Paleolithic (UP) typotechnical traditions are among the most debated topics related to anatomically modern humans' colonization of and establishment in Eurasia. The Levantine Aurignacian represents one of the UP cultural entities in the Near East, and its origins, spread, and interrelationships with other UP entities are central to the understanding of local UP dynamics. The data we present demonstrate that the notched bones from Hayonim Cave stratum D are unquestionably anthropic marks constituting an emblem of the Levantine Aurignacian. Assessment of data from Middle Stone Age and UP sites of Africa and Europe as well as other UP sites in the Levant supports the notion that this is indeed a unique feature of the Levantine Aurignacian.

Théry-Parisot 2018

Isabelle Théry-Parisot et al., *Illuminating the cave, drawing in black, Wood charcoal analysis at Chauvet-Pont d'Arc.* Antiquity **92** (2018), 320–333.

Isabelle Théry-Parisot, Stéphanie Thiébault, Jean-Jacques Delannoy, Catherine Ferrier, Valérie Feruglio, Carole Fritz, Bernard Gely, Pierre Guibert, Julien Monney, Gilles Tosello, Jean Clottes & Jean-Michel Geneste

The Grotte Chauvet is world renowned for the quality and diversity of its Palaeolithic art. Fire was particularly important to the occupants, providing light and producing charcoal for use in motifs. Charcoal samples were taken systematically from features associated with the two main occupation phases (Aurignacian and Gravettian). Analysis showed it to be composed almost entirely of pine (Pinus sp.), indicating the harsh climatic conditions at this period. No distinction in wood species was found between either the two occupation episodes or the various depositional contexts. The results throw new light on the cultural and palaeoenvironmental factors that influenced choices underlying the collection of wood for charcoal production.

Keywords: France | Chauvet-Pont d'Arc | Palaeolithic | art | anthracology

Kultur

Ibáñez 2016

J. J. Ibáñez, D. Ortega, D. Campos, L. Khalidi, V. Méndez & L. Teira, *Developing a complex network model of obsidian exchange in the Neo-*

lithic Near East, *Linear regressions, ethnographic models and archaeological data*. Paléorient **42** (2016), ii, 9–32.

The analysis of obsidian exchange allows for a better understanding of systems of interaction between sedentary villages at the onset of the Near Eastern Neolithic. The down-the-line model of obsidian exchange has prevailed as the mechanism used to explain obsidian distribution between villages. However, archaeological data on the quantity of obsidian present in Neolithic sites, mathematical simulations of this model and of alternative ones, and the analysis of the ethnographic record suggest that a more complex model of exchange existed during this period. In this paper, we use regression analysis to analyze archaeological data currently available, and a complex network model is proposed for obsidian exchange that we test through mathematical modelling. Finally, using archaeological and ethnographic data, we explore the social and economic implications of the existence of a complex network of exchange and interaction between Neolithic villages.

Keywords: Obsidian | Neolithic | Near East | Exchange | Complex network modelling.

Lawler 2018

Andrew Lawler, *Cannabis, opium use part of ancient Near Eastern cultures*. science **360** (2018), 249–250.

Growing body of data suggests ritual drug use by ancient Mesopotamians, Cypriots, and others.

Diana Stein, an archaeologist at Birkbeck University of London, claims archaeologists have long studied scenes of rituals involving drugs and their effects without realizing it. She argues that the banquet scenes that often adorn small seals found Anatolia, Syria, Mesopotamia, and Iran actually show people imbibing psychoactive potions. Another common motif, interpreted as a scene of contest, may instead represent the internal conflict that results when the imbiber faces an alternative reality, Stein proposes. In these images, "everything is distorted and pulsing—but they certainly knew how to carve things realistically when they wanted to," she said at the meeting here.

Talhelm 2018

Thomas Talhelm, Xuemin Zhang & Shigehiro Oishi, *Moving chairs in Starbucks, Observational studies find rice-wheat cultural differences in daily life in China*. Science Advances **4** (2018), eaap8469, 1–9. DOI:10.1126/sciadv.aap8469.

SciAdv04-eaap8469-Supplement.pdf

Traditional paddy rice farmers had to share labor and coordinate irrigation in a way that most wheat farmers did not. We observed people in everyday life to test whether these agricultural legacies gave rice-farming southern China a more interdependent culture and wheat-farming northern China amore independent culture. In Study 1, we counted 8964 people sitting in cafes in six cities and found that people in northern China were more likely to be sitting alone. In Study 2,wemoved chairs together in Starbucks across the country so that theywere partially blocking the aisle (n=678). People in northern Chinaweremore likely tomove the chair out of theway,which is consistent with findings that people in individualistic cultures aremore likely to try to control the environment. People in southern China weremore likely to adjust the self to the environment by squeezing through the chairs. Even in China's mostmodern cities, rice-wheat differences live on in everyday life.

Bietak 2018

Manfred Bietak & Constance von Rüden, *Contact Points, Avaris and Pi-Ramesse*. In: Jeffrey Spier, Timothy Potts & Sara E. Cole (Hrsg.), *Beyond the Nile, Egypt and the Classical World*. (Los Angeles 2018), 18–23.

Qenamun's tomb painting reflects a scene easily imaginable for the harbor of Tell el-Dab'a during the main sailing season. There, the presence of "Byblos ships" from the Levant and "Keftiu ships" from the Aegean, as described in the dockyard annals of Peru-nefer, was surely a common sight." Indeed, such a harbor must have created an interregional atmosphere where traders, seamen, and craftspeople would have met to exchange goods, ideas, and experiences. This multicultural mingling was not restricted to the more practical side of economic life; it also entered the sphere of ritual, politics, and art. These practices would perhaps have produced what Richard White has called a "middle ground," a mixture of elements of the different involved groups that created a common, mutually comprehensible and symbolically mediated world."

Most importantly, both palaces were furnished with wall paintings and stucco reliefs, whose technique and iconography are essentially the same as those known to us from the Aegean and especially from Minoan Crete. The furnishing of these palaces with such wall paintings is surely not what one would have expected from an Egyptian palace, especially as Egyptian royal iconography is entirely missing. Although the architecture seems to follow Egyptian tradition—emphasizing an axial alignment—the way of painting is borrowed, perhaps together with its master painters, from a region where the architecture repeatedly forces visitors to turn around corners and to steadily redirect their sight, and where axial-view relationships are rare. Thus, from the moment the messenger entered the roofed area of Palace G, he would have been confronted with hunting scenes, animal fights, or composite beings, perhaps known to him from the Aegean but presented in an unusually direct and more axial arrangement due to the different architecture; the painted scenes were also embedded in a different ritual and social environment. Thus, the architecture coupled with the paintings created a hybrid space for this central political and ideological facility of the site.

Schrader 2018

Sarah A. Schrader, Stuart Tyson Smith, Sandra Olsen & Michele Buzon, *Symbolic equids and Kushite state formation, A horse burial at Tombos*. Antiquity **92** (2018), 383–397.

The recent discovery of a well-preserved horse burial at the Third Cataract site of Tombos illuminates the social significance of equids in the Nile Valley. The accompanying funerary assemblage includes one of the earliest securely dated pieces of iron in Africa. The Third Intermediate Period (1050-728 BC) saw the development of the Nubian Kushite state beyond the southern border of Egypt. Analysis of the mortuary and osteological evidence suggests that horses represented symbols of a larger social, political and economic movement, and that the horse gained symbolic meaning in the Nile Valley prior to its adoption by the Kushite elite. This new discovery has important implications for the study of the early Kushite state and the formation of Kushite social identity.

Keywords: Sudan | Egypt | Nile Valley | Napata | Kushite | horse | iron

Methoden

González-Ruibal 2018

Alfredo González-Ruibal, Pablo Alonso González & Felipe Criado-Boado, *Against reactionary populism, Towards a new public archaeology*. Antiquity **92** (2018), 507–527.

Keywords: social archaeology | cultural heritage | populism | neoliberalism | multiculturalism

Archaeology's 'People': Reinhard Bernbeck & Susan Pollock

Decolonial archaeology as social justice: Yannis Hamilakis

It's not all about archaeology: Laurajane Smith & Gary Campbell

Changing archaeology's 'brand' would be helpful: Larry J. Zimmerman

Reply: Authority vs power – capitalism, archaeology and the populist challenge

Mittelpaläolithikum

Lawler 2018

Andrew Lawler, *Searching for a Stone Age Odysseus*. science **360** (2018), 362–363.

Modern humans and even Neandertals may have plied the Mediterranean long ago.

Early members of the human family such as Homo erectus are now known to have crossed several kilometers of deep water more than a million years ago in Indonesia, to islands such as Flores and Sulawesi.

In contrast, the recent evidence from the Mediterranean suggests purposeful navigation. Archaeologists had long noted ancient-looking stone tools on several Mediterranean islands including Crete, which has been an island for more than 5 million years, but they were dismissed as oddities. The tools also offered a clue to the identity of the early seafarers: The artifacts resemble Acheulean tools developed more than a million years ago by H. erectus and used until about 130,000 years ago by Neandertals as well. Strasser argued that the tools may represent a sea-borne migration of Neandertals from the Near East to Europe. The team used a variety of techniques to date the soil around the tools to at least 130,000 years old, but they could not pinpoint a more exact date.

Ostasien

Wade 2018

Lizzie Wade, *Ancient DNA untangles South Asian roots*. science **360** (2018), 252.

Study shores up steppe as long-sought Proto-Indo-European homeland.

"Strikingly, this is very similar to the pattern we see in Europe," Moorjani said. Around 7000 B.C.E., agriculture spread into both Europe and South Asia with farmers from Anatolia and Iran, respectively, who each mixed with local hunter-gatherer populations. After about 3000 B.C.E., Yamnaya pastoralists from the Central Asian steppe swept both east and west, into Europe and South Asia, bringing the wheel and perhaps cannabis.

Physik

Burkert 2018

V. D. Burkert, L. Elouadrhiri & F. X. Girod, *The pressure distribution inside the proton*. nature **557** (2018), 396–399.

The proton, one of the components of atomic nuclei, is composed of fundamental particles called quarks and gluons. Gluons are the carriers of the force that binds quarks together, and free quarks are never found in isolation—that is, they are confined within the composite particles in which they reside. The origin of quark confinement is one of the most important questions in modern particle and nuclear physics because confinement is at the core of what makes the proton a stable particle and thus provides stability to the Universe. The internal quark structure of the proton is revealed by deeply virtual Compton scattering1,2, a process in which electrons are scattered off quarks inside the protons, which subsequently emit high-energy photons, which are detected in coincidence with the scattered electrons and recoil protons. Here we report a measurement of the pressure distribution experienced by the quarks in the proton. We find a strong repulsive pressure near the centre of the proton (up to 0.6 femtometres) and a binding pressure at greater distances. The average peak pressure near the centre is about 1E35 pascals, which exceeds the pressure estimated for the most densely packed known objects in the Universe, neutron stars3. This work opens up a new area of research on the fundamental gravitational properties of protons, neutrons and nuclei, which can provide access to their physical radii, the internal shear forces acting on the quarks and their pressure distributions.

Religion

Curry 2018

Andrew Curry, *Siberian sculpture is among the oldest monumental art*. science **360** (2018), 364.

The 11,600-year-old Shigir Idol offers an enigmatic glimpse of hunter-gatherers' world view.

"Figurative art in the Paleolithic and naturalistic animals painted in caves and carved in rock all stop at the end of the ice age. From then on, you have very stylized patterns that are hard to interpret," Petersen says. "They're still hunters, but they had another view of the world." At a conference in Yekaterinburg last year, experts debated the meaning of the Shigir symbols, comparing them to other art from the period and more recent ethnographic examples. The most similar finds from that time are those at Göbekli, more than 2500 kilometers away, where hunter-gatherers gathered for rituals and carved similar stylized animals on stone pillars more than 5 meters high. The idol is a reminder that stone wasn't the only material people in the past used to make art and monuments—just the one most likely to survive, possibly skewing our understanding of prehistory. "Wood normally doesn't last," Terberger says. "I expect there were many more of these and they're not preserved."

Zhilin 2018

Mikhail Zhilin, Svetlana Savchenko, Svend Hansen, Karl-Uwe Heussner & Thomas Terberger, *Early art in the Urals, New research on the wooden sculpture from Shigir*. Antiquity **92** (2018), 334–350.

Antiquity092-0334-Supplement.zip, Antiquity092-0334-Supplement11.pdf

The carved wooden object uncovered from the Shigir peat bog in the Sverdlovsk region towards the end of the nineteenth century remains one of the oldest, known examples of monumental anthropomorphic sculpture from anywhere in the world. Recent application of new analytical techniques has led to the discovery of new imagery on its surface, and has pushed the date of the piece back to the earliest Holocene. The results of these recent analyses are placed here in the context of local and extra-local traditions of comparable prehistoric art. This discussion highlights the unique nature of the find and its significance for appreciating the complex symbolic world of Early Holocene huntergatherers.
Keywords: Russia | Urals | Early Mesolithic | art | sculpture | symbolism

Story or Book

Warburton 2018

David A. Warburton, *Societies and economics in the Eastern Mediterranean Bronze Age*. Antiquity **92** (2018), 534–537.

Sarah C. Murray. The collapse of the Mycenaean economy. Imports, trade, and institutions 1300–700 BCE. 2017. Cambridge: Cambridge University Press; 978-1-107-18637-8 £ 90.

The periphery in Iran and the Aegean understood only prices. Ideologies and legal systems were the preserve of the cores, and these assured that the cores steered world history. Yet the Bronze Age Near Eastern ideologies foundered in the first-millennium world when a new society blossomed and dogmatic messages about justice and value were transformed into discourse. We are coming closer to the origins of the West.

Wiltgren 2018

Filip Wiltgren, *When Nain Came to Shirin's Door*, *Stories from the stars*. nature **557** (2018), 462.

And Nain entered, and told his story, and when it was time to leave, he stayed.