Liste erstellt am 2014-07-24

References

Aktuell

Bohannon 2014

John Bohannon, *A challenge to pseudoscience*. science **345** (2014), 16.

Egyptian expat questions claims that devices noninvasively detect viruses in blood and treat infected people.

Cordain 2000

Loren Cordain, Janette Brand Miller, S. Boyd Eaton, Neil Mann & Katharine Milton, *Macronutrient estimations in hunter-gatherer diets*. American Journal of Clinical Nutrition **72** (2000), 1589–1592.

Milton's editorial repeated the same error that has occurred continually in the anthropologic community since Lee published his work 32 y ago. Lee did not report the total food intakes derived from animal sources because he did not sum hunted and fished animal foods. This is one of the reasons our reanalysis of the Ethnographic Atlas is original and noteworthy. Although we did not report it in our article, we analyzed Lee's sample of 58 hunter-gatherer societies as a subset and obtained results almost identical to those of our analysis of the entire sample (n = 229). The dependence on hunted and fished foods for subsistence was 86–100 % (modal value) and 66–75 % (median value).

Cunnane 2000

Stephen C. Cunnane, Loren Cordain, Janette Brand Miller, S. Boyd Eaton, Neil Mann & Katharine Milton, *Hunter-gatherer diets—a shore-based perspective*. American Journal of Clinical Nutrition **72** (2000), 1584–1588.

However, in my view, it was the discovery of and adaptation to a high-quality shorebased diet that was a major determinant of the rate and extent of human brain evolution, not the other way around as implied by Milton. We argue that the shore-based ecologic niche was uniquely able to stimulate expansion of the primate brain because, in addition to being a plentiful supply of dietary energy and protein, it provided certain brain-selective nutrients, such as docosahexaenoate, iodine, zinc, copper, and iron. If the nutrient and energy supplies were consistently inadequate in some geographic areas over thousands of years, human brain evolution would have faltered and long-term colonization of those areas would have ceased until the appropriate foods were found or supplements were invented.

Kupferschmidt 2014

Kai Kupferschmidt, *High hopes*. science **345** (2014), 18–23.

Psychedelic drugs fell from grace in the 1960s. Now, scientists are rediscovering them as potential treatments for a range of illnesses.

van Lacum 2014

Edwin B. van Lacum, Miriam A. Ossevoort & Martin J. Goedhart, *A Teaching Strategy with a Focus on Argumentation to Improve Undergraduate Students' Ability to Read Research Articles*. CBE—Life Sciences Education **13** (2014), 253–264.

The aim of this study is to evaluate a teaching strategy designed to teach first-year undergraduate life sciences students at a research university how to learn to read authentic research articles. Our approach—based on the work done in the field of genre analysis and argumentation theory— means that we teach students to read research articles by teaching them which rhetorical moves occur in research articles and how they can identify these. Because research articles are persuasive by their very nature, we focused on the rhetorical moves that play an important role in authors' arguments. We designed a teaching strategy using cognitive apprenticeship as the pedagogical approach. It was implemented in a first-year compulsory course in the life sciences undergraduate program. Comparison of the results of a pretest with those of the posttest showed that students' ability to identify these moves had improved. Moreover, students themselves had also perceived that their ability to read and understand a research article had increased. The students' evaluations demonstrated that they appreciated the pedagogical approach used and experienced the assignments as useful. On the basis of our results, we concluded that students had taken a first step toward becoming expert readers.

Meyer 2014

Michelle Meyer, *Misjudgements will drive social trials underground.* nature **511** (2014), 265.

A Facebook study that manipulated news feeds was not definitively unethical and offered valuable insight into social behaviour, says Michelle Meyer.

When the average user logs on, Facebook automatically chooses 300 status updates from a possible 1,500 to display in his or her feed. Such manipulation, which often determines how likely people are to view emotionally charged content, aims to optimize user engagement and activity and is how Facebook is able to offer a free service but still make a profit. But how does this affect users' moods?

Some have said that Facebook "purposefully messed with people's minds". Maybe; but no more so than usual. The study did not violate anyone's privacy, and attempting to improve users' experience is consistent with Facebook's relationship with its consumers. Let us be clear. If critics think that the manipulation of emotional content in this research is sufficiently concerning to merit regulation or charges of unethical behaviour, then the same concern must apply to Facebook's standard practice — and many similar practices by companies, non-profit organizations and governments.

Wu 2014

Xiu-Jie Wu, Isabelle Crevecoeur, Wu Liu, Song Xing & Erik Trinkaus, *Temporal labyrinths of eastern Eurasian Pleistocene humans.* PNAS **111** (2014), 10509–10513.

One of the morphological features that has been identified as uniquely derived for the western Eurasian Neandertals concerns the relative sizes and positions of their semicircular canals. In particular, they exhibit a relatively small anterior canal, a relatively larger lateral one, and a more inferior position of the posterior one relative to the lateral one. These discussions have not included full paleontological data on eastern Eurasian Pleistocene human temporal labyrinths, which have the potential to provide a broader context for assessing Pleistocene Homo trait polarities. We present the temporal labyrinths of four eastern Eurasian Pleistocene Homo, one each of Early (Lantian 1), Middle (Hexian 1), and Late (Xujiayao 15) Pleistocene archaic humans and one early modern human (Liujiang 1). The labyrinths of the two earlier specimens and the most recent one conform to the proportions seen among western early and recent modern humans, reinforcing the modern human pattern as generally ancestral for the genus Homo. The labyrinth

of Xujiayao 15 is in the middle of the Neandertal variation and separate from the other samples. This eastern Eurasian labyrinthine dichotomy occurs in the context of none of the distinctive Neandertal external temporal or other cranial features. As such, it raises questions regarding possible cranial and postcranial morphological correlates of Homo labyrinthine variation, the use of individual "Neandertal" features for documenting population affinities, and the nature of late archaic human variation across Eurasia.

cranium | China | petrous | cochlea

Amerika

Carson 2014

John Francis Carson, Bronwen S. Whitney, Francis E. Mayle, José Iriarte, Heiko Prümers, J. Daniel Soto & Jennifer Watling, *Environmental impact of geometric earthwork construction in pre-Columbian Amazonia*. PNAS **111** (2014), 10497–10502.

There is considerable controversy over whether pre-Columbian (pre-A.D. 1492) Amazonia was largely "pristine" and sparsely populated by slash-and-burn agriculturists, or instead a densely populated, domesticated landscape, heavily altered by extensive deforestation and anthropogenic burning. The discovery of hundreds of large geometric earthworks beneath intact rainforest across southern Amazonia challenges its status as a pristine landscape, and has been assumed to indicate extensive pre-Columbian deforestation by large populations. We tested these assumptions using coupled local- and regional-scale paleoecological records to reconstruct land use on an earthwork site in northeast Bolivia within the context of regional, climate-driven biome changes. This approach revealed evidence for an alternative scenario of Amazonian land use, which did not necessitate labor-intensive rainforest clearance for earthwork construction. Instead, we show that the inhabitants exploited a naturally open savanna landscape that they maintained around their settlement despite the climatically driven rainforest expansion that began ≈2,000 y ago across the region. Earthwork construction and agriculture on terra firme landscapes currently occupied by the seasonal rainforests of southern Amazonia may therefore not have necessitated large-scale deforestation using stone tools. This finding implies far less labor—and potentially lower population density—than previously supposed. Our findings demonstrate that current debates over themagnitude and nature of pre-Columbian Amazonian land use, and its impact on global biogeochemical cycling, are potentially flawed because they do not consider this land use in the context of climate-driven forest–savanna biome shifts through the mid-to-late Holocene.

paleoecology | Amazonian archaeology | human–environment interactions | Anthropocene | Amazon rainforest

Anthropologie

Antón 2014

Susan C. Antón, Richard Potts & Leslie C. Aiello, *Evolution of early Homo, An integrated biological perspective*. science **345** (2014), 45. DOI:10.1126/science.1236828.

s345-0045-Supplement.pdf

Integration of evidence over the past decade has revised understandings about the major adaptations underlying the origin and early evolution of the genus

Homo. Many features associated with Homo sapiens, including our large linear bodies, elongated hind limbs, large energy-expensive brains, reduced sexual dimorphism, increased carnivory, and unique life history traits, were once thought to have evolved near the origin of the genus in response to heightened aridity and open habitats in Africa. However, recent analyses of fossil, archaeological, and environmental data indicate that such traits did not arise as a single package. Instead, some arose substantially earlier and some later than previously thought. From ≈2.5 to 1.5 million years ago, three lineages of early Homo evolved in a context of habitat instability and fragmentation on seasonal, intergenerational, and evolutionary time scales. These contexts gave a selective advantage to traits, such as dietary flexibility and larger body size, that facilitated survival in shifting environments.

Bibel

Smith 2002

Mark S. Smith, *The early history of God, Yahweh and the other deities in ancient Israel*. Biblical Resource (Grand Rapids ^{2}2002).

Grabung

Reitmaier 2014

Thomas Reitmaier, *Form Follows Function, Eine neue Deutung der sogenannten Steinscheibe mit Quaste des Südtiroler Eismannes*. Archäologisches Korrespondenzblatt **44** (2014), 29–40.

After 20 years of intensive research on the Iceman from South Tyrol the chances of new findings concerning his Copper Age equipment seem to be small. However, there are several artefacts of hitherto unresolved function and reconstruction. This also applies to the stone disc with tassel which so far has been interpreted as ornament, repair kit or arrow straightener. Nevertheless, the function of the object might be much simpler and more practical. This contribution discusses the possible use of this "amulet" as a game bird holder and integrates the artefact now belonging to the hunting equipment, in a larger context of the find assemblage and respectively the Alpine Neolithic.

Nach über 20 Jahren intensiver Forschung am Südtiroler Eismann scheint es fraglich, noch Neues zu seiner kupferzeitlichen Ausrüstung beisteuern zu können. Allerdings gibt es verschiedene Artefakte, deren Funktion und Rekonstruktion bis heute nicht abschließend geklärt ist. Dazu zählt auch die Steinscheibe mit Quaste, die bislang meist als Schmuck, Reparaturvorrat oder Pfeilputzer interpretiert wurde. Die Funktion des Objekts ist aber eventuell eine vie einfachere und praktischere. Der Beitrag diskutiert die mögliche Verwendung des "Amuletts" als sogenannter (Vogel-)Galgen und bindet das Artefakt als weiteren Teil der Jagdausrüstung in einen größeren Zusammenhang des Fundkomplexes bzw. des alpinen Neolithikums ein.

Keywords: Italy / South Tyrol / Chalcolithic / Alps / Ötzi the Iceman / hunting / fowling / Italien / Südtirol / Kupferzeit / Alpen / Ötzi / Jagd / Vogeljagd

Isotope

Gąsiorowski 2014

Michał Gąsiorowski, Helena Hercman & Paweł Socha, *Isotopic analysis (C, N) and species composition of rodent assemblage as a tool for reconstruction of climate and environment evolution during Late Quaternary: A case study from Biśnik Cave (Częstochowa Upland, Poland)*. Quaternary International **339** (2014), 139–147.

Rodent remains are potentially a powerful tool in paleoecological reconstructions. Rodents are a worldwide group of mammals inhabiting all climatic zones, from arctic tundra to tropical forests. Some of their representatives have narrow ranges of environmental tolerance, while others have cosmopolitan distributions. Additionally, rodent remains are well preserved and numerous in cave sediments, and are easily identified to the species level. The species composition of rodent assemblage from the specific cave gives valuable data on ecosystem status around the site. Moreover, isotopic composition (C, N) of rodent remains provides information on some environmental factors, e.g. type of vegetation, soil activity, precipitation, and temperature. The material for this study was collected from the sediments of the Bisnik Cave (Poland). The cave is known from its sediment sequence deposited during the middle and late Pleistocene and Holocene, containing a rich collection of the Pleistocene fauna remains and archeological artifacts. The stratigraphy of the sediment sequence previously was based on archeological findings and several radiometric dates. In this study, we applied UeTh dating method to bone collagen, rodent tooth enamel, and cave bear tooth enamel. Finally, we revised the chronology of sediment sequence from the Bisnik Cave based on these new data. We found significantly higher variability of nitrogen and carbon isotopic composition in the lemming than in the common vole. However, both species show the same trends in isotopic composition of nitrogen in time. At the beginning of the record, d15N values were relatively high, suggesting intensive soil activity and, indirectly, mild climate. After that, from a stratigraphic layer dated to the early Würm glaciation, lower d15N values point to lower soil activity. Deterioration of ecosystem productivity and climate conditions were also confirmed by higher d13C. This indicates lower canopy effect and suggests conversion of vegetation around the cave. The isotopic record suggests high instability of the environmental conditions during the Würm glaciations, with significantly warmer periods before and after the Last Glacial Maximum.

Krajcarz 2014

Maciej T. Krajcarz & Magdalena Krajcarz, *The 200,000 year long record of stable isotopes ($\delta^{18}O$, $\delta^{13}C$) of cave bear (Ursus spelaeus) teeth from Biśnik Cave, Poland*. Quaternary International **339** (2014), 119–130.

The excavations in Biśnik Cave created an opportunity to investigate changes in d13C and d18O values of Ursus spelaeus teeth from one site along a 200,000 year period of sedimentation, for the first time in Eastern Europe. Bisnik Cave (Kraków-Częstochowa Upland, southern Poland) is a multilayered archaeological and paleontological site with late Middle Pleistocene and Late Pleistocene sediments, where several important changes of Quaternary climate have been recorded. The project considered if and how detailed the isotopic data from one multilayered site record these great climatic changes. The method used was an isotopic analysis of carbonate in bioapatite from tooth enamel. Teeth of cave bear (U. spelaeus) were chosen as research material. The results showed that the d18O values of cave

bear teeth from Biśnik Cave range from -14.9 to -4.4 ‰ VPDB with some variation between particular layers. Values of d13C vary between -20.5 and -14.5 ‰ VPDB. The analysis revealed that isotopic record is diverse between different types of teeth, probably due to differences in time of growth and different impact of nursing and hibernation. The results verify the responsiveness of this species to great climatic changes during Middle and Late Pleistocene in Eastern Europe. Cave bear was an ecologically inflexible species, associated with the same type of food during 200,000 years and not able to cope with the coldest phases of the Pleistocene.

Klima

FAURE 2002

Hugues Faure, Robert C. Walter & Douglas R. Grant, *The coastal oasis, Ice age springs on emerged continental shelves.* Global and Planetary Change **33** (2002), 47–56.

As ice caps expanded during each of the last five glaciations, sea level fell at least 120 m below current levels, exposing continental shelves worldwide to create vast areas of new land. As a result of this exposure, the ecology, climate, pedology, and geology of global shorelines were dramatically transformed, which in turn altered the carbon cycle and biodynamics of this new landmass. In this paper, we focus on a little-known hydrogeological phenomenon that may have had profound influences on biodiversity, human evolution, and carbon storage during periods of severe climatic stress of the Pleistocene Ice Ages. We propose that freshwater springs appeared on emerged continental shelves because falling sea level not only drew down and steepened the coastal water table gradient, thus increasing the hydrostatic head on inland groundwater aquifers, but also removed up to 120 m of hydrostatic pressure on the shelf, further enhancing groundwater flow. We call this phenomenon the "coastal oasis", a model based on three well-established facts. (1) In all coastal areas of the world, continental aquifers discharge a continuous flow of fresh water to the oceans. (2) Many submarine sedimentary and morphological features, as well as seepages and flow of fresh water, are known on and below the shelves from petroleum explorations, deep-sea drilling programs, and mariners' observations. (3) Hydraulic principles (Darcy's law) predict increased groundwater flow at the coast when sea level drops because the piezometric head increases by the equivalent depth of sea-level lowering. Sea level is presently in a relatively high interglacial position. Direct observation and verification of our model is difficult and must rely on explorations of terrain that are now deeply submerged on continental shelves. For this reason, we draw parallels between our predicted model and simple, well-exposed terrestrial hydrological systems, such as present-day springs that appear on the exposed shores of lakes whose freeair water levels fell during periods of aridity. Such modern examples are seen in the Caspian Sea and Dead Sea, the Afar Depression, and the Sahara Desert. These modern analogues demonstrate the likelihood that underground water will be more abundant on emerged shelves during sea-level fall, causing springs, oases, and wetlands to appear. Our model creates an apparent paradox: in tropical and subtropical arid lands, such as most of Africa, sea-level fall during hyperarid glacial phases would produce abundant fresh water flow onto emerged continental shelves as the continental interior desiccated. Thus, emergent shoreline springs provided new habitats for terrestrial vegetation and animals displaced from the interior by increasingly arid conditions, shrinking ecosystems, and dwindling water supplies. Such a scenario would have had a profound influence on the vegetation that spreads naturally to colonize the emerged shelves during glacio-eustatic sea-level lowstands, as well as creating new habitats for terrestrial mammals, including early humans.

Keywords: global climate change; glacial maxima; sea-level change; lake-level change; continental shelf; paleohydrogeology; coastal oases; coastal springs; Sahara; Quaternary; carbon storage; migrations; human evolution; Africa

Petraglia 2012
Michael D. Petraglia, Peter Ditchfield, Sacha Jones, Ravi Korisettar & J. N. Pal, *The Toba volcanic super-eruption, environmental change, and hominin occupation history in India over the last 140,000 years.* Quaternary International **258** (2012), 119–134.

A prolonged, interdisciplinary fieldwork program was initiated in India to investigate the impact of the Toba super-eruption on terrestrial ecosystems and hominins. Fieldwork was centered on the Jurreru River Valley and the Middle Son River Valley, in southern and northern India. Archaeological sites span from 140,000 years ago through to the Holocene, providing a long-term view about hominin occupation history. Primary air-fall deposits of the Young Toba Tuff (YTT) were identified and changes in terrestrial environments prior to and after the super-eruption are indicated. Prior to the Toba eruption, drying of local ecological settings was underway. The emplacement of ash on landscapes and its subsequent erosion had local ecological and hydrological effects. Although drier conditions are indicated after the deposition of the ash deposits, a mosaic of environments was present in India, indicating that animals and hominins could have survived the volcanic event. Evidence indicates that Middle Paleolithic industries in stratified contexts are present in India prior to and after the Toba super-eruption. Middle Paleolithic hominins appear to have survived the negative effects of the volcanic eruption and climatic fluctuations in the Late Pleistocene. Middle Paleolithic industries, produced from ca. 77–38,000 years ago in India, were probably manufactured by Homo sapiens.

Kultur

Clark 2014
Gregory Clark, *The son also rises, Surnames and the history of social mobility.* The Princeton economic history of the Western world (Princeton 2014).

Methoden

Chamberlain 2006
Andrew Chamberlain, *Demography in Archaeology.* Cambridge Manuals in Archaeology (Cambridge 2006).

Hoppa 2002
Robert D. Hoppa & James W. Vaupel (Hrsg.), *Paleodemography, Age distributions from skeletal samples.* Cambridge Studies in Biological and Evolutionary Anthropology 31 (Cambridge 2008).

Mittelpaläolithikum

Cortés-Sánchez 2011

Miguel Cortés-Sánchez et al., *Earliest Known Use of Marine Resources by Neanderthals.* PLoS ONE **6** (2011), e24026. DOI:10.1371/journal.pone.0024026.

Miguel Cortés-Sánchez, Arturo Morales-Muñiz, María D. Simón-Vallejo, María C. Lozano-Francisco, José L. Vera-Peláez, Clive Finlayson, Joaquín Rodríguez-Vidal, Antonio Delgado-Huertas, Francisco J. Jiménez-Espejo, Francisca Martínez-Ruiz, M. Aranzazu Martínez-Aguirre, Arturo J. Pascual-Granged, M. Mercè Bergadà-Zapata, Juan F. Gibaja-Bao, José A. Riquelme-Cantal, J. Antonio López-Sáez, Marta Rodrigo-Gámiz, Saburo Sakai, Saiko Sugisaki, Geraldine Finlayson, Darren A. Fa & Nuno F. Bicho

Numerous studies along the northern Mediterranean borderland have documented the use of shellfish by Neanderthals but none of these finds are prior to Marine Isotopic Stage 3 (MIS 3). In this paper we present evidence that gathering and consumption of mollusks can now be traced back to the lowest level of the archaeological sequence at Bajondillo Cave (Málaga, Spain), dated during the MIS 6. The paper describes the taxonomical and taphonomical features of the mollusk assemblages from this level Bj19 and briefly touches upon those retrieved in levels Bj18 (MIS 5) and Bj17 (MIS 4), evidencing a continuity of the shellfishing activity that reaches to MIS 3. This evidence is substantiated on 29 datings through radiocarbon, thermoluminescence and U series methods. Obtained dates and paleoenvironmental records from the cave include isotopic, pollen, lithostratigraphic and sedimentological analyses and they are fully coherent with paleoclimate conditions expected for the different stages. We conclude that described use of shellfish resources by Neanderthals (H. neanderthalensis) in Southern Spain started ,150 ka and were almost contemporaneous to Pinnacle Point (South Africa), when shellfishing is first documented in archaic modern humans.

Eren 2012

Metin I. Eren & Stephen J. Lycett, *Why Levallois? A Morphometric Comparison of Experimental 'Preferential' Levallois Flakes versus Debitage Flakes.* PLoS ONE **7** (2012), e29273. DOI:10.1371/journal.pone.0029273.

Background: Middle Palaeolithic stone artefacts referred to as 'Levallois' have caused considerable debate regarding issues of technological predetermination, cognition and linguistic capacities in extinct hominins. Their association with both Neanderthals and early modern humans has, in particular, fuelled such debate. Yet, controversy exists regarding the extent of 'predetermination' and 'standardization' in so-called 'preferential Levallois flakes' (PLFs).

Methodology/Principal Findings: Using an experimental and morphometric approach, we assess the degree of standardization in PLFs compared to the flakes produced during their manufacture. PLFs possess specific properties that unite them robustly as a group or 'category' of flake. The properties that do so, relate most strongly to relative flake thicknesses across their surface area. PLFs also exhibit significantly less variability than the flakes generated during their production. Again, this is most evident in flake thickness variables. A further aim of our study was to assess whether the particular PLF attributes identified during our analyses can be related to current knowledge regarding flake functionality and utility.

Conclusions/Significance: PLFs are standardized in such a manner that they may be considered 'predetermined' with regard to a specific set of properties that

distinguishes them statistically from a majority of other flakes. Moreover, their attributes can be linked to factors that, based on current knowledge, are desirable features in flake tools (e.g. durability, capacity for retouch, and reduction of torque). As such, our results support the hypothesis that the lengthy, multi-phase, and hierarchically organized process of Levallois reduction was a deliberate, engineered strategy orientated toward specific goals. In turn, our results support suggestions that Levallois knapping relied on a cognitive capacity for long-term working memory. This is consistent with recent evidence suggesting that cognitive distinctions between later Pleistocene hominins such as the Neanderthals and anatomically modern humans were not as sharp as some scholars have previously suggested.

Finlayson 2008

Clive Finlayson, *On the importance of coastal areas in the survival of Neanderthal populations during the Late Pleistocene*. Quaternary Science Reviews **27** (2008), 2246–2252.

This paper examines the distribution of Neanderthal populations across Europe and the Middle East. Key geographical variables are used to identify major population strongholds. Four are identified: southern Iberia, Atlantic Europe, Black Sea-Aegean and coastal Italy. Neanderthal site density in each stronghold was found to correspond closely with the predicted suitability of each area. A strong correlation was found between area suitability and last Neanderthal dates and the process of population fragmentation and extinction was found to affect continental areas first and coastal ones last. Oceanic influence, interarea connectivity and proximity to coasts were found to be key variables in the Neanderthal extinction process. The functional ecological significance of coastal areas to Neanderthals is discussed.

Ostasien

Haslam 2012

Michael Haslam et al., *A southern Indian Middle Palaeolithic occupation surface sealed by the 74 ka Toba eruption, Further evidence from Jwalapuram Locality 22*. Quaternary International **258** (2012), 148–164.

Michael Haslam, Chris Clarkson, Richard G. Roberts, Janardhana Bora, Ravi Korisettar, Peter Ditchfield, Allan R. Chivas, Clair Harris, Victoria Smith, Anna Oh, Sanjay Eksambekar, Nicole Boivin & Michael Petraglia

This paper reports further evidence from an archaeological occupation surface in southern India that was buried by tephra from the Toba volcanic super-eruption ca. 74,000 years ago. The open-air site, designated Jwalapuram Locality 22 and located in the Kurnool District of Andhra Pradesh, preserves more than 1600 stone artefacts assigned to the Indian Middle Palaeolithic. Sedimentological, isotopic and lithic data along with optically stimulated luminescence ages confirm the site as occupied closely prior to the eruption. The hominin taxon responsible for creating the site is not known, but the stone tool evidence is most consistent with contemporaneous Homo sapiens technologies in Africa and to the east of South Asia. The findings have relevance for understanding Indian Middle Palaeolithic technology, and for identifying the behavioural and environmental adaptations of the hominin group(s) that occupied India when Toba erupted.

Ozeanien

Thorley 1998

Peter B. Thorley, *Pleistocene settlement in the Australian arid zone, Occupation of an inland riverine landscape in the central Australian ranges*. Antiquity **72** (1998), 34–45.

Recent excavations at the Kulpi Mara Rockshelter in the Palmer River catchment of central Australia have protfuced radiocarbon determinations spanning an archaeological sequence of 30,000 years. These results enable re-assessment of models addressing the how, where and when of arid zone colonisation, and human adjustments to environmental change in the later Pleistocene. Whilst the evidence supports early occupation of the central arid zone during wetter conditions, doubts are raised about the continuity of occupation during the height of glacial aridity.

Physik

Wheeler 1989

John Archibald Wheeler, *The Young Feynman*. PhysicsToday **42** (1989), ii, 24–28.

Religion

Finlayson 2014

Bill Finlayson, *Houses of the Holy, The Evolution of Ritual Buildings*. In: B. Finlayson & C. Makarewicz (Hrsg.), *Settlement, Survey and Stone, Essays on Near Eastern Prehistory in Honour of Gary Rollefson*. (Berlin 2014), 133–143.

This paper seeks to provide a local historical context for the ‘Ain Ghazal Late PPNB cultic buildings, interpreted as shrines and temples, with the latter in particular being understood to represent a significant change in ritual behaviour relating to the increased population present. Our knowledge of early Neolithic communal architecture has grown substantially since the ‘Ain Ghazal excavations were conducted, providing much more information on their possible antecedents. The paper also seeks to examine our interpretation of these buildings, both in a southern Levantine context and within the wider reconstructions of Neolithic ritual and religion.

Story or Book

Donati 2014

Gaia Donati, *Of humans and mathematical symbols*. science **345** (2014), 41.

Enlightening Symbols, A Short History of Mathematical Notation and Its Hidden Powers. Joseph Mazur. Princeton University Press, 2014. 309 pp.

It is gripping to read about the contributions, big or small, of so many human minds—from real game-changers such as René Descartes, Gottfried Leibniz, and Isaac Newton to less-familiar names such as Robert Recorde (who introduced our equal sign) and François Viète (who used dedicated letters to designate knowns and unknowns in a polynomial equation, an idea later formalized by Descartes).

Following this exploration of human imagination, the book's third and final section presents a brave attempt to go beyond the symbols. Here, Mazur considers "whether mathematics is primarily visualspatial, or predominantly linguistic."