

Literatur

Afrika

FLEISHER 2013

Jeffrey Fleisher & Adria LaViolette, *The early Swahili trade village of Tumbe, Pemba Island, Tanzania, AD 600–950*. [Antiquity 87 \(2013\), 1151–1168](#).

Indian Ocean maritime networks have become a special focus of research in recent years, with emphasis not only on the economics of trade but also the movement of domesticated plants and animals (see Fuller et al. in *Antiquity* 2011: 544–58). But did such contacts inevitably lead to radical social change? Excavations at Tumbe reveal a settlement of the late first millennium AD that was heavily engaged in the traffic in exotic materials and may have been producing shell beads for export. This activity seems to have flourished within a domestic context in a village setting, however, and does not seem to have stimulated pronounced social stratification nor to have led inexorably towards urbanisation. These results demonstrate that some communities were able to establish a stable balance between the demands of the domestic economy and long-distance trade that could persist for several centuries. Activities at Tumbe should hence be viewed in their own right, not as precursors to the formation of the Swahili trading towns of the later medieval period.

Keywords: Tanzania, Pemba Island, Tumbe, AD600–950, Swahili, trade, settlement, copper, glass, shell beads

Aktuell

GHERARDI 2013

Marco Gherardi, Salvatore Mandrà, Bruno Bassetti & Marco Cosentino Lagomarsino, *Evidence for soft bounds in Ubuntu package sizes and mammalian body masses*. [PNAS 110 \(2013\), 21054–21058](#).

The development of a complex system depends on the selfcoordinated action of a large number of agents, often determining unexpected global behavior. The case of software evolution has great practical importance: knowledge of what is to be considered atypical can guide developers in recognizing and reacting to abnormal behavior. Although the initial framework of a theory of software exists, the current theoretical achievements do not fully capture existing quantitative data or predict future trends. Here we show that two elementary laws describe the evolution of package sizes in a Linux-based operating system: first, relative changes in size follow a random walk with non-Gaussian jumps; second, each size change is bounded by a limit that is dependent on the starting size, an intriguing behavior that we call “soft bound.” Our approach is based on data analysis and on a simple theoretical model, which is able to reproduce empirical details without relying on any adjustable parameter and generates definite predictions. The same analysis allows us to formulate and support the hypothesis that a similar mechanism is shaping the distribution of mammalian body sizes, via size-dependent constraints during cladogenesis. Whereas generally accepted approaches struggle to reproduce the large-mass shoulder displayed by the distribution of extant mammalian species,

this is a natural consequence of the softly bounded nature of the process. Additionally, the hypothesis that this model is valid has the relevant implication that, contrary to a common assumption, mammalian masses are still evolving, albeit very slowly.

bounded diffusion | multiplicative processes | cladogenetic diffusion | macroevolutionary patterns

MANI 2013

Anandi Mani, Sendhil Mullainathan, Eldar Shafir & Jiaying Zhao, *Response to Comment on “Poverty Impedes Cognitive Function”*. [science 342 \(2013\), 1169](#).

Wicherts and Scholten criticized our study on statistical and psychometric grounds. We show that (i) using a continuous income variable, the interaction between income, and experimental manipulation remains reliable across our experiments; (ii) our results in the cognitive control task do not appear driven by ceiling effects; and (iii) our observed post-harvest improvement is robust to the presence of learning.

WICHERTS 2013

Jelte M. Wicherts & Annemarie Zand Scholten, *Comment on “Poverty Impedes Cognitive Function”*. [science 342 \(2013\), 1169](#).

Mani et al. (Research Articles, 30 August, p. 976) presented laboratory experiments that aimed to show that poverty-related worries impede cognitive functioning. A reanalysis without dichotomization of income fails to corroborate their findings and highlights spurious interactions between income and experimental manipulation due to ceiling effects caused by short and easy tests. This suggests that effects of financial worries are not limited to the poor.

Anthropologie

BOETS 2013

Bart Boets et al., *Intact But Less Accessible Phonetic Representations in Adults with Dyslexia*. [science 342 \(2013\), 1251–1254](#).

s342-1251-Supplement1.pdf, s342-1251-Supplement2.zip

Bart Boets, Hans P. Op de Beeck, Maaïke Vandermosten, Sophie K. Scott, Céline R. Gillebert, Dante Mantini, Jessica Bulthé, Stefan Sunaert, Jan Wouters & Pol Ghesquière

Dyslexia is a severe and persistent reading and spelling disorder caused by impairment in the ability to manipulate speech sounds. We combined functional magnetic resonance brain imaging with multivoxel pattern analysis and functional and structural connectivity analysis in an effort to disentangle whether dyslexics’ phonological deficits are caused by poor quality of the phonetic representations or by difficulties in accessing intact phonetic representations. We found that phonetic representations are hosted bilaterally in primary and secondary auditory cortices and that their neural quality (in terms of robustness and distinctness) is intact in adults with dyslexia. However, the functional and structural connectivity between the bilateral auditory cortices and the left inferior frontal gyrus (a region involved in higher-level phonological processing) is significantly hampered in dyslexics, suggesting deficient access to otherwise intact phonetic representations.

GIBBONS 2013

Ann Gibbons, *Elusive Denisovans Sighted in Oldest Human DNA*. [science 342 \(2013\), 1156](#).

The deep pit at Sima de los Huesos holds plentiful fossils, including more than 6000 bones from at least 28 individuals. The excavation team, led by Arsuaga, classifies the bones as *Homo heidelbergensis*, a species that lived about 600,000 to 250,000 years ago in Europe, Africa, and Asia and gave rise to Neandertals and perhaps also to *Homo sapiens*.

Instead of a proto-Neandertal genome, however, the painstaking work yielded one that looked more like ancestral Denisovan mtDNA. Borrowing a mutation rate calculated for modern humans, the team estimated that the fossil was about 400,000 years old, matching the age from other fossil dating methods. What was Denisovan DNA doing in a proto-Neandertal 7500 kilometers from Siberia?

JONES 2013

Warren Jones & Ami Klin, *Attention to eyes is present but in decline in 2–6-month-old infants later diagnosed with autism*. [nature 504 \(2013\), 427–431](#).

[n504-0427-Supplement.pdf](#)

Deficits in eye contact have been a hallmark of autism^{1,2} since the condition's initial description³. They are cited widely as a diagnostic feature⁴ and figure prominently in clinical instruments⁵; however, the early onset of these deficits has not been known. Here we show in a prospective longitudinal study that infants later diagnosed with autism spectrum disorders (ASDs) exhibit mean decline in eye fixation from 2 to 6 months of age, a pattern not observed in infants who do not develop ASD. These observations mark the earliest known indicators of social disability in infancy, but also falsify a prior hypothesis: in the first months of life, this basic mechanism of social adaptive action—eye looking—is not immediately diminished in infants later diagnosed with ASD; instead, eye looking appears to begin at normative levels prior to decline. The timing of decline highlights a narrow developmental window and reveals the early derailment of processes that would otherwise have a key role in canalizing typical social development. Finally, the observation of this decline in eye fixation—rather than outright absence—offers a promising opportunity for early intervention that could build on the apparent preservation of mechanisms subserving reflexive initial orientation towards the eyes.

PATIHIS 2013

Lawrence Patihis et al., *False memories in highly superior autobiographical memory individuals*. [PNAS 110 \(2013\), 20947–20952](#).

Lawrence Patihis, Steven J. Frenda, Aurora K. R. LePort, Nicole Petersen, Rebecca M. Nichols, Craig E. L. Stark, James L. McGaugh & Elizabeth F. Loftus

The recent identification of highly superior autobiographical memory (HSAM) raised the possibility that there may be individuals who are immune to memory distortions. We measured HSAM participants' and age- and sex-matched controls' susceptibility to false memories using several research paradigms. HSAM participants and controls were both susceptible to false recognition of non-presented critical lure words in an associative word-list task. In a misinformation task, HSAM participants showed higher overall false memory compared with that of controls for details in a photographic slideshow. HSAM participants were equally as likely as controls to mistakenly report they had seen nonexistent footage of a plane crash. Finding false memories in a superior-memory group suggests that malleable reconstructive mechanisms may be fundamental to episodic remembering. Paradoxically, HSAM individuals may retrieve abundant and accurate autobiographical memories using fallible reconstructive processes.

[hyperthymia](#) | [DRM](#) | [suggestion](#) | [crashing memories](#)

UNDERWOOD 2013

Emily Underwood, *Faulty Brain Connections in Dyslexia?* [science 342 \(2013\), 1158](#).

The research team found that the accuracy of the dyslexic group's answers and the crispness of their neural responses were equal to or even better than those of the normally reading group. "Their [phonetic] representations turned out to be perfectly intact!" Boets says. The dyslexic subjects were about 50% slower to make their responses, however. When the team analyzed overall brain activity, they found that the dyslexics had less coordination between 13 brain regions that process basic phonemes and a region called Broca's area, responsible for higher level language processing. Further analysis showed that the weaker the coordination between those two brain regions, the slower the participants' responses. To Boets, the conclusion that dyslexia reflects poor access to information about phonemes, rather than poor information itself, is "almost inescapable."

Kupfer

RADIVOJEVIĆ 2013

Miljana Radivojević, Thilo Rehren, Julka Kuzmanović-Cvetković, Marija Jovanović & J. Peter Northover, *Tainted ores and the rise of tin bronzes in Eurasia, c. 6500 years ago*. [Antiquity 87 \(2013\), 1030–1045](#). [Antiquity087-1030-Supplement.pdf](#)

The earliest tin bronze artefacts in Eurasia are generally believed to have appeared in the Near East in the early third millennium BC. Here we present tin bronze artefacts that occur far from the Near East, and in a significantly earlier period. Excavations at Pločnik, a Vinča culture site in Serbia, recovered a piece of tin bronze foil from an occupation layer dated to the mid fifth millennium BC. The discovery prompted a reassessment of 14 insufficiently contextualised early tin bronze artefacts from the Balkans. They too were found to derive from the smelting of coppertin ores. These tin bronzes extend the record of bronze making by c. 1500 years, and challenge the conventional narrative of Eurasian metallurgical development.

Keywords: Eurasia, Serbia, Bulgaria, Pločnik, Belovode, fifth millennium BC, Vinča culture, copper, tin, bronze, metallurgy, compositional analysis

Methoden

RODRIGUEZ 2013

Erin Christine Rodriguez & Christine A. Hastorf, *Calculating ceramic vessel volume, An assessment of methods*. [Antiquity 87 \(2013\), 1182–1190](#).

Calculating the volume of ceramic vessels found whole or in fragments on archaeological sites is a key analytical endeavour that can have implications for economic and social activity, including storage and feasting. Established methods for estimating volumes are mostly based on the assumption that vessel shapes approximate to a circular form in plan-view. This new study shows that such an assumption may not be warranted and that methods that assume circularity produce less accurate volumetric estimates than approaches which accept that a less regular elliptical shape may be closer to reality. Statistical analysis allows the accuracy of the different methods to be compared and evaluated.

Keywords: ceramic vessels, volume estimation, geometric method, stacked cylinder method, circular vessels, ellipsoidal vessels, statistical analysis

Neolithikum

MOTUZAITE-MATUZEVICIUTE 2013

Giedre Motuzaitė-Matuzevičiūtė, Richard A. Staff, Harriet V. Hunt, Xinyi Liu & Martin K. Jones, *The early chronology of broomcorn millet (*Panicum miliaceum*) in Europe*. *Antiquity* **87** (2013), 1073–1085.

[Antiquity087-1073-Supplement.pdf](#)

The majority of the early crops grown in Europe had their origins in south-west Asia, and were part of a package of domestic plants and animals that were introduced by the first farmers. Broomcorn millet, however, offers a very different narrative, being domesticated first in China, but present in Eastern Europe apparently as early as the sixth millennium BC. Might this be evidence of long-distance contact between east and west, long before there is any other evidence for such connections? Or is the existing chronology faulty in some way? To resolve that question, 10 grains of broomcorn millet were directly dated by AMS, taking advantage of the increasing ability to date smaller and smaller samples. These showed that the millet grains were significantly younger than the contexts in which they had been found, and that the hypothesis of an early transmission of the crop from east to west could not be sustained. The importance of direct dating of crop remains such as these is underlined.

Keywords: Europe, Neolithic, broomcorn millet, *Panicum miliaceum*, AMS dating, ceramic grain impressions, Eurasian connections

PERLÈS 2013

Catherine Perlès, Anita Quiles & Hélène Valladas, *Early seventh-millennium AMS dates from domestic seeds in the Initial Neolithic at Franchthi Cave (Argolid, Greece)*. *Antiquity* **87** (2013), 1001–1015.

When, and by what route, did farming first reach Europe? A terrestrial model might envisage a gradual advance around the northern fringes of the Aegean, reaching Thrace and Macedonia before continuing southwards to Thessaly and the Peloponnese. New dates from Franchthi Cave in southern Greece, reported here, cast doubt on such a model, indicating that cereal cultivation, involving newly introduced crop species, began during the first half of the seventh millennium BC. This is earlier than in northern Greece and several centuries earlier than in Bulgaria, and suggests that farming spread to southeastern Europe by a number of different routes, including potentially a maritime, island-hopping connection across the Aegean Sea. The results also illustrate the continuing importance of key sites such as Franchthi to our understanding of the European Neolithic transition, and the additional insights that can emerge from the application of new dating projects to these sites.

Keywords: Greece, Franchthi Cave, Initial Neolithic, seventh millennium BC, farming, radiocarbon dating

ROBB 2013

John Robb, *Material Culture, Landscapes of Action, and Emergent Causation, A New Model for the Origins of the European Neolithic*. *Current Anthropology* **54** (2013), 657–683.

After a century of research, there is still no widely accepted explanation for the spread of farming in Europe. Top-down explanations stress climate change, population increase, or geographic diffusion, but they distort human action reductionistically. Bottom-up explanations stress the local, meaningful choices involved in becoming a farmer, but they do not account for why the Neolithic transition in Europe was so widespread and generally unidirectional. The real problem is theoretical; we need to consider the transformative effects of human–material culture relationships and to relate humans, things, and environments at multiple scales. This article views the Neolithic as a set of new human-material relationships which were experimented with variably but which had unintended consequences resulting in an increasingly coherent, structured, and narrowly based social world. This interplay of local human action and emergent causation made the Neolithic transition difficult to reverse locally; the Neolithic was easy to get into but hard to get out of. On the continental scale, one consequence of this was its slow, patchy, but steady and ultimately almost complete expansion across Europe. As a metamodel, this accommodates current models of the local origin of farming while linking these to emergent large-scale historical patterns.

Religion

SCHWARTZ 2010

Jeffrey H. Schwartz, Frank Houghton, Roberto Macchiarelli & Luca Bondioli, *Skeletal Remains from Punic Carthage Do Not Support Systematic Sacrifice of Infants*. [PLoS ONE 5 \(2010\), e9177](https://doi.org/10.1371/journal.pone.0009177). DOI:10.1371/journal.pone.0009177.

[pone05-e09177-Supplement1.doc](#), [pone05-e09177-Supplement2.doc](#), [pone05-e09177-Supplement3.doc](#), [pone05-e09177-Supplement4.doc](#)

Two types of cemeteries occur at Punic Carthage and other Carthaginian settlements: one centrally situated housing the remains of older children through adults, and another at the periphery of the settlement (the “Tophet”) yielding small urns containing the cremated skeletal remains of very young animals and humans, sometimes comingled. Although the absence of the youngest humans at the primary cemeteries is unusual and worthy of discussion, debate has focused on the significance of Tophets, especially at Carthage, as burial grounds for the young. One interpretation, based on two supposed eye-witness reports of large-scale Carthaginian infant sacrifice [Kleitarchos (3rd c. BCE) and Diodorus Siculus (1st c. BCE)], a particular translation of inscriptions on some burial monuments, and the argument that if the animals had been sacrificed so too were the humans, is that Tophets represent burial grounds reserved for sacrificial victims. An alternative hypothesis acknowledges that while the Carthaginians may have occasionally sacrificed humans, as did their contemporaries, the extreme youth of Tophet individuals suggests these cemeteries were not only for the sacrificed, but also for the very young, however they died. Here we present the first rigorous analysis of the largest sample of cremated human skeletal remains (348 burial urns, N = 540 individuals) from the Carthaginian Tophet based on tooth formation, enamel histology, cranial and postcranial metrics, and the potential effects of heat-induced bone shrinkage. Most of the sample fell within the period prenatal to 5-to-6 postnatal months, with a significant presence of prenates. Rather than indicating sacrifice as the agent of death, this age distribution is consistent with modern-day data on perinatal mortality, which at Carthage would also have been exacerbated by numerous diseases common in other major cities, such as Rome and Pompeii. Our diverse approaches to analyzing the cremated human remains from Carthage strongly support the

conclusion that Tophets were cemeteries for those who died shortly before or after birth, regardless of the cause.

SCHWARTZ 2012

J. H. Schwartz, F. D. Houghton, L. Bondioli & R. Macchiarelli, *Bones, teeth, and estimating age of perinates, Carthaginian infant sacrifice revisited*. *Antiquity* **86** (2012), 738–745.

Writing about the ‘Tophet’, a children’s cemetery in Carthage, Smith et al. argued in these pages that the age distribution of the children peaks at 1–1.49 months, supplying “another link in the chain of evidence—funerary practices, texts, iconography—that supports the interpretation of the Phoenician Tophets as ritual sites set aside for infant sacrifice” (2011: 871). In this they had challenged Jeffrey Schwartz and colleagues, who previously argued (2010) that “skeletal remains from Punic Carthage do not support systematic sacrifice of infants”. Here Schwartz et al. restate their position for *Antiquity* readers, showing that the verdict on the Phoenician practice of child sacrifice is, at best, not proven.

Keywords: Carthage, Punic, first millennium BC, Tophet, infanticide, child burial, human sacrifice

SMITH 2011

P. Smith, G. Avishai, J. A. Greene & L. E. Stager, *Aging cremated infants, The problem of sacrifice at the Tophet of Carthage*. *Antiquity* **85** (2011), 859–874.

The Greeks and Romans reproached the Phoenicians for the sacrifice of infants, and the excavation of cremated infants at ‘Tophets’ (named after the sacrificial site in Jerusalem mentioned in the Bible) seems to bear this out. However, the argument for infant sacrifice depends largely on a skewed age profile, and age is not easy to determine. The authors approach this problem with a battery of new techniques, showing that in the Tophet of Carthage the majority of the infants died between one and one and a half months. Sacrifice was thus very probable.

Keywords: Carthage, Tophet, cremation, infant burials, age estimations, deciduous teeth

SMITH 2013

Patricia Smith, Lawrence E. Stager, Joseph A. Greene & Gal Avishai, *Age estimations attest to infant sacrifice at the Carthage Tophet, Cemetery or sacrifice? Infant burials at the Carthage Tophet*. *Antiquity* **87** (2013), 1191–1199.

[Antiquity087-1191-Supplement.pdf](#)

Two articles in recent issues of *Antiquity* have taken opposing views of the infant burials in the ‘Tophet’, the precinct at Carthage, sacred to the goddess Tanit, that contained funerary urns of thousands of cremated infants. The first (Smith et al. 2011) held that these must be evidence of the infant sacrifice that was so loudly condemned by Greek and Roman writers, since the infants were not perinatal, although most were under two months old at the time of death. In a rejoinder, Schwartz et al. (2012) argued that the Carthage Tophet was the place of burial for the very young regardless of the cause of death. They estimated age at death between prenatal and six months, consistent with the recorded incidence of perinatal mortality in certain societies in recent periods. Here we close the debate with two related papers. In the first of these, Patricia Smith and her co-authors return to argue that infant sacrifice is still (in their view) the most likely interpretation of the data, based on the age distribution of the deceased. In the second, Paolo Xella

and colleagues, too, are convinced that infant sacrifice took place. They step aside from the details of the cremated remains, however, to emphasise a range of other social and archaeological aspects of the Tophets in Carthage and elsewhere that are critical for understanding these sanctuaries and their rituals.

XELLA 2013

Paolo Xella, Josephine Quinn, Valentina Melchiorri & Peter van Dom-melen, *Phoenician bones of contention, Cemetery or sacrifice? Infant burials at the Carthage Tophet*. *Antiquity* **87** (2013), 1199–1207.

Two articles in recent issues of *Antiquity* have taken opposing views of the infant burials in the ‘Tophet’, the precinct at Carthage, sacred to the goddess Tanit, that contained funerary urns of thousands of cremated infants. The first (Smith et al. 2011) held that these must be evidence of the infant sacrifice that was so loudly condemned by Greek and Roman writers, since the infants were not perinatal, although most were under two months old at the time of death. In a rejoinder, Schwartz et al. (2012) argued that the Carthage Tophet was the place of burial for the very young regardless of the cause of death. They estimated age at death between prenatal and six months, consistent with the recorded incidence of perinatal mortality in certain societies in recent periods. Here we close the debate with two related papers. In the first of these, Patricia Smith and her co-authors return to argue that infant sacrifice is still (in their view) the most likely interpretation of the data, based on the age distribution of the deceased. In the second, Paolo Xella and colleagues, too, are convinced that infant sacrifice took place. They step aside from the details of the cremated remains, however, to emphasise a range of other social and archaeological aspects of the Tophets in Carthage and elsewhere that are critical for understanding these sanctuaries and their rituals.

Story or Book

ANTHONY 2013

David W. Anthony, *The Tripolye culture. Giant-settlements in Ukraine*. *Antiquity* **87** (2013), 1233–1235.

F. Menotti & Aleksey G. Korvin-Piotrovskiy (ed.). *The Tripolye culture. Giant-settlements in Ukraine: formation, development and decline*. viii+264 pages, 63 colour and b&w illustrations, 5 tables. 2012. Oxford & Oakville (CT): Oxbow; 978-184217-483-8 paperback £40.

[T]he giant-settlements of the Tripol’ye culture in Ukraine dated c. 3800–3300 BC—the largest human communities in the world at the time. Tal’ianki, the largest, was initially estimated at 450ha; magnetometry indicates some 2000 structures. Diachenko (2010) reduces Tal’ianki to 341ha, but this is still almost seven times larger than the central tell (50ha) at contemporary Middle Uruk Tell Brak in northern Mesopotamia.

Although the underlying theories and approaches of these authors are at times different from Western models, a lot of valuable information and important new fieldwork is reported on a phenomenon that challenges our expectations, regardless of theoretical background. Collaborative projects such as this must be applauded and can only improve our joint understanding.

DENNELL 2013

Robin Dennell, *Across Atlantic ice: the origins of America’s Clovis culture*. *Antiquity* **87** (2013), 1226–1227.

Dennis J. Stanford & Bruce A. Bradley. *Across Atlantic ice: the origins of America's Clovis culture*. xv+319 pages, 80 b&w illustrations, 6 tables. 2012. Berkeley & Los Angeles: University of California Press; 978-0-520-22783-5 hardback \$34.95 & £24.95. A migration from Siberia to Alaska involves crossing the coldest part of the northern hemisphere: at Oymyakon, in north-eastern Siberia, temperatures of -67C (-89F) have been recorded, for example, and present-day January temperatures in eastern Siberia regularly fall below -40C. In the late Pleistocene, mid-winter temperatures would surely have been even worse, especially if wind chill is factored in. Finally, Chukotka—the easternmost province of Siberia—is a vast, low-lying swamp, larger than the United Kingdom and Spain combined; in winter, a frozen wilderness, and in summer, a mosquito-infested swamp. Here, the rhetorical question has to be asked: what are the chances of not only pressure flaking— itself a rare feature of the Late Palaeolithic—but also overshot flaking being independently invented at roughly the same time in two continents? The question seems fair, and (to me, at any rate) the comparisons between the Solutrean and Clovis are more convincing than those between Siberia and Alaska.