

## References

### Aktuell

BRITT 2022

Thomas J. Britt et al., *Group Life COVID-19 Mortality Survey Report*. Society of Actuaries Research Institute **2022**, Aug. 16.

LEWIS 2022

Dyani Lewis, *What scientists have learnt from Covid lockdowns*. [nature 609 \(2022\), 236–239](#).

Lockdown measures stemmed the spread of disease and saved lives, but it is hard to weigh up their ultimate costs and benefits.

Woolhouse says there was scant effort to debate the scale of potential harms caused by lockdowns, meaning that policymakers were unable to weigh up costs and benefits properly. Indeed, early on, many countries adopted a ‘save lives at any cost’ approach, he says.

One lesson that Klimek takes from lockdown studies is that there was an early window of opportunity when the virus could have been eliminated — as it was, in effect, in countries such as China, Australia and New Zealand. Had harsher measures been adopted sooner, and more widely, the pandemic might have played out very differently.

### Anthropologie

DAVER 2022

G. Daver, F. Guy, H. T. Mackaye, A. Likius, J.-R. Boisserie, A. Moussa, L. Pallas, P. Vignaud & N. D. Clarisse, *Postcranial evidence of late Miocene hominin bipedalism in Chad*. [nature 609 \(2022\), 94–100](#).

[n609-0094-Supplement.pdf](#)

Bipedal locomotion is one of the key adaptations that define the hominin clade. Evidence of bipedalism is known from postcranial remains of late Miocene hominins as early as 6 million years ago (Ma) in eastern Africa. Bipedality of *Sahelanthropus tchadensis* was hitherto inferred about 7 Ma in central Africa (Chad) based on cranial evidence. Here we present postcranial evidence of the locomotor behaviour of *S. tchadensis*, with new insights into bipedalism at the early stage of hominin evolutionary history. The original material was discovered at locality TM 266 of the Toros-Ménalla fossiliferous area and consists of one left femur and two, right and left, ulnae. The morphology of the femur is most parsimonious with habitual bipedality, and the ulnae preserve evidence of substantial arboreal behaviour. Taken together, these findings suggest that hominins were already bipeds at around 7 Ma but also suggest that arboreal clambering was probably a significant part of their locomotor repertoire.

LIEBERMAN 2022

Daniel E. Lieberman, *Standing up for the earliest bipedal hominins*. [nature 609 \(2022\), 33–35](#).

A leg bone and two arm bones of a hominin from Chad suggest that, seven million years ago, around the time that the human and chimpanzee lineages split, early hominins were bipedal but were also able to climb trees.

## Bibel

### SEEVERS 2022

Boyd SeEVERS & Victoria Parrott, *Taking a Sling, How David Defeated Goliath*. [Biblical Archaeology Review 48 \(2022\), iii, 50–54](#).

The biblical story of David and Goliath is gripping and inspiring, but is it credible? How could the lowly shepherd defeat the formidable Philistine warrior with so simple a weapon as a sling? Discover the lethal capabilities of slings that give credence to the biblical account.

### TEBES 2022

Juan Manuel Tebes, *Yahweh's Desert Origins*. [Biblical Archaeology Review 48 \(2022\), iii, 32–41](#).

Before Yahweh became the God of ancient Israel, archaeological evidence indicates that he was likely worshiped by desert peoples to the south. Coupled with the biblical text, this suggests a southern origin for Yahweh. Learn how desert ritual practices may have influenced Israelite worship and religion.

## Islam

### TAYLOR 2022

Joan E. Taylor, *Magdala's Mistaken Identity*. [Biblical Archaeology Review 48 \(2022\), iii, 55–58](#).

The site of Magdala on the shores of the Sea of Galilee is associated by many with Jesus's famous disciple, Mary Magdalene. Ancient sources, however, indicate that the site's first-century remains are likely those of the Galilean harbor city of Taricheae. Explore what we know of this ancient Jewish town and how it came to be mistakenly identified with Magdala.

### WALSH 2022

Robyn Faith Walsh, *The Origins of the Gospels*. [Biblical Archaeology Review 48 \(2022\), iii, 62–63](#).

## Klima

### AUDERSET 2022

Alexandra Auderset, Daniel M. Sigman & Alfredo Martinez-García et al., *Enhanced ocean oxygenation during Cenozoic warm periods*. [nature 609 \(2022\), 77–82](#).

Dissolved oxygen (O<sub>2</sub>) is essential for most ocean ecosystems, fuelling organisms' respiration and facilitating the cycling of carbon and nutrients. Oxygen measurements have been interpreted to indicate that the ocean's oxygen-deficient zones (ODZs) are expanding under global warming. However, models provide an unclear picture of future ODZ change in both the near term and the long term. The

paleoclimate record can help explore the possible range of ODZ changes in warmer-than-modern periods. Here we use foraminifera-bound nitrogen (N) isotopes to show that water-column denitrification in the eastern tropical North Pacific was greatly reduced during the Middle Miocene Climatic Optimum (MMCO) and the Early Eocene Climatic Optimum (EECO). Because denitrification is restricted to oxygen-poor waters, our results indicate that, in these two Cenozoic periods of sustained warmth, ODZs were contracted, not expanded. ODZ contraction may have arisen from a decrease in upwelling-fuelled biological productivity in the tropical Pacific, which would have reduced oxygen demand in the subsurface. Alternatively, invigoration of deep-water ventilation by the Southern Ocean may have weakened the ocean's 'ebiological carbon pump', which would have increased deep-ocean oxygen. The mechanism at play would have determined whether the ODZ contractions occurred in step with the warming or took centuries or millennia to develop. Thus, although our results from the Cenozoic do not necessarily apply to the near-term future, they might imply that global warming may eventually cause ODZ contraction.

Alexandra Auderset, Simone Moretti, Björn Taphorn, Pia-Rebecca Ebner, Emma Kast, Xingchen T. Wang, Ralf Schiebel, Daniel M. Sigman, Gerald H. Haug & Alfredo Martinez-García

## Religion

CZACHESZ 2021

István Czachesz, *Toward a unified theory of magic, miracle, and divination*. In: MARA RESCIO, CRISTIANA FACCHINI, CLAUDIO GIANOTTO, EDMONDO LUPIERI, FRANCO MOTTA & ENRICO NORELLI (Hrsg.), *Non uno itinere — ebraismi, cristianesimi, modernità, Studi in onore di Mauro Pesce in occasione del suo ottantesimo compleanno*. Humanitas 1 (Brescia 2021), 50–59.

It is beyond dispute that members of the Christ movement experienced their lives as immersed in magic, miracle, and divination. In a rare statement in one of his authentic letters (2Cor 12:12), Paul appears to claim that he himself performed miracles, or more specifically, “signs“, “wonders“, and “powers“. The cognitive and evolutionary approach used in this essay sheds light on how people in the ancient Mediterranean world reasoned about such phenomena, both explicitly and implicitly, and why they were driven to engage in such practices themselves. From our discussion, a unified explanation of magic and divination emerged.

Both magic and divination can be initiated by efficacious ritual actions, which are rooted in evolved learning strategies (mainly superstitious conditioning and imitative learning). If this is the case, we speak of impetrative magic and divination, respectively. Both magic and divination can occur without such initiating behavior, as well, in which case we speak of oblativ magic and divination, respectively. Oblativ magic covers a group of phenomena that is often identified as “miracle” (granted by a superhuman agent without human request). The mental processing of both magic and divination relies on explicit and implicit reasoning. Implicit cognitive mechanisms are similar across cultures and include intuitions about contagion, agency, as well as the confirmation bias. Explicit, culture-specific cognitive patterns include ideas about superhuman helpers of magic and divination.

Finally, we discussed miracle stories as texts that are culturally salient independently of the practice of magic and divination. Such stories are attention-grabbing and memorable. Once they establish themselves in cultural transmission, they

provide cognitive templates for interpreting the world in terms of magic and divination, as well as provide examples for carrying out such rituals.

#### CZACHESZ 2022

István Czachesz, *Network Science in Biblical Studies, Introduction*. [Annali di Storia dell'Esegesi](#) **39** (2022), 9–26.

This article introduces the special issue of ASE on network science and biblical studies. After a short presentation of network science and the concept of networks, the article discusses the application of network science in three domains: the natural and built environment of ancient Judaism and Christianity, the social networks of Jewish and Christian actors, and the analysis of textual corpora. In the next part, some technical terms of network science are clarified. The introductory article concludes with the presentation of the contributions to the special issue.

**Keywords:** Network Science | Social Network Analysis | Network Analysis of Texts | Historical Network Analysis | Vector Semantics

#### CZACHESZ 2022

István Czachesz, *The Bible as a Network of Memes, Analyzing a Database of Cross-References*. [Annali di Storia dell'Esegesi](#) **39** (2022), 145–180.

#### JIN 2022

Yuhao Jin, Greg Jensen, Jacqueline Gottlieb & Vincent Ferrera, *Superstitious learning of abstract order from random reinforcement*. [PNAS](#) **119** (2022), e2202789119.

[pnas119-e2202789119-Supplement.pdf](#)

Humans and other animals often infer spurious associations among unrelated events. However, such superstitious learning is usually accounted for by conditioned associations, raising the question of whether an animal could develop more complex cognitive structures independent of reinforcement. Here, we tasked monkeys with discovering the serial order of two pictorial sets: a “learnable” set in which the stimuli were implicitly ordered and monkeys were rewarded for choosing the higher-rank stimulus and an “unlearnable” set in which stimuli were unordered and feedback was random regardless of the choice. We replicated prior results that monkeys reliably learned the implicit order of the learnable set. Surprisingly, the monkeys behaved as though some ordering also existed in the unlearnable set, showing consistent choice preference that transferred to novel untrained pairs in this set, even under a preference-discouraging reward schedule that gave rewards more frequently to the stimulus that was selected less often. In simulations, a model-free reinforcement learning algorithm (Q-learning) displayed a degree of consistent ordering among the unlearnable set but, unlike the monkeys, failed to do so under the preference-discouraging reward schedule. Our results suggest that monkeys infer abstract structures from objectively random events using heuristics that extend beyond stimulus–outcome conditional learning to more cognitive model-based learning mechanisms.

**Keywords:** learnability | randomness | superstitious learning | transitive inference | reinforcement learning

**Significance:** Past studies on learning and decision-making usually rely on the assumption that the task is learnable. However, humans and other animals often infer spurious relationships from coincidental associations, and it is unknown if this could be achieved without reward conditioning. Here, we exposed monkeys to sets of images that had a hidden hierarchical order and to unordered sets that

lacked an underlying structure. Monkeys treated the unordered sets as if they had a hierarchical order even under reward schedules that incentivized random choices. The Results cannot be explained by simple associativemechanisms that account for other types of spurious learning, suggesting that when presented with random events animals conjure elaborate model-based structures.

KESSLER 1999

Christa Müller-Kessler & Karlheinz Kessler, *Spätbabylonische Gottheiten in spätantiken mandäischen Texten*. [Zeitschrift für Assyriologie 89 \(1999\), 65–87](#).

Neue spätantike mandäische Beschwörungstexte auf Bleirollen und Zauberschalen liefern in zunehmender Zahl Informationen über babylonische Gottheiten, die in die mandäische Überlieferung als Dämonen Eingang fanden. Der vorliegende Aufsatz faßt die bisher vorliegenden Nachrichten über diese Gottheiten in der spätesten keilschriftlichen Überlieferung und den frühesten mandäischen Texten zusammen. Es handelt sich vorwiegend um die Kulte der Region Babylon, Borsippa und Kutha, die zum Zeitpunkt ihrer Übernahme durch die Mandäer im 2./3. Jh. n. Chr. dort noch ausgeübt wurden.

## Sprachlehre

ROLLSTON 2017

Christopher Rollston, *The Putative Authenticity of the New “Jerusalem” Papyrus Inscription, Methodological Caution as a Desideratum*. In: ODED LIPSCHITS, YUVAL GADOT & MATTHEW J. ADAMS (Hrsg.), *Rethinking Israel, Studies in the History and Archaeology of Ancient Israel in Honor of Israel Finkelstein*. ([Winona Lake 2017](#)), 319–328.

I firmly believe that modern forgers are on the verge of being able to commit the perfect crime. That is, I believe that we will soon be looking at some perfect forgeries that are virtually undetectable. I have been intending to write an article about that for some time, entitled “The Future Perfect Forgery.” I hope that I am wrong. The Jerusalem Papyrus is not a perfect forgery (and there are some problems with the script that I shall turn to on another occasion), but it is a pretty good one. But at this point, we are still a step or two ahead of the forgers, and I hope that it stays this way.

ROLLSTON 2022

Christopher Rollston, *The Old Hebrew “Ishmael” Papyrus, The Need to Tap the Brakes Some*. [Times of Israel 2022, Sep. 8](#).

There are some aberrations and anomalies in the script of the Old Hebrew Ishmael Papyrus (look at the ‘ayin, for example, and there are several other concerning forms). That is, the script of this Old Hebrew Ishmael Papyrus does not conform entirely to the standard Old Hebrew script of the 7th or early 6th. Old Hebrew script). Professor Ahituv concedes as much, when he mentions that the writer penned this quickly, etc. [...] and, in reality, the anomalies had nothing to do with some ancient writer’s sloppy writing, but rather had everything to do with the flawed knowledge or ability of the modern forger! In other words, palaeographic anomalies should not be lightly dismissed.