EAORC BULLETIN 1,164 – 5 October 2025

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NOTICES

FORMATTED VERSION OF THIS BULLETIN

A pdf formatted version of this Bulletin is available for download at martinedwardes.me.uk/eaorc/eaorc_bulletins.htm.

PUBLICATION ALERTS

If you have had a paper or book published, or you see something which would be of interest to the group, please send me a publication alert so that I can include it in the newsletter. Many thanks to those who have already sent in alerts.
If there is a journal you feel I should be tracking on a regular basis, let me know.
And if you have any other ideas for extending the "EAORC experience", please contact me.

EDITORIAL INTERJECTIONS

Comments in curly brackets are editorial interjections. The Editor reserves the right to be wrong, and doesn't object to being called out on it.

ACADEMIA.EDU – Tasmanian Aborigines and the origins of language

In J. Mulvaney & H. Tyndale-Biscoe (eds), Rediscovering Recherche Bay. Canberra: Academy of the Social Sciences in Australia, 69-85 (2007).

IAIN DAVIDSON – Tasmanian Aborigines and the origins of language

First contacts between Indigenous people and explorers or colonisers from lands across the sea were always extraordinary events. At Recherche Bay in 1793, there was considerable questioning of the nature of the people the French were encountering. By the French account, the Tasmanians, too, seemed curious about the nature of the visitors from the sea—which is hardly surprising if we consider the quite extraordinary nature of contact for the Tasmanians.

The very first humans who lived in Australia had to cross the sea to get there, just as the European invaders did. But about 10,000 years ago there was already substantial variation in body and behaviour on the one land mass, from the Melanesian agriculturalists of highland New Guinea, on one hand, to the Australian fishers, gatherers and hunters, on the other. These disparate peoples were destined to be isolated from each other a couple of thousand years later by the flooding of the Arafura Sea and Torres Strait by the rising sea level of the last great global warming. The isolation of Greater Australia from

the islands of south-east Asia was great, but not complete: for we know that the dingo was introduced to Australia perhaps 4,000 years ago, and we also know that several Indonesian islands have Australian animals as part of their fauna which must have been introduced by people travelling back to the west. In Timor, cuscus bones have been found that may be as old as 9,000 years.
https://www.academia.edu/218469/Tasmanian_Aborigines_and_the_origins_of_language

NEWS

NATURE BRIEFING – How Jane Goodall changed science

Primatologist Jane Goodall, known for her work with chimpanzees, has died aged 91. During her career, Goodall "proved that science could extend its boundaries without losing rigour", says anthropologist and primatologist Mierya Mayor — she broke scientific convention by using names to identify animals and was among the first to show that they had emotions, empathy and culture. Beyond primatology, Goodall's talent as a storyteller showed it is possible for researchers to be advocates and be taken seriously, says conservation scientist Euan Ritchie. She inspired generations of women to follow in her scientific footsteps, adds Mayor.
https://www.nature.com/articles/d41586-025-03209-y

NEWS FROM SCIENCE – Jane Goodall, famed primatologist, changed the way we thought about apes

The scientist and conservationist made waves with her observations and advocacy.
https://www.science.org/content/article/jane-goodall-famed-primatologist-changed-way-we-thought-about-apes

NEWS FROM SCIENCE – China launches ambitious collaboration to map primate brains—including ours

25-year plan will tap brain-mapping prowess in two dozen countries to visualize the organ in unprecedented detail.
https://www.science.org/content/article/china-launches-ambitious-collaboration-map-primate-brains-including-ours

SAPIENS – Finding Footprints Laid at the Dawn of Time

In the Brazilian Amazon, a university-trained archaeologist and Wajãpi Indigenous people understand traces from the past differently—but their partnership bears fruit for both.
https://www.sapiens.org/archaeology/indigenous-knowledge-archaeology-amazon-brazil/

SCIENCEADVISER – Prehistoric artists were tangled up in blue

Blue pigment left on a rock 13,000 years ago provides evidence for the color's use. Izzy Wisher
Artists today take for granted the smorgasbord of colors available for their palette. Acquiring any hue takes just a quick trip to the art supply store. But blue pigment was a tough color to obtain for millennia. It's rare to find in nature, and it wasn't until the invention of a pigment called Prussian blue in the 1700s that artists had a reliable way to paint in blue hues. So, it was assumed that our paleolithic artists faced the same difficulties. After all, no one had ever found a blue pigment in ancient rock art.
That is, until scientists reported last week in Antiquity on some smudges of a vivid blue mineral called azurite found on a flat stone at an archaeological site in central Germany that may have served as a palette for artists 13,000 years ago. Earlier this year, researchers also found a 33,000-year-old grinding stone in the country of Georgia with traces of the indigo plant. Grinding the plant's green leaves is the first step toward turning the slurry into a blue dye, they noted in PLOS One, providing a tantalizing hint that this was paintmaking at work.
While neither offers conclusive proof that ancient artists were experimenting with blue pigments many thousands of years ago, they are provocative findings that should spur researchers to investigate the question further, says archaeologist Karen Hardy, a co-author on the PLOS One paper. "These were highly developed people who did stunning things that weren't related to subsistence."
https://www.science.org/content/article/paleolithic-painters-had-blues

SCIENCEADVISER – Women live longer than men—evolution may explain why

Globally, women are expected to live about 9% longer than men. Many have proposed hypotheses as to why women get, on average, six more years of life. Some suggest that men are more prone to violence and its consequences, for example. But a new analysis points a finger at evolution.
Researchers decided to look beyond humans to figure out if there are common patterns in life expectancy in animals. They analyzed data from 528 species of mammals and 648 species of birds. Lo and behold, in mammals like us, females tend to live longer (about 12–13%, on average). But in birds, the opposite is true—males tend to live about 5% longer than females. In both cases, it's the sex that carries two different sex chromosomes—XY in mammals, ZW in birds—that doesn't live as long. Researchers suspect that having two copies of the same chromosome protects against potentially harmful mutations.

Variation in the magnitudes of differences provided additional intel on the factors shaping life expectancy. For instance, a polygamous mating style where males compete with one another for mates seems to shorten males' lives—in both birds and mammals. Similarly, for species where one sex invests more in the offspring, that sex tends to live longer.
And then there are wild exceptions to these patterns that the scientists haven't quite figured out. "In birds of prey, everything is reversed," study co-author Fernando Colchero told The Washington Post. "There's still a lot to look into."
https://www.science.org/doi/10.1126/sciadv.ady8433

SCIENCEADVISER – Mapping minds

A new global collaboration aims to completely map the 86 billion neurons and other cells in the human brain—and those in the brains of marmosets and macaques, too. The effort, dubbed the International Consortium for Primate Brain Mapping, will take two and a half decades. "The scale of what's being proposed is mind-blowing," said one consortium member. "You could dismiss some of the aims as unattainable even in 25 years, except it was clear from the presentations that the technical issues are being worked out in a systematic manner."
https://www.science.org/content/article/china-launches-ambitious-collaboration-map-primate-brains-including-ours

SCIENCENEWS – Meet the 'grue jay,' a rare hybrid songbird

Despite millions of years of evolutionary separation and a geographical divide, a blue jay and green jay mated in Texas. This bird is the result.
https://www.sciencenews.org/article/grue-jay-rare-bird-environment-change

THE CONVERSATION – Why it's time to rethink the notion of an autism 'spectrum'

The idea of autism as a single spectrum has shaped thinking for decades. But many autistic people and researchers now argue the metaphor is misleading.
https://theconversation.com/why-its-time-to-rethink-the-notion-of-an-autism-spectrum-263243

PUBLICATIONS

Academia Biology

PAPERS

THEODORE C. GOLDSMITH – Programmed aging, digital genetics, and the evolution of acquisition traits in mammals
Acquisition traits are those that depend, for their evolutionary (fitness) value, on the acquisition of something that gradually accumulates during an organism's life but is not transmitted genetically to descendants. This situation causes these traits, including language, immunity, intelligence, and social status, to represent a special need for evolvability and programmed aging. Programmed aging refers to the idea that mammals and most multiparous sexually reproducing organisms evolved complex biological mechanisms that cause gradually increasing fitness deterioration and internally limit individual organism lifetimes. The rationale is that this process enhances the survival (non-extinction) of a species population. Evolvability theories propose that animals have evolved design characteristics that aid their ability to evolve, reducing the time required for a particular increment of evolutionary adaptation and/or increasing the precision with which the adaptation can be performed. Because an increase in evolvability aids a population in escaping extinction, evolution selects the associated design characteristics. Both concepts conflict with traditional (Darwinian) theory regarding details of the nature of evolution. However, more recent genetics discoveries have provided rich detail regarding the nature of the evolution process, including the fact that biological inheritance involves the transmission of organism design information from parent to descendant in digital form. These discoveries have acted to support both programmed aging and evolvability theories.
https://www.academia.edu/2837-4010/3/3/10.20935/AcadBiol7857

Frontiers in Computer Science

PAPERS

CAMILLE NOUFI, LLOYD MAY & JONATHAN BERGER – A model of vocal persona: context, perception, production
We present a contextualized production–perception model of vocal persona developed through deductive thematic analysis of interviews with voice and performance experts. Our findings reveal that vocal persona is a dynamic, context-responsive set of vocal behaviors that frames and bounds expressive interactions—both biological and synthesized—while centering the speaker's agency. By examining how experts adapt their vocal output through both broad persona shifts and fine-grained paralinguistic adjustments, our model identifies a key missing mechanism in current approaches to expressive speech synthesis: the integration of high-level persona prompting with detailed paralinguistic control. This work bridges an important gap in the literature on expressive and interactive speech technologies and offers practical insights for improving voice user interfaces and augmentative and alternative communication systems. Incorporating this vocal persona framework into expressive speech synthesis holds the potential to enhance user agency and embodiment during communication, fostering a heightened sense of authenticity and a more intuitive relationship with voice interaction technology and one's environment.

https://www.frontiersin.org/journals/computer-science/articles/10.3389/fcomp.2025.1575296/full

Frontiers in Psychology

PAPERS

FREDY QUINTERO et al with KLAUS ZUBERBÜHLER – Audience effects in sooty mangabey agonistic behavior

The term 'Audience Effects', refers to behavioral changes triggered by the mere presence of others and has been extensively studied in animals to explore their capacity for social awareness and intentionality. Research shows that a wide range of species—from insects to primates—alter behaviors depending on their audience, with primates, especially great apes, demonstrating the most complex audience-aware behaviors, such as adjusting communication based on the recipient's attention or understanding. These findings suggest that some animals can infer intentions, remember social dynamics, and strategically act depending on who is watching. However, there is still limited data from non-ape primates and other mammals, raising questions about whether such cognitive traits evolved through shared ancestry or convergent evolution. Aggressive behaviors also reveal audience effects, with individuals, especially lower-ranking ones, using strategic aggression in front of influential bystanders to influence future interactions. In this study, we used focal animal sampling to investigate how free-ranging sooty mangabeys, a terrestrial forest-dwelling primate living in large groups, used aggression depending on the composition of the audience. We found that individuals were significantly more aggressive to opponents if they were observed by large audiences that contained higher ranking individuals. These displays of aggression were often accompanied by vocalizations, further suggesting that aggressors were interested in attracting the audience's attention. We discuss these patterns of audience-dependent aggressive behavior and propose that sooty mangabeys adjust their social behavior depending on the composition of the bystanding audience, reacting in the most appropriate way depending on the situation, which provides additional support to the growing body of research showing that the underlying mechanisms necessary for the evolution of complex social cognition are more widespread in the animal kingdom than was previously thought.
https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2025.1551210/full

ANTONIO BENÍTEZ-BURRACO & FRANCESCO FERRETTI – Bridging consciousness to our narrative brain: evolutionary insights

There is a long tradition of attempts at bridging language and consciousness. Both are human-specific traits, even if with precursors in other species, and both are intimately intertwined. Putting it very roughly, human consciousness can be construed, to a large extent, as a sort of inner speech (Morin, 2009; Skipper, 2022). By contrast, the most developed forms of animal consciousness only entail the ability to have first-person phenomenal experiences (of the sort underwent by animals that pass the mirror test), but not a language-dependent self-awareness. One can thus expect that as language evolved more complex and versatile in our species (principally in response to environmental triggers and via a cultural process, but also as a result of brain/cognitive changes), human consciousness also became more sophisticated. Likewise, as we evolved more conscious of our external and internal world, our inner speech surely complexified to reflect the complexities of our thoughts, and if further externalized to others, this more sophisticated consciousness might have fostered the complexification of human languages. Against the background of these intricate (and hotly debated) relationships between cognition and language, and more specifically between human consciousness and inner speech, in this opinion piece, we wish to focus on the narrative dimension of our mind. We will first support the view that narratives are also tools for thinking, because they are a natural way in which we represent reality. Narratives might have thus predated language (after all, we can tell stories without a full-fledged language), but more probably, they coevolved with language (as the latter provides better ways of referring to the world and even creating new worlds). We will then reason that if human consciousness is mostly a form of inner speech, it can be said to be, to a great extent, a form of inner narrative, that is, "telling stories to oneself." Additionally, we will show that human evolution entailed the potentiation of cognitive abilities that are key for our capacity for narrating, particularly, the ability for mental traveling (that enables us to virtually move backward and forward in time, and to places where we are not physically present) and the capacity for conceptual blending (that enables us to merge percepts and concepts belonging to different knowledge domains, and ultimately, to create fictional entities and characters). We will then show that these cognitive innovations resulted in part from changes in regions of our brain (particularly, the hippocampus, the basal ganglia, and selected cortical regions) that became modified during our recent evolution in response to changes in our socialization patterns, specifically, our increased prosociality. We will argue that these cognitive innovations might have improved our inner speech abilities (and accordingly, our consciousness), and more precisely, converted the primitive representations of the hominin narrative brain into proper (and sophisticated) narratives that enabled our ancestors to think in more complex ways, and that when shared with others, reinforced their prosocial behavior through storytelling and favored the complexification of their languages through a cultural mechanism. By all these reasons, we will conclude that, evolutionarily, language and consciousness were probably involved in a positive feedback loop, with narratives being a key component of the loop, which is something largely ignored in most evolutionary models. We will end by advancing some lines of future research aimed at delving into these issues, including the possibility of providing human-like consciousness to artificial intelligences (AIs) by improving their generative capacities for creating original narratives.
https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2025.1691355/full

iScience

PAPERS

YEJINXUAN HU & XIANYUN TIAN – Evaluating Reasoning Large Language Models on Rumor Generation, Detection, and Debunking Tasks

Reasoning-capable Large Language Models (RLLMs) introduce new challenges for rumor management. While standard LLMs have been studied, the behaviors of RLLMs in rumor generation, detection, and debunking remain underexplored. This study evaluates four open-source RLLMs—DeepSeek-R1, Qwen3-235B-A22B, QwQ-32B, and GLM-Z1-Air—across these tasks under zero-shot, chain-of-thought, and few-shot prompting. Results reveal three key findings. First, RLLMs frequently complied with rumor-generation requests, rationalizing them as harmless tasks, which highlights important safety risks. Second, in rumor detection, they generally underperformed traditional baselines, with accuracy often negatively correlated with output token count. Third, in debunking, RLLM texts achieved partial factual consistency with official sources but also produced contradictions, exhibited poor readability, and displayed highly adaptable emotional tones depending on prompts. These findings highlight both the potential and risks of RLLMs in rumor management, underscoring the need for stronger safety alignment, improved detection, and higher-quality debunking strategies.
https://www.cell.com/iscience/fulltext/S2589-0042(25)01951-0

Language and Cognition

PAPERS

ANNA TERESA PORRINI, LUCA SURIAN & NAUSICAA POUSCOULOUS – How speaker cooperation and knowledge prime scalar implicatures

Pragmatic theories generally agree that the derivation of implicit meaning depends on the assumption that the speaker is cooperative and knowledgeable, as well as the contextual relevance of the implicature. Studies on scalar implicature priming have investigated the latter, but the influence of the first two factors remains understudied. Here, we investigated the effect of the presence (or absence) of a cooperative and knowledgeable interlocutor on the derivation of both lexical and ad-hoc scalar implicatures. We found an effect of implicature priming within and across different scales. The presence of an interlocutor increased implicature derivation overall and partially enabled priming effects across lexical and ad-hoc scales. These results provide some support for the existence of a scalar implicature derivation mechanism shared by lexical and ad-hoc scales, and they highlight the importance of the speaker's cooperative attitude and knowledgeability as part of this process. Moreover, they show the importance of psycholinguistic investigations to be carried out using rich conversational contexts that include intentional agents.
https://www.cambridge.org/core/journals/language-and-cognition/article/how-speaker-cooperation-and-knowledge-prime-scalar-implicatures/F0A7D8D23AAEF568D70052A13B6CE0FE

Nature

NEWS

Jane Goodall's legacy: three ways she changed science

The primatologist challenged what it meant to be a scientist.
https://www.nature.com/articles/d41586-025-03209-y

Nature Africa

OBITUARIES

ELSABÉ BRITS – Gentle witness, fierce advocate: remembering Jane Goodall

Her studies in Tanzania reshaped primatology and how we view ourselves, while her advocacy connected animal behaviour, culture, and conservation.
https://www.nature.com/articles/d44148-025-00310-2

Nature Human Behaviour

ARTICLES

PETER LYNN – How to design and implement surveys that are fit for purpose

Survey methods are used to collect informative data in a wide range of scientific contexts. This Comment outlines how to ensure that a survey is fit for its intended purpose and to avoid the many potential pitfalls associated with survey research.
https://www.nature.com/articles/s41562-025-02317-z

New Scientist

ARTICLES

KARMELA PADAVIC-CALLAGHAN – Mapping the structure of the brain doesn't fully explain its function
Comparing a map of the neurons in a nematode worm - the connectome - with a map of how signals travel across those neurons has revealed a surprising number of differences, suggesting that the structure of the brain alone doesn't explain how it works.
https://www.newscientist.com/article/2497291-mapping-the-structure-of-the-brain-doesnt-fully-explain-its-function/

MICHAEL MARSHALL – Reconstructed skull gives surprising clues to our enigmatic Ancestor X
The shared ancestor of our species, the Neanderthals and the Denisovans may be far older than we thought – which could completely change our understanding of humanity's evolution
https://www.newscientist.com/article/2497765-reconstructed-skull-gives-surprising-clues-to-our-enigmatic-ancestor-x/

CARISSA WONG – Babies' brains 'tick' more slowly than ours, which may help them learn
The rhythm of an infant's brain activity seems to put them in constant learning mode, whereas that of an adult may allow them to retrieve conceptual knowledge
https://www.newscientist.com/article/2497755-babies-brains-tick-more-slowly-than-ours-which-may-help-them-learn/

REVIEWS

ELLE HUNT – A terrifying book dissects the neuroscience of warfare
An alarming insider account of how our brains influence conflict – and how those brains were, in turn, shaped by war.
Review of 'Warhead' by Nicholas Wright. Pan Macmillan (2025).
https://www.newscientist.com/article/mg26735630-400-a-terrifying-book-dissects-the-neuroscience-of-warfare/

ALEXANDRA THOMPSON – Exploring PMS is a great idea, but The Period Brain can be simplistic
Premenstrual syndrome and its symptoms is neglected by science, so Sarah Hill's new book is welcome. But it needs more on genetics, not just lifestyle changes.
Review of 'The Period Brain' by Sarah Hill. Vermilion (UK), Harvest (US) (2025).
https://www.newscientist.com/article/mg26735630-500-exploring-pms-is-a-great-idea-but-the-period-brain-can-be-simplistic/

Notes and Records

ARTICLES

MARK HANSON & MATT WILLIAMS – Leonard Jenyns on the variation of species and Charles Darwin on the origin of species 1844–1860
The Reverend Leonard Jenyns (1800–1893) was an eminent naturalist who devoted much thought to the nature of species versus varieties (sub-species or 'races') in relation to sustained and heritable effects of environment and geography, and to questions about transmutation and the creation or other origins of progenitors. His lecture given in 1856 to the British Association for the Advancement of Science on 'The variation of species' summarized his thinking at this time and made recommendations for future research. Jenyns was a long-standing friend of Charles Darwin, both being influenced by J. S. Henslow as undergraduates at Cambridge, where they met. Jenyns was proposed by Henslow before Darwin as naturalist companion to sail on HMS Beagle, but he declined. Jenyns subsequently identified and catalogued fish collected on the voyage for Darwin, and they corresponded about natural history over many years. Darwin asked to read the full manuscript of Jenyns' lecture, but not until 9 April 1858, shortly before receiving in June the letter from Wallace which accelerated his public disclosure of his theory of evolution. Here we transcribe Jenyns' manuscript for the first time and discuss the implications of their similarities and differences of opinion at that critical time for evolutionary thinking.
https://royalsocietypublishing.org/doi/10.1098/rsnr.2025.0019

NPJ Science of Learning

PAPERS

CHRISTOPHER M. CONWAY et al – Addressing the theory crisis in statistical learning research
Research into statistical learning, the ability to learn structured patterns in the environment, faces a theory crisis. Specifically, three challenges must be addressed: a lack of robust phenomena to constrain theories, issues with construct validity, and challenges with establishing causality. Here, we describe and discuss each issue in relation to several prominent statistical learning phenomena. We then offer recommendations to help address the theory crisis and move the field forward.
https://www.nature.com/articles/s41539-025-00359-6

Philosophical Transactions of the Royal Society B

PAPERS

STUART KAUFFMAN & ANDREA ROLI – Is the emergence of life and of agency expected?

We present an integrated and testable theory for the spontaneous emergence of life up to the prokaryote with template replication and coding. Collectively autocatalytic small-molecule sets, DNA sets, RNA sets and peptide sets have been discovered or created. Reliable theory supports the claim that such systems can emerge as a first-order phase transition. Such sets constitute Kantian wholes: the whole exists for and by means of the parts. We propose that the earliest life began with small-molecule collectively autocatalytic sets as first-order Kantian wholes. These merged with two other first-order Kantian wholes—peptide and RNA autocatalytic sets—to form a third-order Kantian whole. The autocatalytic, small-molecule set coevolved to become the metabolism of the entire system. The peptide and RNA collectively autocatalytic sets ultimately coevolved to template replication, coding and the ribosome. The same peptide–RNA coevolution may have broken chiral symmetry. Collectively autocatalytic sets achieve constraint closure. Thermodynamic work is the constrained release of energy into a few degrees of freedom. In constraint-closed systems, a set of boundary condition constraints on the release of energy, [A,B,C], constrains that release in a set of non-equilibrium processes, [1,2,3], to construct the very same set of boundary condition constraints, [A,B,C]. Cells literally construct specifically themselves. Because constraint-closed systems carry out thermodynamic work cycles, they constitute molecular autonomous agents that are able to sense, orient, decide and act in their worlds. These theories overlap and unite with the RNA world hypothesis.
https://royalsocietypublishing.org/doi/10.1098/rstb.2024.0283

PLoS One

PAPERS

MIREIA SOLÉ PI et al – Continuous or discrete magnitudes? A comparative study between cats, dogs and humans

A long-standing question in the study of quantity discrimination is what stimulus properties are controlling choice. While some species have been found to do it based on the total amount of stimuli and without using numerical information, others prefer numeric rather than any continuous magnitude. Here, we tested cats, dogs, and humans using a simple two-way spontaneous choice paradigm (involving food for the first two, images for the latter) to see whether numerosity or total surface area has a greater influence on their decision. We found that cats showed preference for the larger amount of food when the ratio between the stimuli was 0.5, but not when it was 0.67; dogs did not differentiate between stimuli presenting the two options (smaller vs. larger amount of food) regardless of the ratio between them, but humans did so almost perfectly. When faced with two stimuli of the same area but different shapes, dogs and humans exhibited a preference for certain shapes, particularly the circle, while cats' choices seemed to be at chance level. Furthermore, cats' and dogs' reaction times were equal across conditions, while humans were quicker when choosing between stimuli in trials where the shape was the same, but the surface area was different, and even more so when asked to choose between two differently sized circle shapes. Results suggest that there is no universal rule regarding how to process quantity, but rather that quantity estimation seems to be tied to the ecological context of each species. Future work should focus on testing quantity estimation in different contexts and different sources of motivation.
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0331924

NICHOLAS V. KESSLER et al – Age and origin of a Cahokian wooden monument at the Mitchell site, Illinois, USA

Cahokia was the first and largest precolonial city outside of Mesoamerica in what is now the United States. Monuments and exotic goods were central to public life at Cahokia, but no high-resolution timeline of monumental construction or long-distance material import exists for the site. Wooden marker posts, serving as both public monuments and exotic artifacts, offer ideal sources of evidence for documenting the chronology and spatial scale of Cahokian material networks and community histories. In this paper, we employ 14C dating of a cosmic event archived in tree-rings to determine that the largest known marker post in the Cahokia area, the Mitchell Log, was felled around 1124 CE. Sr isotope ratios of the wood rule out a local source, and suggest the tree was transported at least 180 kilometers. Together, the date, provenance, and context of the Mitchell Log (1) establish a historical datum for the peak influence of the Cahokia polity, (2) prompt new questions about the long-distance transport of thousands of other such marker posts, and (3) identify a significant event in the history of this precolonial phenomenon.
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0333783

Science

NEWS

Paleolithic painters had the blues

Two recent studies shine light on the earliest known artistic usages of blue pigment.
https://www.science.org/content/article/paleolithic-painters-had-blues

'Thrilled' Indonesian scientists celebrate return of fossil trove from the Netherlands

The items to be returned, which include Java Man, were collected during the colonial era.

https://www.science.org/content/article/thrilled-indonesian-scientists-celebrate-return-fossil-trove-netherlands

China launches ambitious collaboration to map primate brains—including ours
25-year plan will tap brain-mapping prowess in two dozen countries to visualize the organ in unprecedented detail.
https://www.science.org/content/article/china-launches-ambitious-collaboration-map-primate-brains-including-ours

Science Advances

PAPERS

LUCIANO PRATES, MATÍAS E. MEDINA & S. IVAN PEREZ – Extinct megafauna dominated human subsistence in southern South America before 11,600 years ago
One of the most widely cited objections to hypotheses that defend a central role for humans in late Pleistocene megafaunal extinctions in South America has been the assumption that extinct megafauna was a marginal resource in early human economies. On the basis of accurate chronological frames and faunal quantitative data, we demonstrate that extinct megafauna were the principal prey item of early foragers from ~13,000 to 11,600 calibrated years before the present, and this fact had likely been obscured by lumping together pre- and postextinction archaeological faunal assemblages within a single chronological window. We also show that the most exploited extinct taxa were at the apex of the ranking of the prey choice model. After the diversity and abundance of megafauna had already declined severely (~12,500 B.P.), and especially after they had virtually disappeared (~11,600 B.P.), the human diet was broadened. This strongly reinforces the idea that humans must be central to the debate on Quaternary extinctions in South America.
https://www.science.org/doi/10.1126/sciadv.adx2615

JOHANNA STAERK et al – Sexual selection drives sex difference in adult life expectancy across mammals and birds
Across human cultures and historical periods, women, on average, live longer than men, a pattern best understood from a comparative evolutionary perspective. Here, we analyzed adult life expectancy in 528 mammal and 648 bird species in zoos. Like humans, 72% of mammals exhibited a female life expectancy advantage, while 68% of birds showed a male advantage, as expected from the harmful effects of sex chromosomes described by the heterogametic sex hypothesis. Yet, sex differences varied widely. In zoos, we found strong evidence that this variation generally correlated with both the mating system and sexual size dimorphism. Although with weaker evidence, the patterns remained consistent in populations from the wild, with an even larger effect of the mating system. Thus, even in zoos, where environmental pressures are largely reduced, precopulatory sexual selection seems to play a fundamental role in shaping sex differences in life expectancy in mammals and birds.
https://www.science.org/doi/10.1126/sciadv.ady8433

Trends in Ecology and Evolution

PAPERS

DELPHINE DE MOOR & LAUREN J.N. BRENT – Quality, quantity, and the adaptive function of social relationships
Affiliative social relationships have clear links to fitness in many species, yet exactly why that is the case remains elusive. We unify theory from socioecology and network science to set forth testable predictions of how individuals should invest in their social relationships given the relative benefits of different social strategies across environmental contexts. We propose that relationship quality provides access to social support, which can help animals faced with local pressures such as contest competition, while relationship quantity provides access to social tolerance, which can help with global pressures such as predation. The Adaptive Relationships Framework sets the foundation for the systematic study of how social and ecological pressures drive adaptive variation in the quality and quantity of social relationships.
https://www.cell.com/trends/ecology-evolution/fulltext/S0169-5347(25)00250-2

GUILLAUME CHOMICKI & JUDITH L. BRONSTEIN – Beyond mutualism: the nature of domesticator–domesticate interactions
The literature on domestication commonly calls the association between human domesticators and their plant and animal domesticates mutualistic, yet this designation is rarely examined critically. Here, we assess its validity based on the long-accepted ecological definition of mutualism and current evidence for origins, subsequent evolution, and present features of domesticator–domesticate interactions. We argue that it is difficult to wholly align these associations with standard concepts of mutualism. Instead, domesticator–domesticate interactions vary across domestication pathways and have changed throughout domestication timelines, spanning antagonism to commensalism to mutualism. We argue that the later stages of domestication in some intensively domesticated species form exploitative rather than mutualistic interactions. Moving away from conceptualizing domestication as mutualistic raises new questions regarding its ecology and evolution.
https://www.cell.com/trends/ecology-evolution/fulltext/S0169-5347(25)00256-3

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