

EAORC BULLETIN 1,214 – 20 September 2026

CONTENTS

NOTICES.....	2
FORMATTED VERSION OF THIS BULLETIN	2
PUBLICATION ALERTS	2
EDITORIAL INTERJECTIONS	2
ACADEMIA.EDU – African ape carpal morphology is not too specialized to represent ancestral hominins.....	2
LAURA E. HUNTER et al – African ape carpal morphology is not too specialized to represent the ancestral hominin carpus	2
NEWS.....	3
JOHN TEMPLETON FOUNDATION – Beaver Behavior and Bird Brains: Science Behind Animal Intelligence	3
NEWS FROM SCIENCE – Why AI agents invent their own language if you let them chat	3
THE CONVERSATION – How firelight may have shaped the origins of spoken language.....	3
PUBLICATIONS.....	3
Biology Letters	3
PAPERS.....	3
REECE HAMMOND & THOMAS A. PÜSCHEL – Multisite analysis of infant corpse carrying in Pan reveals maternal attachment and death context as explanations of carrying duration	3
Frontiers in Psychology	3
PAPERS.....	3
ANDREU SÁNCHEZ-MEGÍAS et al – Savanna chimpanzee tool and fruit transfers facilitate the transmission of technological behaviours at Dindefelo, Senegal.....	3
JING SHEN & GAYLE DEDE – Informational masking modulates semantic processing during recognition of syntactically complex speech: evidence from pupillometry	4
Linguistic Anthropology.....	4
PAPERS.....	4
MIKE MENA & BRITTA INGEBRETSON – Transposition as activism: Toward a public-facing linguistic anthropology	4
Nature Communications Earth & Environment	4
PAPERS.....	4
GABRIELE RUSSO et al – Lebanese faunal legacy collections uncover 400,000 years of woodland resilience and distinct hominin ecological strategies	4
GABRIELE RUSSO et al – Long-term ecological stability in the Pleistocene central Levantine corridor revealed by enamel isotopes from Lebanon	5
GABRIELE RUSSO et al – Lebanese faunal legacy collections uncover 400,000 years of woodland resilience and distinct hominin ecological strategies	5
Nature Computational Science.....	5
PAPERS.....	5
NIKITA KARETNIKOV, IYAD RAHWAN & DAVOR SVETINOVIC – Large language models as human proxies	5
Nature Human Behaviour.....	5
PAPERS.....	5
THOMAS TALHELM et al with THE RESPONSIBILISM COLLABORATION TEAM – Defining collectivism as duties in relationships rather than generalized warmth improves predictive validity in 100 cultures	5
TAL BOGER & CHAZ FIRESTONE – Complexity is a unified cognitive kind	6
Nature Mental Health	6
PAPERS.....	6
JORGE CUARTAS et al – Supporting parenting in early childhood to foster human development and mental health	6
Nature Reviews Neuroscience.....	6
PAPERS.....	6
STEPHEN M. FLEMING – Towards an integrative neuroscience of metacognition	6
Nature Scientific Reports.....	6
PAPERS.....	6
PAULA HUNDEGGER et al with ALICE M. I. AUERSPERG – Body awareness in Goffin’s cockatoos (<i>Cacatua goffiniana</i>)	6
Neuron.....	7
PAPERS.....	7
CHRISTOPHER SUMMERFIELD & KIMBERLY STACHENFELD – The recipe for intelligence in natural and artificial systems	7
New Scientist	7

ARTICLES.....	7
MICHAEL MARSHALL – Denisovan tools from cave in China show how mysterious humans lived.....	7
MICHAEL MARSHALL – Why our common ancestor with chimpanzees keeps getting further away.....	7
CHANDA PRESCOD-WEINSTEIN – The danger of viewing the cosmos as a mirror that shows us ourselves.....	7
Royal Society Open Science.....	7
PAPERS.....	7
CHIARA VALZOLGHER et al – Silent signals: how bodily cues and age influence speech adaptation.....	7
YUZHAN HANG et al – Cultural bias or universal traits? Exploring personality-like profiles of large language models.....	7
Science.....	8
NEWS.....	8
Why AI agents invent their own language if you let them chat.....	8
Science Advances.....	8
PAPERS.....	8
KRISTIAN J. CARLSON et al with DAVID LORDKIPANIDZE – Proportional limb strengths signal an adaptive shift in arboreality in early human evolution.....	8
Trends in Cognitive Sciences.....	8
ARTICLES.....	8
VELIA CARDIN – Language structure as training for executive functions.....	8
Trends in Genetics.....	8
ARTICLES.....	8
WUBALEM D. SEIFU, ZEWDU E. BEDADA & CHANGQING ZENG – African genomes are not a subset.....	8
SUBSCRIBE to the EAORC Bulletin.....	8
UNSUBSCRIBE from the EAORC Bulletin.....	8
PRODUCED BY AND FOR THE EAORC EMAIL GROUP.....	8

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 – African ape carpal morphology is not too specialized to represent ancestral hominins

Journal of Anatomy 2026:00, 1-31 (2026).

LAURA E. HUNTER et al – African ape carpal morphology is not too specialized to represent the ancestral hominin carpus

How and why hominins evolved key behaviors, such as obligate bipedalism and sophisticated tool production, are key questions in paleoanthropology. Crucial to this inquiry are accurate reconstructions of the morphology and behavior that characterized the panin–hominin last common ancestor (LCA). Because all extant hominines besides *Homo sapiens* knuckle-walk, this rare hand posture has received special attention as a possible behavior in the LCA's locomotor repertoire. Arguments concerning knuckle-walking ancestry in hominins typically examine functional morphology to explore possible adaptations to knuckle-walking or leverage biological principles to evaluate the likelihood of certain evolutionary scenarios. Because wrist biomechanics in knuckle walking differ from those of other behaviors, carpals are frequently investigated for possible knuckle-walking specializations. Here, we quantified carpal morphology using spherical harmonics analysis to reevaluate purported knuckle-walking adaptations among an anthropoid sample with variable locomotor behaviors. We calculated Euclidean distances between behavioral pairs to investigate whether the carpals in knuckle-walking taxa appear specialized relative to those of other taxa. Results show that nearly all hypothesized knuckle-walking adaptations are broadly present in anthropoids, and several are specially shared with Asian apes. Some African ape carpal features are shared uniquely with humans and may signal knuckle-walking ancestry. These results overall suggest that (1) the carpals of African apes are not specialized for knuckle walking; (2) to evolve knuckle walking, only few morphological changes to ancestral

hominid carpals are necessary; and (3) an African ape-like carpus is not too specialized to be a viable ancestral form from which the hominin carpus evolved.

https://www.academia.edu/175782374/African_ape_carpal_morphology_is_not_too_specialized_to_represent_the_ancestral_hominin_carpus

NEWS

JOHN TEMPLETON FOUNDATION – Beaver Behavior and Bird Brains: Science Behind Animal Intelligence

In this episode of the Templeton Ideas Podcast from the archives, host Thomas Burnett speaks with philosopher and cognitive scientist Colin Allen about what modern science is revealing about animal intelligence, emotion, and consciousness. Allen explores how scientists study animal minds — from dam-building beavers to problem-solving birds — and the challenges of understanding nonhuman experience, suggesting that discoveries about memory, emotion, joy, and communication can teach us more about intelligence itself. The conversation also examines the relationship between animal cognition and artificial intelligence, highlighting both the similarities and profound differences between living minds and machines.

<https://www.templeton.org/news/beaver-behavior-and-bird-brains-the-science-behind-animal-intelligence>

NEWS FROM SCIENCE – Why AI agents invent their own language if you let them chat

“Weird terms” are a natural—but disturbing—byproduct of agent swarms, researchers find.

<https://www.science.org/content/article/why-ai-agents-invent-their-own-language-if-you-let-them-chat>

THE CONVERSATION – How firelight may have shaped the origins of spoken language

New study suggests ancient campfires may have encouraged our ancestors to develop language.

<https://theconversation.com/how-firelight-may-have-shaped-the-origins-of-spoken-language-291907>

PUBLICATIONS

Biology Letters

PAPERS

REECE HAMMOND & THOMAS A. PÜSCHEL – Multisite analysis of infant corpse carrying in *Pan* reveals maternal attachment and death context as explanations of carrying duration

Understanding the mechanisms underlying non-human primate death-related behaviours is essential for reconstructing the evolution of human responses to death and death-related cognition. Infant corpse carrying is widely observed in chimpanzees and bonobos, yet its underlying mechanisms remain debated. Analysing 83 published cases across multiple sites using Bayesian mixed-effects models, we found strong support that infant corpse carrying duration varies with cause of death, infant age at death and site-level interbirth intervals. A less robust association of temperature with carrying duration was also identified. These results suggest that variation in infant corpse carrying duration is parsimoniously accounted for by the persistence of maternal behavioural systems being modulated by social carrying risk, dyadic bond strength, life-history context and decomposition rates. Crucially, none of the patterns observed in infant corpse carrying duration necessitate mothers recognizing death as an irreversible biological state, though they do not necessarily preclude such recognition. Given the close evolutionary relationship of *Pan* and *Homo*, this may indicate that the complex cognitive frameworks required to recognize death's finality emerged in the hominin lineage after divergence from the *Pan*–*Homo* last common ancestor.

<https://royalsocietypublishing.org/rsbl/article/22/9/20260371/483291/Multisite-analysis-of-infant-corpse-carrying-in>

Frontiers in Psychology

PAPERS

ANDREU SÁNCHEZ-MEGÍAS et al – Savanna chimpanzee tool and fruit transfers facilitate the transmission of technological behaviours at Dindefelo, Senegal

Social learning is a key factor in the transmission of technological behaviours amongst primates. We studied chimpanzee (*Pan troglodytes* verus) social interactions in the context of tool and proto-tool use behaviours in the savanna site of Dindefelo, Senegal. Between 2017 and 2025, we obtained 14 h 58 min of camera trap footage at 14 locations where chimpanzees performed tool-use behaviours, namely algae fishing (for filamentous green algae: Zygnemataceae), ant dipping (for army ants: *Dorylus* sp.), and termite fishing (for termites: Macrotermitinae). We also obtained 30 min of camera trap footage at 11 locations where chimpanzees carried baobab (*Adansonia digitata*) fruit, which they pound against stationary anvils (i.e., proto-tools), a behaviour called baobab pounding. In total, we recorded 33 tool transfers and four fruit transfers. Transfers occurred mostly between mothers and their offspring. Most tool transfers were recoveries and tolerated takes. We compared the behaviour of initial tool possessors and tool recipients 30 s after and 30 s before each transfer. We excluded recoveries because in these cases the initial possessor does not interact with the recipient before abandoning the tool. We fitted Linear Mixed-Effects Models to test whether initial possessors and recipients exhibited different proportions of time

using tools, insertions per second, and mouthfuls per second, after versus before a transfer. Initial possessors spent a significantly lower proportion of time using tools and performed significantly fewer insertions per second after transferring a tool, whereas recipients spent a significantly higher proportion of time using tools, and performed significantly more insertions and mouthfuls per second after receiving a tool. In addition, we detail two cases that highlight social learning of technological behaviours, in the context of ant dipping and baobab pounding, respectively. In line with previous research, we found that tool transfer constitutes a type of teaching in Dindéfelo. Our results support the idea that teaching and facilitation, mainly from mothers, contribute to the acquisition of technological skills in immature chimpanzees.

<https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2026.1868894/full>

JING SHEN & GAYLE DEDE – Informational masking modulates semantic processing during recognition of syntactically complex speech: evidence from pupillometry

Speech perception in adverse listening environments depends not only on the quality of the acoustic signal but also on listeners' ability to recruit higher-level linguistic information. Although semantic constraints are known to influence recognition of syntactically complex speech, it remains unclear how informational masking, in which competing speech interferes with target-speech processing beyond peripheral acoustic overlap, influences the use of these cues during spoken sentence processing. The present study examined the effects of animacy-based semantic constraints on recognition of subject- and object-relative sentences presented in either an original two-talker speech masker or a time-reversed version of the same masker.

Thirty-seven young adults with normal hearing completed a sentence repetition task while pupil size was recorded continuously. Speech recognition was analyzed using generalized linear mixed-effects models, and pupil responses were analyzed using generalized additive mixed models (GAMMs).

Consistent with previous findings, semantic effects were substantially greater for syntactically complex object-relative sentences than for subject-relative sentences. Masker type did not produce a significant overall effect on recognition accuracy, nor did it significantly modify the behavioral semantic effect. In the pupil data, however, semantic condition interacted significantly with masker type: the magnitude and direction of the animacy effect differed between the original- and reversed-speech masker conditions, whereas the corresponding time-varying interaction did not reach significance. These findings suggest that informational masking alters how semantic information contributes to processing demands during sentence recognition rather than simply increasing overall listening effort. More broadly, the results demonstrate the value of combining behavioral and pupillometric measures to examine how perceptual and linguistic demands jointly shape spoken language processing.

<https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2026.1926700/full>

Linguistic Anthropology

PAPERS

MIKE MENA & BRITTA INGEBRETSON – Transposition as activism: Toward a public-facing linguistic anthropology

In 2023, the Demystifying Language Project (DLP) held a 3-day writing workshop that brought together 12 scholars, paired with 11 undergraduates and 15 high schoolers, to collaboratively recompose their own peer-reviewed articles into a genre legible to those without specialized training in language-related disciplines. This was done through transposition as activism, or the process by which participants undermine, transcend, or defect from highly regimented boundaries of academic writing genres and their entailed participant roles. In particular, transposition as activism seeks to dismantle the hierarchical arrangement of conventionalized “expert/non-expert” academic positionalities (i.e., author/reader, professor/student, instructor/learner, etc.) and their assumed reading/writing practices (i.e., the consumption of academic/non-academic genres, the use of academic/everyday language). In this article, we offer transposition as an activist approach to confront the raciolinguistic hierarchies endemic to knowledge production. As of 2026, there are 12 transposed academic publications on the Demystifying Language Project website.

<https://anthrosource.onlinelibrary.wiley.com/doi/abs/10.1111/jola.70075>

Nature Communications Earth & Environment

PAPERS

GABRIELE RUSSO et al – Lebanese faunal legacy collections uncover 400,000 years of woodland resilience and distinct hominin ecological strategies

The Levant is a key biogeographic corridor, yet historical instability has limited research creating a polarization toward its southern region. To address this geographical bias, we reassessed three legacy faunal collections from Lebanon: Naame, Nahr Ibrahim, and Ras el-Kelb. For the first time, we obtained direct dates for these assemblages and, through zooarchaeological methods, dental wear analysis, and landscape modeling, reconstructed aspects of ungulate and hominin ecology and behavior. The results establish chronological control, defining one of the longest paleoecological records in the region spanning from ~400,000 to ~100,000 years ago, and reveal that productive Mediterranean woodland ecosystems persisted along the central Levantine coast throughout much of the Middle and Late Pleistocene, supporting diverse ungulate communities and enabling hominins to practice seasonal, habitat-specific hunting along coastal ecotones. Integrating these

findings into the broader Levantine context reveals marked ecological differentiation between central and southern regions, challenging assumptions of regional uniformity and highlighting the importance of spatial variability in reconstructing Pleistocene paleoecology, human behavior, and biodiversity across this major dispersal corridor.

<https://www.nature.com/articles/s43247-026-03926-w>

GABRIELE RUSSO et al – Long-term ecological stability in the Pleistocene central Levantine corridor revealed by enamel isotopes from Lebanon

Throughout the Pleistocene, the Levant served as a key land bridge between continents and witnessed repeated hominin dispersals, including the major expansion of modern humans out of Africa. Yet despite this strategic role, the local ecological conditions encountered by hominin populations along the central Levant remain poorly understood. Here, we analyze sequential and bulk $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ enamel values from eight herbivore species across three Lebanese archaeological sites, Naame, Nahr Ibrahim, and Ras el-Kelb, spanning ~400,000 to ~100,000 years ago, to reconstruct vegetation structure, hydrology, and seasonal temperature regimes experienced by the hominins who lived in this region. Our results show that the central Levant maintained persistently regular Mediterranean seasonality, with consistent summer-winter offsets and minimal chronological change in amplitude across multiple glacial-interglacial cycles, despite pronounced regional and global climatic oscillations. This reliable hydroclimate supported C3-dominated woodlands and mesic, heterogeneous habitats that maintained reliable resources for herbivore communities over nearly 300,000 years. Together, these findings identify the Lebanese coast as a persistent ecological refugium offering resource predictability that likely facilitated repeated hominin occupations and dispersal events through the eastern Mediterranean.

<https://www.nature.com/articles/s43247-026-03925-x>

GABRIELE RUSSO et al – Lebanese faunal legacy collections uncover 400,000 years of woodland resilience and distinct hominin ecological strategies

The Levant is a key biogeographic corridor, yet historical instability has limited research creating a polarization toward its southern region. To address this geographical bias, we reassessed three legacy faunal collections from Lebanon: Naame, Nahr Ibrahim, and Ras el-Kelb. For the first time, we obtained direct dates for these assemblages and, through zooarchaeological methods, dental wear analysis, and landscape modeling, reconstructed aspects of ungulate and hominin ecology and behavior. The results establish chronological control, defining one of the longest paleoecological records in the region spanning from ~400,000 to ~100,000 years ago, and reveal that productive Mediterranean woodland ecosystems persisted along the central Levantine coast throughout much of the Middle and Late Pleistocene, supporting diverse ungulate communities and enabling hominins to practice seasonal, habitat-specific hunting along coastal ecotones. Integrating these findings into the broader Levantine context reveals marked ecological differentiation between central and southern regions, challenging assumptions of regional uniformity and highlighting the importance of spatial variability in reconstructing Pleistocene paleoecology, human behavior, and biodiversity across this major dispersal corridor.

<https://www.nature.com/articles/s43247-026-03926-w>

Nature Computational Science

PAPERS

NIKITA KARETNIKOV, IYAD RAHWAN & DAVOR SVETINOVIC – Large language models as human proxies

The idea of computationally approximating human behavior is being reshaped by the emergence of large language models (LLMs). Although LLMs do not explain the mechanisms of human behavior, they can potentially stand in for humans—giving rise to new applied and scientific uses. Here we analyze research from multiple disciplines that explicitly or implicitly use LLMs as human proxies and organize them into four roles: believable agents, task agents, experimental subjects and silicon samples. By comparing the roles, we show that similarity to humans is not a single feature: each supports a different scientific claim and requires its own validity criteria.

<https://www.nature.com/articles/s43588-026-01060-3>

Nature Human Behaviour

PAPERS

THOMAS TALHELM et al with THE RESPONSIBILISM COLLABORATION TEAM – Defining collectivism as duties in relationships rather than generalized warmth improves predictive validity in 100 cultures

Experts widely agree that East Asian cultures are more collectivistic than Western cultures. Yet 76 survey studies found no reliable difference. Our explanation is that the most-used surveys are contaminated with ‘warm fuzzy’ items, which describe warmth and prosociality towards everyone near and far. We argue that collectivism is better understood as ‘responsibilism’, which emphasizes responsibilities in close relationships. A survey found that many cultural psychologists expect collectivistic cultures to agree with warm fuzzy items. Then we developed a responsibilism scale and tested 12,247 people in 100 cultures. Results showed large cultural differences ($d = 3.98 [2.50, 5.43]$) that were previously obscured by flawed measurement. Responsibilism predicted differences across societies (such as family ties and corruption) and individuals (social class and

politics) that most earlier scales missed. This study offers a solution to previous puzzling findings by distinguishing warm fuzzy prosociality from responsibilism and introducing a scale with stronger predictive validity.

<https://www.nature.com/articles/s41562-026-02525-1>

TAL BOGER & CHAZ FIRESTONE – Complexity is a unified cognitive kind

Any information-processing system must deal with the complexity of its input. Yet, complexity arises in many forms: an image may be complex, a melody may be complex, and so too for linguistic or mathematical expressions. Are these disparate forms of complexity ‘unified’ in the mind, such that cognition represents a common quantity shared across qualitatively different types of information? Here we present 11 experiments (N = 1,500) that reveal domain-general representation of complexity. First, a reward-transfer task revealed that outcomes associated with complexity generalize across diverse stimulus classes, including shapes, dot arrays, melodies, letter strings, mathematical expressions and tactile forms. Subsequent experiments demonstrated that such transfer occurs automatically (intruding on task-irrelevant judgements) and underwrites individual differences in higher-level judgements across domains; for example, participants who find simple shapes aesthetically pleasing also find simple melodies pleasing. These results implicate a capacity for type-independent representation of information density, consistent with a shared representational language across cognitive domains.

<https://www.nature.com/articles/s41562-026-02502-8>

Nature Mental Health

PAPERS

JORGE CUARTAS et al – Supporting parenting in early childhood to foster human development and mental health

Parents and caregivers are among the most influential determinants of early childhood development and mental health, playing a critical part in achieving global policy goals. Here we critically examine current knowledge and open questions regarding key parenting behaviors related to (1) engagement in play and other learning activities and (2) discipline and punishment. Parenting is shaped by socioeconomic, cultural, social, cognitive, emotional and environmental factors and, in turn, exerts a lasting influence on child development. Engagement in learning activities and nonviolent discipline promote resilience and support cognitive, social and emotional development, whereas physical and psychological punishment increase long-term risk for maladaptive developmental and mental health outcomes. Situated within broader geo-bioecological contexts, ecological interventions, particularly parenting support programs, show strong evidence for promoting positive behaviors and child development. Yet, further research is needed to optimize the long-term effectiveness, integration, implementation and scalability of such programs across cultures and settings.

<https://www.nature.com/articles/s44220-026-00726-1>

Nature Reviews Neuroscience

PAPERS

STEPHEN M. FLEMING – Towards an integrative neuroscience of metacognition

Metacognition enables organisms to self-evaluate their own cognitive processes. In humans, this capacity underpins adaptive learning, social coordination and the formation of self-beliefs about skill and ability. A core motif that underpins multiple forms of metacognition is the ability to form estimates of performance in a self-directed frame of reference, expressed as propositional confidence about one’s own behaviour and mental processes. Convergent behavioural, computational and neural evidence obtained across rodents, non-human primates and humans indicates that these self-evaluations arise from structured transformations of uncertainty. Dynamic evidence accumulation processes provide candidate building blocks for local confidence, whereas multimodal prefrontal brain areas integrate these signals to support abstract, global self-beliefs. This architecture supports metacognitive control at multiple timescales, from rapid error correction to strategic task arbitration and social communication. Dysfunctional metacognition can lead to disorders of reality monitoring and insight, in which erroneous mental representations are endorsed with aberrant confidence. By integrating computational, cross-species and clinical perspectives, metacognitive neuroscience offers a bridge from neural circuit mechanisms to subjective experience.

<https://www.nature.com/articles/s41583-026-01081-x>

Nature Scientific Reports

PAPERS

PAULA HUNDEGGER et al with ALICE M. I. AUERSPERG – Body awareness in Goffin’s cockatoos (*Cacatua goffiniana*)

Mirror self-recognition (MSR) is widely used to assess self-awareness, but its reliance on vision may limit its suitability for cross-species comparisons. A complementary approach is the body-as-obstacle (BAO) paradigm, which tests whether individuals recognize their own body as a causal impediment to solving a task. Although BAO has been applied in mammals, it has not previously been adapted for birds. Here, we tested 15 Goffin’s cockatoos (*Cacatua goffiniana*) in an avian BAO task in which subjects had to retrieve and pass an object to an experimenter. In the test condition, the object was attached to the mat on which the bird stood, requiring subjects to step off the mat to succeed; two control conditions were unattached and attached-to-ground. A pre-test controlled for stepping off due to mat movement or discomfort. Cockatoos passed the pre-

test (mean success $\pm$ SE: $99.4 \pm 0.6\%$) and stepped off markedly more often in the test condition ($97.8 \pm 0.9\%$) than in the unattached ($0.7 \pm 0.3\%$) or attached-to-ground control ($39.1 \pm 3.9\%$). These findings provide the first application of the BAO paradigm in birds and support the use of comparative, multimethod approaches to body awareness.

<https://www.nature.com/articles/s41598-026-57500-7>

Neuron

PAPERS

CHRISTOPHER SUMMERFIELD & KIMBERLY STACHENFELD – The recipe for intelligence in natural and artificial systems

Ten years ago, two landmark papers discussed open problems in AI research from the standpoint of neuroscience and cognitive science. Today, many of these problems have been solved, mostly without direct inspiration from the study of the human brain. In this paper, we consider what is still shared between the twin endeavors of understanding natural brains and building artificial ones. We argue that, as well as understanding the “ingredients” of intelligence (its component parts), both fields are now coming to grasp the “recipe” for intelligence (how they fit together). Surprisingly, this recipe has many parallels in biological and artificial systems. Despite rapid progress in AI research, there are many computational problems that remain unsolved. We discuss how these problems may be addressed in natural intelligence.

[https://www.cell.com/neuron/fulltext/S0896-6273\(26\)00643-4](https://www.cell.com/neuron/fulltext/S0896-6273(26)00643-4)

New Scientist

ARTICLES

MICHAEL MARSHALL – Denisovan tools from cave in China show how mysterious humans lived

A site in China is just the third to give us an insight into the way the enigmatic Denisovans lived. The archaeology at the site suggests the ancient humans were skilled hunters, although their stone tools were relatively simple.

<https://www.newscientist.com/article/2588304-denisovan-tools-from-cave-in-china-shows-how-mysterious-humans-lived/>

MICHAEL MARSHALL – Why our common ancestor with chimpanzees keeps getting further away

The more we learn about chimpanzees, the more they resemble us – but the further back in time our shared ancestor seems to be. Michael Marshall explores how both can be true.

<https://www.newscientist.com/article/2588568-why-our-common-ancestor-with-chimpanzees-keeps-getting-further-away/>

CHANDA PRESCOD-WEINSTEIN – The danger of viewing the cosmos as a mirror that shows us ourselves

It is only natural to view the world, or even the entire universe, through the lens of humanity – we’re human, after all. But Chanda Prescod-Weinstein says we can appreciate the wonder of the cosmos without inserting ourselves as a main character.

<https://www.newscientist.com/article/2586903-the-danger-of-viewing-the-cosmos-as-a-mirror-that-shows-us-ourselves/>

Royal Society Open Science

PAPERS

CHIARA VALZOLGHER et al – Silent signals: how bodily cues and age influence speech adaptation

Do real-time visual cues of listening effort and expectations on the listener’s perceived age drive speech adaptations? In experiment 1, young adults read sentences to a listener shown via a head-mounted display. Participants were told their voices were heard under noisy conditions but received no auditory feedback. The listener, either a young or an old person, was actually a confederate who displayed behaviours indicating easy or hard listening effort pre-recorded using a 360-degree camera. As the listener’s visible effort became apparent, speakers increased their vocal intensity and lengthened their utterances. They made larger speech proportion adjustments when addressing the older listener and rated him as understanding less than the younger listener in the easy condition. Experiment 2 found consistent results in older adults. As visible listening effort became evident, older adults increased vocal intensity, extended pauses between words and raised their pitch. They also made stronger speech proportion adjustments when addressing the older listener. Yet, they did not assume the older listener understood less. Thus, although young and older adults differed in their listener’s comprehension judgement, both adjusted their speech similarly based on visible effort cues and expectations. These findings reveal Lombard-like speech adaptations driven predominantly by visual cues of listener effort.

<https://royalsocietypublishing.org/rsos/article/13/9/rsos252442/483318/Silent-signals-how-bodily-cues-and-age-influence>

YUZHAN HANG et al – Cultural bias or universal traits? Exploring personality-like profiles of large language models

Do large language models (LLMs) exhibit coherent personality profiles, and are these profiles culturally neutral? This study used two validated personality inventories, the Big Five Inventory–2 and the Dark Triad Dirty Dozen, to assess five state-of-the-art LLMs (ChatGPT-4o, Gemini 2.0 Flash, DeepSeek-V3, Ernie 3.5 and Le Chat) across English, Mandarin and French. Models were evaluated at both domain and facet levels for consistency, linguistic variation and cultural alignment by comparing their responses to human data from the USA, People’s Republic of China and France. Results showed that LLMs

consistently exhibited prosocial profiles (high Agreeableness and Conscientiousness, low Negative Emotionality and Dark Triad traits). However, personality expression varied with both the language of assessment and the cultural origin of the model. In general, Western models aligned more closely with English inputs, while the Chinese models displayed stronger traits in Mandarin. No model fully mirrored its respective human population, and cultural divergence was especially pronounced in the Chinese models. These findings suggest that LLM personality-like response profiles are relatively stable but vary systematically with assessment language and model development context, raising questions about fairness, neutrality and the psychological imprint of artificial intelligence systems.

<https://royalsocietypublishing.org/rsos/article/13/9/rsos252491/483310/Cultural-bias-or-universal-traits-Exploring>

Science

NEWS

Why AI agents invent their own language if you let them chat

“Weird terms” are a natural—but disturbing—byproduct of agent swarms, researchers find.

<https://www.science.org/content/article/why-ai-agents-invent-their-own-language-if-you-let-them-chat>

Science Advances

PAPERS

KRISTIAN J. CARLSON et al with DAVID LORDKIPANIDZE – Proportional limb strengths signal an adaptive shift in arboreality in early human evolution

How much arboreality characterized the Australopithecus locomotor repertoire and how this differed from early Homo are vigorously debated. Most previous studies rely on traits of uncertain functional significance or are constrained by sampling concerns. Bone shaft strength is plastic and reflects in vivo mechanical loading. Because interlimb bone strength proportions among living apes correlate with arboreality, they are ideal contributors to this debate. We present the most comprehensive analysis yet of relative limb shaft strengths in Australopithecus and early Homo by adding two individuals [StW 573, ~3.67 million years ago (Ma); and D3901/D4167/D4507, ~1.77 to 1.81 Ma]. We show that Australopithecus individuals of varying body sizes spanning at least 0.5 Ma exhibit African ape-like interlimb strength proportions, indicating frequent arboreal behavior, and that the Australopithecus lower limb exhibits human-like intralimb strength proportions. In contrast, early Homo individuals are human-like in both strength proportions, reflecting fundamentally different selective pressures favoring terrestrial bipedalism and an unambiguous departure from arboreality by ~1.8 Ma.

<https://www.science.org/doi/10.1126/sciadv.aeh1752>

Trends in Cognitive Sciences

ARTICLES

VELIA CARDIN – Language structure as training for executive functions

Language plays a central role in the development of executive functions (EFs). This forum article discusses how language, as a structured environmental stimulus, can shape EF systems and impact EF outcomes. This has implications for developmental and clinical conditions in which language and EFs are jointly affected, and for congenitally deaf children and adults, who often experience reduced access to natural language during development.

[https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613\(26\)00205-6](https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(26)00205-6)

Trends in Genetics

ARTICLES

WUBALEM D. SEIFU, ZEWDU E. BEDADA & CHANGQING ZENG – African genomes are not a subset

Africa harbors more genetic variation than the rest of the world combined, but approximately 1% of genomes in major databases derive from individuals of African ancestry. This is not an equity problem; it is a scientific error that distorts drug dosing, degrades risk scores, and undermines precision medicine globally.

[https://www.cell.com/trends/genetics/abstract/S0168-9525\(26\)00215-5](https://www.cell.com/trends/genetics/abstract/S0168-9525(26)00215-5)

SUBSCRIBE to the EAORC Bulletin

If you would like to subscribe to this free weekly newsletter, please contact martin.edwardes@btopenworld.com.

UNSUBSCRIBE from the EAORC Bulletin

Send an email to martin.edwardes@btopenworld.com with the subject "EAORC unsubscribe".

PRODUCED BY AND FOR THE EAORC EMAIL GROUP

EAORC is a fee-free academic internet news service and has no commercial sponsorship or other commercial interests.

EAORC website information is at <http://martinedwardes.me.uk/eaorc/>

If you have received this bulletin, and are unhappy about receiving it, please contact martin.edwardes@btopenworld.com.