EAORC BULLETIN 1,142 – 4 May 2025

CONTENTS

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.

NEWS

NATURE BRIEFING – Language Differences Control Your Brain's Sentence-Prediction Habits

Evidence is building that we process sentences differently depending on which language we're speaking — suggesting that scientists must work to ensure they're getting the whole picture when crafting linguistic models. (Scientific American | 4 min read) https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3002968

NEWS FROM SCIENCE – Ice age couture: Ancient people tailored form-fitting clothing from reindeer pelts

Trove of artifacts from 20,000-year-old campsite provides strongest direct evidence for custommade winter clothing.
https://www.science.org/content/article/ice-age-couture-ancient-people-tailored-form-fitting-clothing-reindeer-pelts

SAPIENS – Retracted: TED E. BUNCH et al – Did an Asteroid Shape this Famous Biblical Story?

Scientific Reports 11, 18632 (2021)

At SAPIENS, we regularly republish articles from other magazines to amplify the work of anthropologists. Several years ago, we republished an article originally published by The Conversation that we titled "Did an Asteroid Shape This Famous Biblical Story?" The Conversation recently retracted their article based on the retraction of the original research published in Scientific Reports.

In turn, SAPIENS has now retracted its republication. I apologize for any harms caused by the republication and invite readers to explore a critical view of this research, which SAPIENS published a few months after the republication: "When Biblically Inspired Pseudoscience and Clickbait Cause Looting."

—Chip Colwell, Editorial Director

https://www.sapiens.org/archaeology/asteroid-sodom/

SCIAM NEWS – Language Differences Control Your Brain's Sentence-Prediction Habits

The brain's response to information depends on language's grammatical structure.
https://www.scientificamerican.com/article/does-your-languages-grammar-change-how-you-think/

SCIENCEADVISER – Girls versus boy

Although male bonobos are larger than females, females usually win in a fight by enlisting their friends. That results in the average female outranking about 70% of the males in her community. As one of our closest relatives, bonobos serve as "a mirror for humanity … While some people might think that patriarchy and male dominance are somehow an evolutionary trait in our species, that's really not the case," one expert noted.
https://www.nature.com/articles/s42003-025-07900-8

SCIENCEADVISER – Scraping along

Human wounds take almost three times as long to heal as those of other primates, including chimpanzees—a difference that may stem from our lack of fur.
https://royalsocietypublishing.org/doi/10.1098/rspb.2025.0233

SCIENCE DAILY – Female bonobos keep males in check -- not with strength, but with solidarity

Female bonobos team up to suppress male aggression against them -- the first evidence of animals deploying this strategy. In 85% of observed coalitions, females collectively targeted males, forcing them into submission and shaping the group's dominance hierarchy. This is the first study to test drivers of female dominance in wild bonobos. The study examined 30 years of demographic and behavioral data across six wild bonobo communities. The study suggests that power isn't solely determined by physical strength. It can be driven by social intelligence and coalition-building by females.
https://www.sciencedaily.com/releases/2025/04/250424120801.htm

SCIENCE DAILY – What happens in the brain when your mind blanks

Mind blanking is a common experience with a wide variety of definitions ranging from feeling 'drowsy' to 'a complete absence of conscious awareness.' Neuroscientists and philosophers compile what we know about mind blanking, including insights from their own work observing people's brain activity.
https://www.sciencedaily.com/releases/2025/04/250424120758.htm

SCIENCE DAILY –Infants begin learning new words for objects by 15 months, even those never seen

A new study by developmental scientists offers the first evidence that infants as young as 15 months can identify an object they have learned about from listening to language -- even if the object remains hidden.
https://www.sciencedaily.com/releases/2025/04/250423164051.htm

SCIENCE DAILY – Wild chimps filmed sharing 'boozy' fruit

Wild chimpanzees have been pictured eating and sharing fruit containing alcohol.
https://www.sciencedaily.com/releases/2025/04/250421163053.htm

SCIENCE DAILY – Listeners use gestures to predict upcoming words

In face-to-face conversations, speakers use hand movements to signal meaning. But do listeners actually use these gestures to predict what someone might say next? In a study using virtual avatars, scientists show that listeners used the avatar's gestures to predict upcoming speech. Both behavioral and EEG data indicated that hand gestures facilitate language processing, illustrating the multimodal nature of human communication.
https://www.sciencedaily.com/releases/2025/04/250422131205.htm

THE CONVERSATION – How human connections shaped spread of farming among ancient communities

Human history has been shaped by interactions between communities.
https://theconversation.com/how-human-connections-shaped-the-spread-of-farming-among-ancient-communities-254852

THE CONVERSATION – Our ape cousins show us empathy has deep evolutionary roots – new research

It may be time to move on from species stereotypes.
https://theconversation.com/our-ape-cousins-show-us-empathy-has-deep-evolutionary-roots-new-research-255277

THE CONVERSATION – How we discovered specific brain cells that enable intelligent behaviour

How do animals and humans come up with novel ideas? It may be down to some very specific cells.
https://theconversation.com/how-we-discovered-specific-brain-cells-that-enable-intelligent-behaviour-254233

PUBLICATIONS

Animal Behaviour

PAPERS

LOUISE R. PECKRE et al – Unravelling communicative complexity: a multimodal comparative study of two lemur species with different social systems

The 'social complexity hypothesis for communicative complexity' (SCHCC) suggests that greater social complexity promotes greater communicative complexity. This is because there is increased uncertainty in larger social groups with differentiated social interactions, providing an advantage for more diverse and more flexible signals to transfer diverse messages and to manage the behaviour of others. In this study, we offer a comprehensive approach to contrast the multimodal communicative systems of two closely related true lemur species having similar morphology and ecology but different social systems. We collected behavioural and acoustic data on 13 wild adult red-fronted lemurs, Eulemur rufifrons, belonging to three different groups, and 10 wild adult mongoose lemurs, E. mongoz, belonging to four different groups, in the Kirindy and Ankatsabe forests, respectively. We describe a new analytical framework to assess the complexity of signalling systems across modalities. Applying a multimodal approach may help uncover the different selective pressures acting on the communicative system and better understand adaptive functions that might not be obvious from the isolated study of its components. The results support the prediction of a more complex communicative system in E. rufifrons, which has a more complex social system than E. mongoz. E. rufifrons exhibited larger signalling repertoires, greater signalling rates, a greater number of signal combinations and a significantly lower level of predictability in its signalling network compared to E. mongoz. We discuss the differences in the communicative systems of the two species and the potential functions associated with nonhomologous signals. We further explore potential evolutionary pathways at the communicative system level and discuss the proposed framework's advantages and limitations at a cross-taxonomic scale.
https://www.sciencedirect.com/science/article/pii/S0003347225000909

ADRIAN SOLDATI et al with KATIE SLOCOMBE, JOSEP CALL & KLAUS ZUBERBÜHLER – Do chimpanzees produce context-specific vocal structures in group-specific ways?

Learning how to link a signal to its appropriate behavioural context in a flexible and meaningful way is foundational to human language, but there is little evidence of this capacity in nonhuman primates. We addressed this by studying chimpanzee, Pan troglodytes schweinfurthii, pant hoot contextual use in two communities, Sonso and Kanyawara, from two different wild populations in Uganda. Pant hoots are complex, composite vocal signals, comprising four acoustically distinct phases and produced in different contexts, mostly during travelling and feeding to mediate grouping dynamics. We measured 18 acoustic parameters across phase types and found significant effects of context in all four phases, confirming that pant hoots have the potential to inform others about the caller's behaviour. We also found two interaction effects between context and community in the final let-down phase: Sonso males produced let-down call elements at higher rates during feeding than travelling and were also more likely to omit the let-down phase entirely during feeding than travelling, than Kanyawara males. We concluded that despite their largely fixed call repertoire, chimpanzees modulate acoustic features according to the behavioural context and, in the case of a few acoustic parameters, do so differently in different populations, with learning potentially involved in this process. Overall, however, the link between most of the acoustic features of chimpanzee calls and context seems to be largely independent of population, which contrasts with human language where different and novel signals are often flexibly attached to different information via social learning.

https://www.sciencedirect.com/science/article/pii/S0003347225001125

PAWEL FEDUREK et al with CATHERINE HOBAITER, KLAUS ZUBERBÜHLER & CATHERINE CROCKFORD – Maternal gregariousness and female audience effects mediate mother–infant proximity in wild chimpanzees

In animal species with parental care, maintaining offspring–carer proximity is an important adaptation protecting offspring from threats such as predation and conspecific aggression, but doing so may limit other social opportunities. Investigating factors impacting mother–infant proximity can, therefore, provide insights into the evolution of maternal responses towards multidimensional threats. Here, we examine the social factors impacting mother–offspring proximity in two populations of wild chimpanzees with differing levels of infanticidal threats, eastern chimpanzees, Pan troglodytes schweinfurthii, in Budongo Forest, Uganda and western chimpanzees, P. t. verus, in Taï Forest, Ivory Coast. We assessed whether (1) the number of males and females in fission–fusion subgroups predicts proximity levels between mothers and their youngest infants, (2) whether it is mediated by maternal gregariousness and (3) whether this relationship differs in the two populations. In both populations and independent of maternal gregariousness, we found no clear relationship between mother–infant proximity and the number of males in the party. However, in Budongo, where an infanticidal threat is high, mother–infant proximity was mediated by both maternal gregariousness and the number of other females present. Less gregarious mothers were closer to their youngest offspring in parties with large numbers of females, while the opposite pattern applied to highly gregarious mothers. In Taï, more gregarious females were more often in proximity with their offspring. Our results demonstrate that the immediate social environment, maternal social phenotype and overall community-specific threats can all influence maternal response to varying exposure to threats. The consequences of exposure to this environment on offspring's social development merit further investigation.
https://www.sciencedirect.com/science/article/pii/S0003347225000831

Current Anthropology

PAPERS

GUY A. LAVENDER FORSYTH, ANANISH CHAUDHURI & QUENTIN ATKINSON – The Dual Foundations of Political Ideology Are Ubiquitous across Human Social Life

Many people in Western countries represent the political landscape as a single dimension of conflict: authority, hierarchy, and tradition on the right versus greater freedom, equality, and systemic change on the left. Here, we argue that politics comprises not one but two primary dimensions. Moreover, these two dimensions are not unique to modern nations but reflect two evolutionary trade-offs that we call the "dual foundations" of politics and argue are inherent to human social life. One foundation concerns the trade-off between cooperation and competition and gives rise to contestation over levels of inequality and provision of public goods. The other foundation concerns the trade-off between autonomy and conformity, leading to contestation over the extent of social control. Drawing on anthropological, psychological, and historiographical evidence, we argue that these dual foundations are contested across the diversity of human lifeways and lead to two cross-culturally ubiquitous dimensions of ideology. As such, the dual foundations provide a common evolutionary framework for studying human politics across geography, history, subsistence styles, levels of social organization, and academic disciplines. We end by outlining how quantitative approaches to studying the dual foundations beyond industrialized nations can advance research on both the anthropology and psychology of political ideology.
https://www.journals.uchicago.edu/doi/abs/10.1086/735619

ROSIE JONES MCVEY – Learning from the Herd? Intercorporeality and Ethics in Equine-Assisted Learning for UK Youth

What role do animals play in humans' ethical lives? Recognizing a powerful contemporary draw around the idea that animals can (or should) shape human ethical lives, this article investigates the affordances that animals can offer for human ethics through applying Merleau-Ponty's concept of "intercorporeality." With an ethnographic focus on equine-assisted learning programs for young people in the United Kingdom, I will show that horses can afford intercorporeal forms of relatedness that enable young people to try out new ways of ethically relating to themselves and to others. But, drawing on Sara Ahmed's politicized rendering of materiality and perception, I will emphasize that the affordances that animals offer are historically constituted: what they can bring to the table depends on how the table is laid. This theoretical approach enables a critical questioning of the way herd sociality is held as a contrast and antidote to human society in equine-assisted learning. This article also recognizes a growing interdisciplinary interest in the ethico-political potential of intercorporeality and considers how that concept can best be operationalized for critical and comparative ethnography. I use the concept for descriptive rather than prescriptive purposes and in a broad rather than qualified form.
https://www.journals.uchicago.edu/doi/abs/10.1086/735407

Current Biology

PAPERS

MANVIR SINGH & KIM HILL – Loss of dance and infant-directed song among the Northern Aché

Dance and infant-directed song are often considered universal behaviors, a view that has been supported by considerable cross-cultural research. The conclusion that humans in every documented society engage in these behaviors has, in turn,

influenced evolutionary theories of music, which often treat human musicality as an adaptation, with benefits stemming from moving in synchrony and/or singing to infants. Drawing on 122 months of fieldwork conducted between 1977 and 2020, we here report no evidence of either dance or infant-directed song among the Northern Aché of Paraguay. Excluding church singing introduced by missionaries, Northern Aché adults sing alone and in a very limited number of styles. Several lines of evidence suggest that dance and infant-directed song were lost following reductions in population size that curtailed cultural complexity among the ancestors of the Northern Aché. Although our observations are consistent with a universal psychological capacity for dance and infant-directed song, they indicate a critical role of cultural transmission in supporting these behaviors while demonstrating the value of testing claims of cultural universality in remote and minimally acculturated populations.

{A reminder that "the capacity for X" does not necessarily correlate with "the universality of X".}

https://www.cell.com/current-biology/fulltext/S0960-9822(25)00447-6

Frontiers in Aging

PAPERS

DANIEL SOLOMONS et al – Right Hemisphere Engagement in Language Abilities in Older Adults: Indication of Compensation Rather Than Decline

Provisionally accepted

The final, formatted version of the article will be published soon.

Structural brain changes during aging have been used as a specific marker to distinguish normal aging from dementia. Changes in specific cognitive abilities such as episodic memory, processing speed and executive functions are seen in healthy aging. Limited evidence reports changes in linguistic functions alongside structural and functional brain changes. This study investigates correlations between language performance, grey matter volume (GMV) and neural activity in language regions, adjusted by demographic in healthy older adults.

Twenty-seven right-handed participants aged 60-87 were evaluated with overall measurement of linguistic performance with Spanish version of test ScreeLing (SCL) and phonological and semantic verbal fluency tasks (PF and SF). Participants also underwent an MRI session in which they performed a functional MRI phonological language task. T1-weighted MRI scans were used to measure GMV in specific language-related regions and were used to assess language lateralization. Correlational analyses were conducted between language scores, GMV, years of education, age, sex, and fMRI lateralization. In the right hemisphere, significant positive correlations were found between SCL scores and GMV in the orbital inferior frontal gyrus ($r = 0.5402$, $p = 0.0044$) and superior temporal gyrus ($r = 0.516$, $p = 0.007$). Furthermore, SCL and FAS scores positively correlated with years of education, indicating that higher education enhances speech performance. No significant correlations were found in the left hemisphere. Age, sex, and fMRI lateralization did not significantly correlate with specific linguistic scores.

These results challenge the current view of the role of the right hemisphere in language performance, as increased GMV in specific right hemisphere language regions are associated with better language performance, highlighting the role of right-hemispheric supporting language skills during healthy aging.

https://www.frontiersin.org/journals/aging/articles/10.3389/fragi.2025.1458692/abstract

Frontiers in Language Sciences

PAPERS

AGNÈS TRÉBUCHON et al – Exploring post-rehabilitation plasticity with intra-cerebral recordings on anomic profiles

Patients with drug-resistant epilepsy involving the language network often exhibit anomic profiles in daily life due to difficulties with lexical selection processes. Very little evidence is available regarding the effects of language rehabilitation in this population.

We aim to induce brain plasticity combined with improvements in behavioral performance using language therapy in patients with epilepsy.

We implemented a therapy focused on phonological and semantic features of infrequent words over three treatment sessions, each targeting a specific semantic category. Intracranial signals were recorded in 10 patients during baseline and post-therapy picture-naming sessions. Response times and the percentages of correct responses during naming tests were collected. Time-frequency analyses were conducted on intracranial signals, and comparisons were made between baseline and post-therapy conditions for each patient.

Half of the patients demonstrated improved naming skills following the treatment. We observed significantly different recruitment of frontotemporal areas in the left hemisphere (including Broca's area) post-therapy in patients that improved naming skills. Specifically, we found significantly different high-gamma activity in the posterior left inferior frontal gyrus 500 ms after stimulus onset in patients with improved naming skills vs. non-improved naming skills. This effect was not observed in the right hemisphere.

These findings suggest that enhanced performance following language therapy is associated with modifications in posterior left IFG activations during latencies closely tied to the lexical selection process.

https://www.frontiersin.org/journals/language-sciences/articles/10.3389/flang.2024.1434420/full

KYRIAKI NEOPHYTOU, ROBERT W. WILEY & BRENDA RAPP – Cognitive control in written word production
Cognitive control processes have been extensively studied in spoken word production, however, relevant investigations of written word production are scarce. Using data from a group of post-stroke individuals we studied, for the first time, the neural substrates of cognitive control in written word production. We addressed three questions: Are control mechanisms: (1) shared by language and non-language domains; (2) shared by lexical and segmental levels of word production within the word production system; (3) related to both interference and facilitation effect types?
To address these questions, for each participant we calculated cognitive control indices that reflected the interference and facilitation effects observed in written Blocked Cyclic Naming (written language production) and Simon (visuo-spatial processing) tasks. These behavioral cognitive control indices were studied both on their own, as well as in relation to the distribution of structural (gray matter) lesions.
For Question 1, we provide strong evidence of domain-specific control mechanisms used in written word production, as, among other findings, distinct regions within Broca's Area were associated with control in written word production vs. control in visuo-spatial processing. For Question 2, our results provide no strong evidence of shared control mechanisms for lexical and segmental levels of written word production, while they highlight the role of BA45 in instantiating control mechanisms that are specific to the two levels. For Question 3, we found evidence that BA45 supports distinct mechanisms associated with facilitation and interference, while orbital frontal cortex supports control process(es) associated with both. These findings significantly advance our understanding of the cognitive control mechanisms involved in written language production, as well as of the role of Broca's Area in cognitive control and language production more generally.
https://www.frontiersin.org/journals/language-sciences/articles/10.3389/flang.2024.1398125/full

Mind & Language

PAPERS

MIHNEA CAPRARU – Displacement and quantification without representation
Perry and Recanati have argued that thought and speech can concern entities that they do not represent. This is possible because speakers and thinkers are pragmatically situated within their environs. I argue that thought and speech can go much farther than that. Consider a semi-nomadic tribe who tell the time only by sundials, and who say such things as, “Everywhere we go, we dine at 7”. Their speech and cognition can thus transcend the local environment, and concern remote entities without the aid of either representation, or the context of utterance, or that of assessment.
https://onlinelibrary.wiley.com/doi/full/10.1111/mila.12540

GIULIA GIUNTA, DIANA MAZZARELLA & FILIPPO DOMANESCHI – Are presuppositions really misleading? Assessing the impact of linguistic encoding, at-issueness, and source reliability on epistemic vigilance
Presuppositions bypass epistemic vigilance, but it is unclear if this stems from their encoding or their not-at-issue status. In a truth-value judgment task, participants evaluated false statements from a suspect (low reliability) or a witness (high reliability), varying in linguistic encoding (presupposition vs. assertion) and at-issueness (at-issue vs. not-at-issue). False information was detected faster and more accurately when at-issue. False assertions were identified faster, while false presuppositions led to more errors when not-at-issue. The difference in response time between assertions and presuppositions was smaller for the unreliable source, suggesting that linguistic encoding and source reliability jointly influence false information detection.
https://onlinelibrary.wiley.com/doi/full/10.1111/mila.12545

Nature

REVIEWS

ANDREW ROBINSON – How the world’s largest language family spread — and why others go extinct
Three books that take on the history of languages have something for everyone.
Reviews of ‘Proto: How One Ancient Language Went Global’ by Laura Spinney, William Collins (2025); ‘The Indo-Europeans Rediscovered: How a Scientific Revolution is Rewriting their Story’ by J. P. Mallory, Thames & Hudson (2025); ‘Rare Tongues: The Secret Stories of Hidden Languages’ by Lorna Gibb, Atlantic (2025).
https://www.nature.com/articles/d41586-025-01296-5

Nature Communications

PAPERS

QI SU & ALEXANDER J. STEWART – Evolutionary dynamics of behavioral motivations for cooperation
Human decision-making is shaped by underlying motivations, which reflect both subjective well-being and fundamental biological needs. Different needs are often prioritized and traded off against one another. Here we develop a theoretical framework to study the evolution of behavioral motivations, encompassing both philanthropic (cooperating after personal needs are met) and aspirational (cooperating to fulfill personal needs) motivations. Our findings show that when the ratio of benefits to costs for cooperation exceeds a critical threshold, individuals initially driven by aspirational motivations can

transition to philanthropic motivations with a low reference point for cooperation, resulting in increased cooperation. Furthermore, the critical threshold depends on the structure of the underlying social network, with network modifications capable of reversing the evolutionary trajectory of motivations. Our results reveal the complex interplay between needs, motivations, social networks, and decision-making, offering insights into how evolution shapes not only cooperative behaviors but also the motivations behind them.
https://www.nature.com/articles/s41467-025-59366-1

Nature Scientific Reports

PAPERS

JACOB CHISAUSKY et al – A neural network model for the evolution of reconstructive social learning

Learning from others is an important adaptation. However, the evolution of social learning and its role in the spread of socially transmitted information are not well understood. Few models of social learning account for the fact that socially transmitted information must be reconstructed by the learner, based on the learner's previous knowledge and cognition. To represent the reconstructive nature of social learning, we present a modelling framework that incorporates the evolution of a neural network and a simple yet biologically realistic learning mechanism. The framework encompasses various forms of individual and social learning and allows the investigation of their interplay. Individual-based simulations reveal that an effective neural network structure rapidly evolves, leading to adaptive inborn behaviour in static environments, pure individual learning in highly variable environments, and a combination of individual and social learning in environments of intermediate stability. However, the evolutionary outcome depends strongly on the type of social learning (social guidance versus social instruction) and the order of individual and social learning. Moreover, the evolutionary dynamics of social learning can be surprisingly complex, with replicate simulations converging to alternative outcomes. We discuss the relevance of our modelling framework for cultural evolution and suggest future avenues of research.
https://www.nature.com/articles/s41598-025-97492-4

ISABELLE B. LAUMER et al with CAROLINE SCHUPPLI – Wild and zoo-housed orangutans differ in how they explore objects

In human infants, exploratory object manipulations (henceforth called "EOM") stimulate cognitive development and affect cognitive performance in later life. Zoo-housed great apes are frequently used to study the evolution of human cognition, however, it is unknown how the zoo environment affects their daily expression of EOM. We investigated how wild and zoo-housed Sumatran orangutans differ in their daily EOM throughout life. We collected ~ 12'000 EOM events by 51 wild and zoo-housed individuals of all ages. Zoo-housed orangutans showed significantly higher EOM rates than wild orangutans. Exploratory actions were more diverse in zoos than in the wild, even with objects available in both settings. Zoo-housed orangutans also showed a larger repertoire of exploratory actions and a higher probability of multi-object exploration, including tool use. There was no difference between settings at which age individuals first showed specific exploratory actions. Our results show that the zoo environment significantly affects EOM in orangutans and that the species' exploratory potential exceeds its natural expression. This may have important implications for cognitive performance, as zoo-housed individuals are likely to have a broader range of affordances to draw from when confronted with novel problems. These results highlight the potential of captive-wild comparisons to study cognitive development and evolution.
https://www.nature.com/articles/s41598-025-97926-z

VITALE STEFANO SPARACELLO et al – Projectile weapon injuries in the Riparo Tagliente burial (Veneto, Italy) provide early evidence of Late Upper Paleolithic intergroup conflict

Evidence of interpersonal violence in the Paleolithic is rare but can shed light on the presence of ancient conflict in prehistoric hunter-gatherer societies. Projectile injuries suggest confrontations between groups and have primarily been identified through lithic elements embedded in bones. Recently, the study of projectile impact marks (PIMs) has allowed for the recognition of projectile injuries in the absence of embedded elements. We report here the discovery and study of one of the earliest evidence of PIMs in human paleobiological record, found in the burial from Riparo Tagliente (individual Tagliente 1, Veneto, Italy), directly dated to ca. 17,000–15,500 cal BP. Analyses through SEM and 3D microscopy demonstrate that the femur and the tibia show clear evidence of PIMs impacting the bone from different directions. This could be due to the presence of multiple attackers, or to the victim turning between impacts. No trace of healing is present; one PIM is close to the femoral artery, which can cause a rapid death if pierced. Evidence at Riparo Tagliente could be attributed to conflict between different groups of hunter-gatherers expanding in newly opened Alpine territories during climatic amelioration after the Last Glacial Maximum.
https://www.nature.com/articles/s41598-025-94095-x

BRIONY D. PULFORD, MARTA MANGIARULO & ANDREW M. COLMAN – Confidence signalling aids deception in strategic interactions

When two people are motivated solely to coordinate their actions, but one is better informed than the other about how best to achieve this, confidence signalling can facilitate mutually rewarding choices, and the use of this so-called confidence heuristic has been confirmed in experiments using coordination games. To investigate whether confidence signalling can also

be used deceptively, we investigated behaviour in strategic games in which the better-informed player can benefit selfishly by misrepresenting confidence signals deliberately. We manipulated the relative quality of information provided to members of 55 dyads who discussed, under incomplete and asymmetric information, a series of problems in which they had to decide which of two shapes was closest in size to a target shape. Monetary incentives were structured according to the Deadlock game. We found that players with superior information felt greater confidence and attempted on a substantial minority of trials to deceive the other player, mainly by withholding the correct answer at the start of the discussion. We conclude that confidence signalling, even without lying, is sometimes used to deceive.
https://www.nature.com/articles/s41598-025-00279-w

New Scientist

ARTICLES

HELEN THOMSON – Bitter argument breaks out over controversial theory of consciousness
Research aiming to answer the great mystery of how consciousness arises is continuing to spark debate, with arguments over whether one leading idea - integrated information theory - even counts as science.
https://www.newscientist.com/article/2478564-bitter-argument-breaks-out-over-controversial-theory-of-consciousness/

LIAM DREW – Disappearing Y chromosome
The enigmatic Y chromosome has a tendency to disappear from cells with age. A better understanding of why could help men live longer and healthier lives.
https://www.newscientist.com/article/mg26635414-100-how-vanishing-y-chromosomes-could-help-explain-mens-ill-health/

Philosophical Transactions of the Royal Society B

PAPERS

ANDREW WHITEN & CHRISTIAN RUTZ – The growing methodological toolkit for identifying and studying social learning and culture in non-human animals
There is a growing consensus that animals' socially transmitted knowledge should be recognized when planning conservation management, but demonstrating social learning or culture can present considerable challenges, especially in the wild. Fortunately, decades of research have spawned a rich methodological toolkit for exactly this purpose. Here, we review principal approaches, including: social learning experiments; analyses of natural or experimentally seeded diffusions of novel behaviours, sometimes using specialist statistical techniques; mapping of behavioural variation across neighbouring, sympatric or captive groups, or at larger scales; and assessment of aspects of cross-generational transmission, including teaching, learning during ontogenetic development and cumulative change. Some methods reviewed were developed for captive studies, but have subsequently been adapted for application in the wild, or are useful for exploring a species' general propensity to learn and transmit information socially. We highlight several emerging 'rapid assessment' approaches—including camera trapping, passive acoustic monitoring, animal-borne tags, AI-assisted data mining and computer simulations—that should prove useful in addressing particularly urgent conservation needs. We conclude by considering how best to use this growing methodological toolkit in practice, to guide further research on animal social learning and cultures, and maximize conservation and policy impact.
https://royalsocietypublishing.org/doi/full/10.1098/rstb.2024.0140

ERIN G. WESSLING et al with ANDREW WHITEN, CATHERINE HOBAITER & CRICKETTE SANZ – Concerted conservation actions to support chimpanzee cultures
Chimpanzees were among the first animals recognized to have culture, and our understanding of the breadth of their cultural repertoire has grown significantly since the 1960s. Throughout their range, chimpanzee populations have come under increasing pressure, with their endangered status necessitating immediate and long-term conservation interventions. Recognizing the importance of diverse behavioural repertoires for chimpanzees' survival, there has been a recent focus of conservation efforts on preserving their culturally transmitted behaviours and the environments in which they are exhibited. This article evaluates the practicality of developing conservation measures focused on chimpanzee culture. We highlight innovative conservation strategies aimed at integrating chimpanzee cultural behaviours into conservation policies. We review synergistic conservation initiatives led by the International Union for Conservation of Nature, the UN Convention on the Conservation of Migratory Species of Wild Animals and other international and local groups that share the goal of preserving chimpanzee populations and their cultural diversity. We underline how successful conservation implementation requires engagement and collaboration with a diverse group of interested or affected people. Finally, we provide recommendations aimed at guiding future efforts to incorporate animal cultures into conservation strategies.
https://royalsocietypublishing.org/doi/full/10.1098/rstb.2024.0143

LUCY BATES et al with JOSHUA PLOTNIK – Knowledge transmission, culture and the consequences of social disruption in wild elephants

Cultural knowledge is widely presumed to be important for elephants. In all three elephant species, individuals tend to congregate around older conspecifics, creating opportunities for social transmission. However, direct evidence of social learning and cultural traditions in elephants is scarce. Here, we briefly outline that evidence then provide a systematic review of how elephant societies respond to the loss of potentially knowledgeable individuals or opportunities for knowledge transfer, which we characterize as social disruption. We consider observations from 95 peer-reviewed, primary research papers that describe disruption to elephant societies or networks via the removal or death of individuals. Natural deaths were mentioned in 14 papers, while 70 detailed human-caused deaths or disruption. Grouping descriptions according to consequences for behaviour and sociality, and demography and fitness, we show that severely disrupted populations are less cohesive, may exhibit reduced fitness or calf survival and respond inappropriately to threats and predators. We suggest that severe social disruption can inhibit or break potential pathways of information transmission, providing indirect evidence for the role of social transmission in elephants. This has implications for elephant conservation amid increasing anthropogenic change across their habitats.
https://royalsocietypublishing.org/doi/full/10.1098/rstb.2024.0132

TAYLOR A. HERSH et al – Ecology and conservation of socially learned foraging tactics in odontocetes

Culture—group-typical behaviour shared by community members that rely on socially learned and transmitted information—can drive animal adaptations to local environments and thus has the potential of generating specialized behavioural tactics to solve fundamental life challenges, including capturing prey. However, as human activities rapidly change the world in unprecedented ways, animal foraging cultures may no longer represent optimal solutions to local environments. Odontocetes (toothed whales, dolphins and porpoises) are of particular concern because they rely on learned, specialized foraging tactics in habitats highly affected by human activities. We present a global inventory of odontocete foraging tactics to evaluate their cultural underpinnings, vulnerability to human-induced threats and how this knowledge can inform safeguards. Our synthesis reveals a diverse repertoire—190 cases of 36 foraging tactics in 21 species—but highlights that linkages between culture and anthropogenic impacts are generally obscured by a dearth of data on individual identity, social associations and behavioural diffusion. By identifying global patterns, knowledge gaps and common threats to specialized foraging, our review can guide long-term research towards understanding their ecological and evolutionary drivers. This crucial first step towards designing policies that mitigate human impacts on marine habitats may ultimately protect the diverse odontocete behavioural repertoires that contribute to their survival.
https://royalsocietypublishing.org/doi/full/10.1098/rstb.2024.0134

JOSH J. ARBON et al – The flexibility of social learning and its conservation implications in mammals and beyond

Conservation strategies seek to ensure that populations persist and are resilient to environmental change. As learning from others can shape the development of skills that help animals survive, reproduce and respond to changing conditions, understanding social learning can be of crucial conservation importance. Research on mammals, with their great diversity of niches and social systems, provides vital evidence that social learning helps animals to communicate, secure mates, avoid predators, forage effectively and navigate through their ecological and social environments. However, these environments are being rapidly altered in the Anthropocene, influencing individuals' reliance on social learning, the value of learned information, its spread through groups and the stability of socially learned traditions. Here, we review and synthesize this growing body of literature to highlight how understanding the ways in which animals use social learning and deploy it flexibly throughout their lives may enhance conservation programmes. We consider both the potential negative consequences of social learning and the scope for social-learning-driven interventions to generate adaptive responses to the challenges of rapidly changing environments. A greater appreciation and integration of social learning and its flexibility will ultimately promote the effective conservation of mammals and other taxa in our fast-changing world.
https://royalsocietypublishing.org/doi/full/10.1098/rstb.2024.0136

PLoS One

PAPERS

DOUG JONES – Extraordinary siblings: Mole rats, marmosets, and Radcliffe-Brown

According to the theory of kin selection, an organism that shows some level of altruism toward her kin – lowering her own fitness, raising that of a close genetic relative – may enjoy an evolutionary advantage. Some species show beyond-ordinary altruism toward siblings, and other kin, owing to unusual reproductive biology and/or ecology. Human beings are exceptional in another way: how we treat our kin depends partly on how we feel about them, but also partly on socially enforced norms. This article explores several versions of a simple evolutionary game, the Brothers Karamazov Game, that departs from the standard theory of kin selection to allow for the distinctively human capacity for establishing and enforcing social norms. We discuss possible applications to understanding the "unity of the sibling group" (Radcliffe-Brown) – according exceptional treatment to siblings, and to relatives classified as siblings or linked through siblings. We give special attention to lowland South America, where the sibling relationship is central to social organization.
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0319385

Proceedings of the Royal Society B

PAPERS

AKIKO MATSUMOTO-ODA et al – Inter-species differences in wound-healing rate: a comparative study involving primates and rodents

Injuries, which affect survival and biological functioning, are common in the animal kingdom. This study systematically investigated whether the slow wound healing observed in humans is a unique characteristic within the primate order. First, we found no significant difference in wound-healing rates between baboons under experimental conditions and those in their natural environment (0.613 mm d−1). Second, comparisons among four non-human primates (velvet monkeys, Sykes' monkeys, baboons and chimpanzees) revealed no significant differences in wound-healing rates. Furthermore, these rates showed no significant differences compared to those observed in rodents, suggesting a potential commonality in wound-healing rates across diverse animal species. In contrast, human wound-healing rates were found to be markedly slower (0.25 mm d−1), approximately three times slower than those observed in non-human primates. This finding indicates that the slow wound healing observed in humans is not a common characteristic among primate order and highlights the possibility of evolutionary adaptations in humans. Understanding these inter-species differences in wound-healing rates may provide valuable insights into the evolutionary implications of wound healing. This study also underscores the need for further research into the biological processes underlying wound healing in various species.
https://royalsocietypublishing.org/doi/10.1098/rspb.2025.0233

Trends in Cognitive Sciences

PAPERS

GERBEN A. VAN KLEEF – Understanding (and counteracting) the appeal of transgressive leaders

Transgressive leaders enjoy growing popularity. Synthesizing recent evidence, I propose that (i) such leaders are appealing not despite their transgressive behavior, but because of it, and (ii) this appeal hinges on perceived benefits emanating from their transgressions. This analysis points to new strategies for curtailing transgressive leaders.

{As far as I can see, transgressive leaders are not a novel phenomenon, they have occurred regularly throughout history. They are a constant component of political renewal. When they are innovatory and productive they are a Good Thing, like Franklin D. Roosevelt; when, like Trump, they appeal to a real or imagined past glory they are just adding to the trash heap of history. Mostly they are a mixture of innovation and misanthropy, like Oliver Cromwell. The solutions offered by van Kleef miss one important strategy that, in the end, always works: just live through them. Trump has offered his cadre a hundred days of "move fast and break things". This, inevitably, must be followed by a hundred days of trying to clear up the mess made – which cannot happen because Trump has removed not just the levers of government, he has wrecked the whole machine. So, there will then be a third hundred days where he will try to blame everything on others – probably mostly on Biden. It's another example of the dictator-in-the-bunker syndrome: Confusion, Chaos, Recrimination. Having achieved all three, his work will be done.}

https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(25)00085-3

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.