EAORC BULLETIN 917 – 10 January 2021

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EAORC NOTICES

PUBLICATION ALERTS

If you have had a paper or book published, or you see something which would be of interest to the group, do 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, do let me know.
And if you have any other ideas for extending the "EAORC experience", please contact me.

THOUGHTS – JIM TOLLER – Some Stray Thoughts about Academic Publishing

{Many thanks to Jim for this thoughtful response to my piece on academic publishing.}

These prompted by a note about academic publishing by Martin Edwardes in the 15th November number of his bulletin. I write as an independent consumer (rather than a producer), without academic affiliation or access. Once an IT flavoured civil servant.

I find that I can get free copies of most of the papers that look interesting to me that are advertised in the EAORC bulletin. Quite a few of those come from ResearchGate, presumably put there by authors keen to promote their work. Some come from PLOS. This is also true of most of the papers that come to my notice by other means, for example a reference in a paper that I have already got hold of or an article in the Guardian or the Financial Times. Google is rather more helpful in this regard than Bing. Search terms like 'Evidence for an effector-independent action system from people born without hands - Y. Liu, G. Vannuscorps, A. Caramazza, E. Striem-Amit – 2020' usually work.

One might think that it helps that there is little or no commercial interest in the work on consciousness which interests me, so little point in strong paywalls. Which may be true, but I have sometimes found it hard to get hold of free copies of papers by arty academics, where one might think that the commercial interest was zero. Perhaps the open science movement has not yet reached arty academics.

In the few cases where I want something enough to be prepared to pay for it, I don't mind the £10 or so which some sites charge. But I do mind the £35 or more which Elsevier – among others – charges.

Once I went to the length of buying a day ticket to the library at UCL – that is to say a good deal less than £35. This seemed to provide access to almost anything one might want, with access including download and telephone photography.

The triage process described in the present note is important to me. I am unlikely to get to read a paper which is badly titled or abstracted, however worthy it might otherwise be. It may well be true that standards are slipping in this department – but suppliers beware: laziness here will cost you customers. I would not have thought that word of mouth cuts it these days. All that said, suppliers with established reputations can probably get away with more than others – at least while their reputations last.

The quality control provided by peer review is also important to me. And publication by a reputable journal is a convenient peg on which to hang that review – regardless of whether the journal is pay to publish or pay to read. Although I wonder how reviewers find the time, as I would have thought that a conscientious review takes rather a lot of it.

Perhaps more important than ever given the range of expertise involved in many papers these days – a range with which most individuals cannot cope and so need, up to a point anyway, to be able to take stuff on trust. The trust provided by a proper journal with a proper editorial and peer review processes.

From where I jump to a memory of reading something to the effect that at the big ring in France – ITER – they go in for having everybody put their names to every paper, recognising the departmental, the collective nature of the effort there. Very democratic! But that is another story.

I have also read or been told many times that the sheer volume of academic publishing is growing rapidly. As is, presumably, the number of academics. So getting the right papers to the right people is much more of a problem than it was, a problem which is not yet magic'd away by Internet search engines, be they ever so clever. Nor, I imagine, by networking among academics, networking which is both time consuming and expensive.

One sort of answer for me is provided by Wikipedia, where the better articles include lots of references. Another sort of answer is provided by review articles – which I come across from time to time, but have not tried to look for. Yet another sort of answer is provided by the likes of the EAORC bulletin. I have no idea how many enterprises of this sort there might be, but I do remember from the world of work, when Internet search engines were just starting out, that it was possible to buy vaguely similar services from outfits like the BBC. You told them what it was you were interested in and they provided you,

for a fee, with what I think is called a press clippings service. In this case delivered through a search interface. Maybe Bloomberg and Reuters have similar offerings.
Another is the push-service provided by Academia. Push in the sense that, rather just store the stuff, they push it out based on what you have used them for in the past. I get quite a lot of emails from them, perhaps one a day, some trying to get me to part with money, some advertising a free copy of something they think I might be interested in. Some of the papers advertised look to come from the outer fringes.
And both ResearchGate and PLOS provide search facilities for their repositories, although I don't use either. Don't know why. I imagine that plenty of academics have ruminated on this sort of thing before. But I haven't tried to look them up.

Jim Toller, 9th January, 2021.
P.S. I do remember when rather young, that is to say more than fifty years ago, being told by a neighbour, a don at Cambridge, that he was writing a paper about how to write papers. Something that he felt students of science needed to be told about. Not quite the same problem, but a relative at the very least.
References
Reference 1: https://www.iter.org/.

ACADEMIA.EDU – Review of the Summer Institute in Cognitive Sciences 2010

Biolinguistics 4.4: 385-402, 2010.

TAO GONG et al – Review of the Summer Institute in Cognitive Sciences 2010: The Origins of Language

During the last two weeks of June, the Faculty of Social Science and Humanities at the Université du Québec à Montréal (UQÀM) organized the Summer Institute in Cognitive Sciences 2010 (UQÀM 2010, 21–30 June 2010). This year's topic was "the hardest problem in science" (Christiansen & Kirby 2003a) — the origins of language. Language origin refers to the phylogenetic process whereby Homo sapiens made the transition from a pre-linguistic communication system to a communication system with languages of the sort we use today (Wang 1978, Gong 2009). Questions concerning when, where, and how human language (henceforth, simply 'language') originated and evolved belong to the realm of evolutionary linguistics (Ke & Holland 2006, Hauser et al. 2007). This field has now become resurgent as a scientific and collaborative beacon for research (Oudeyer 2006), as shown by many anthologies and reviews; see, among others, Harnad et al. (1976), Wang (1991), Hurford et al. (1998), Briscoe (2002), Wray (2002b), Christiansen & Kirby (2003a, 2003b), Cangelosi et al. (2006), Smith et al. (2008), Bickerton & Szathmáry (2009), Larson et al. (2009), and Smith et al. (2010).
https://www.academia.edu/1146501/Review_of_the_Summer_Institute_in_Cognitive_Sciences_2010_The_Origins_of_Language

NEWS

JSTOR NEWS – The Hidden Meaning of a Notorious Experiment

In Stanley Milgram's studies of obedience, people believed they were giving shocks to others. But did their compliance say much about the Nazis?
https://daily.jstor.org/the-hidden-meaning-of-a-notorious-experiment/?utm_term=The%20Hidden%20Meaning%20of%20a%20Notorious%20Experiment&utm_campaign=jstordaily_01072021&utm_content=email&utm_source=Act-On+Software&utm_medium=email

LIVESCIENCE – No longer included in the Bulletin

I am terminating the checking of this website because it seems to have become an online supplement to the Fortean Times. There are still some good science articles, but they are being compromised by the emphasis on UFOs and other weird science.

SCIAM NEWS – Brain Sides Are Both Busy in New Language Learning

A study of adults learning a new language found that speaking primarily activated regions in the left side of the brain, but reading and listening comprehension were much more variable.
https://www.scientificamerican.com/podcast/episode/brain-sides-are-both-busy-in-new-language-learning/

SCIENCE DAILY – Guinea baboons grunt with an accent

Vocal learning leads to modification of call structure in a multi-level baboon society.
https://www.sciencedaily.com/releases/2021/01/210106115723.htm

SCIENCE DAILY – Ineffective 'learning styles' theory persists in education

A new review by Swansea University reveals there is widespread belief, around the world, in a teaching method that is not only ineffective but may actually be harmful to learners. For decades educators have been advised to match their teaching to the supposed 'learning styles' of students. However, a new paper by Professor Phil Newton, of Swansea University Medical

School, highlights that this ineffective approach is still believed by teachers and calls for a more evidence-based approach to teacher-training.
https://www.sciencedaily.com/releases/2021/01/210106111959.htm

SCIENCE DAILY – Oldest hominins of Olduvai Gorge persisted across changing environments

Olduvai (now Oldupai) Gorge, known as the Cradle of Humankind, is a UNESCO World Heritage site in Tanzania, made famous by Louis and Mary Leakey. New interdisciplinary field work has led to the discovery of the oldest archaeological site in Oldupai Gorge, which shows that early human used a wide diversity of habitats amidst environmental changes across a 200,000 year-long period.
https://www.sciencedaily.com/releases/2021/01/210107083754.htm

SCIENCE DAILY – We hear what we expect to hear

Neuroscientists show that the entire auditory pathway represents sounds according to prior expectations.
https://www.sciencedaily.com/releases/2021/01/210108120110.htm

SCIENCE NEWS – Cuttlefish think ahead, 'marshmallow test' reveals

Eat one marshmallow now—or wait a few minutes and get two? This famous behavioral test is supposed to distinguish between impulsive children and those more likely to think through their actions—and thus, do better in academic life. Now, scientists have given a similar test to cuttlefish, The New York Times reports. Replacing the marshmallow with a shrimp, researchers gave the mollusks the option to eat two shrimp now—or eat one shrimp with the promise of an extra reward. Most of the cuttlefish chose the latter, researchers report in Royal Society Open Science. The find suggests that—like people—these mollusks can delay gratification if they think it will pay off in the long run.
https://www.sciencemag.org/news/2021/01/cuttlefish-think-ahead-marshmallow-test-reveals?utm_campaign=news_daily_2021-01-06&et_rid=17774313&et_cid=3621404

SCIENCE NEWS – Newfound brain structure explains why some birds are smart—and maybe self-aware

Never before has "bird brain" been such a compliment: In recent years, birds have been found to make tools, understand abstract concepts, and even recognize paintings by Monet and Picasso. But their lack of a neocortex—the area of the mammalian brain where working memory, planning, and problem solving happen—has long puzzled scientists. Now, researchers have found a previously unknown arrangement of microcircuits in the avian brain that may be analogous to the mammalian neocortex. And in a separate study, other researchers have linked this same region to conscious thought.
https://www.sciencemag.org/news/2020/09/newfound-brain-structure-explains-why-some-birds-are-so-smart-and-maybe-even-self-aware?utm_campaign=SciMag&utm_source=JHubbard&utm_medium=Facebook

SOCIETY FOR SCIENCE – Ice Age hunters' leftovers may have fueled dog domestication

Ancient people tamed wolves by feeding them surplus game, researchers suggest.
http://click.societyforscience-email.com/?qs=f727dec115f35ed5f4f8693f8319d7c81fb1479b3388693e36a4a8bb2f62c33eac60dc4cee78c52258581f63a8ff6afc105c789751dd76e5

PUBLICATIONS

Current Anthropology

COMMENTARIES

ROB WISEMAN – Embodied Simulation, Conceptual Metaphor, and Archaeological Interpretation: A Reply to Gibbs

When I wrote my analysis of van Gennep's rites of passage (Wiseman 2019), I introduced conceptual metaphor theory (CMT) to expose the conceptual foundations on which this class of rituals is built. Metaphors are pervasive in the formation of concepts, so analyzing them provides rich insights into people's thought processes, both past and present. However, CMT has seen little use in archaeology and, indeed, fairly limited application in anthropology at large. Although my article included an annex on identifying conceptual metaphors in the archaeological record, the treatment was brief and discussed only some of the surface layers of this theory. Here Gibbs (2020) exposes much deeper strata. "Embodied simulation" is one of the basic ways humans think and the foundation on which many conceptual metaphors are built.
https://www.journals.uchicago.edu/doi/abs/10.1086/711909

Mind & Language

PAPERS

JOE DEWHURST & CHRISTOPHER BURR – Normative folk psychology and decision theory

Our aim in this paper is to explore two possible directions of interaction between normative folk psychology and decision theory. In one direction, folk psychology plays a regulative role that constrains practical decision-making. In the other

direction, decision theory provides novel tools and norms that shape folk psychology. We argue that these interactions could lead to the emergence of an iterative "decision theoretic spiral," where folk psychology influences decision-making, decision-making is studied by decision theory, and decision theory influences folk psychology. Understanding these interactions is important both for the theoretical study of social cognition and decision theory, and also for thinking about how to implement practical interventions into real-world decision-making.
https://onlinelibrary.wiley.com/doi/full/10.1111/mila.12347?campaign=wolearlyview

ANDREW BUSKELL – Cumulative culture and complex cultural traditions
Cumulative cultural evolution is often claimed to be distinctive of human culture. Such claims are typically supported with examples of complex and historically late-appearing technologies. Yet by taking these as paradigm cases, researchers unhelpfully lump together different ways that culture accumulates. This article has two aims: (a) to distinguish four types of cultural accumulation: adaptiveness, complexity, efficiency, and disparity and (b) to highlight the epistemic implications of taking complex hominin technologies as paradigmatic instances of cumulative culture. Addressing these issues both clarifies the cumulative culture concept and demonstrates the importance of further cumulative culture research into non-human animals and ancestral hominins.
https://onlinelibrary.wiley.com/doi/full/10.1111/mila.12335?campaign=wolearlyview

ERICH RAST – The theory theory of metalinguistic disputes
According to the theory theory of metalinguistic disputes, disagreements in metalinguistic disputes are based on diverging underlying theories, opinions, or world views. An adequate description of metalinguistic disagreement needs to consider the compatibility and topics of such theories. Although topic continuity can be spelled out in terms of measurement operations, it is argued that even metalinguistic disputes about a term used in different, mutually compatible theories can be substantive because the dispute is indirectly about the virtues of the underlying theories. The account is defended against externalist and holist objections.
https://onlinelibrary.wiley.com/doi/abs/10.1111/mila.12355?campaign=wolearlyview

SARAH ARNAUD – Self-consciousness in autism: A third-person perspective on the self
This paper suggests that autistic people relate to themselves via a third-person perspective, an objective and explicit mode of access, while neurotypical people tend to access the different dimensions of their self through a first-person perspective. This approach sheds light on autistic traits involving interactions with others, usage of narratives, sensitivity and interoception, and emotional consciousness. Autistic people seem to access these dimensions through comparatively indirect and effortful processes, while neurotypical development enables a more intuitive sense of self.
https://onlinelibrary.wiley.com/doi/abs/10.1111/mila.12356?campaign=wolearlyview

JAKE QUILTY-DUNN – Polysemy and thought: Toward a generative theory of concepts
Most theories of concepts take concepts to be structured bodies of information used in categorization and inference. This paper argues for a version of atomism, on which concepts are unstructured symbols. However, traditional Fodorian atomism is falsified by polysemy and fails to provide an account of how concepts figure in cognition. This paper argues that concepts are generative pointers, that is, unstructured symbols that point to memory locations where cognitively useful bodies of information are stored and can be deployed to resolve polysemy. The notion of generative pointers allows for unresolved ambiguity in thought and provides a basis for conceptual engineering.
https://onlinelibrary.wiley.com/doi/full/10.1111/mila.12328?campaign=wolearlyview

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Nature Communications

PAPERS

JULIO MERCADER et al with MICHAEL PETRAGLIA – Earliest Olduvai hominins exploited unstable environments ~ 2 million years ago
Rapid environmental change is a catalyst for human evolution, driving dietary innovations, habitat diversification, and dispersal. However, there is a dearth of information to assess hominin adaptions to changing physiography during key evolutionary stages such as the early Pleistocene. Here we report a multiproxy dataset from Ewass Oldupa, in the Western Plio-Pleistocene rift basin of Olduvai Gorge (now Oldupai), Tanzania, to address this lacuna and offer an ecological perspective on human adaptability two million years ago. Oldupai's earliest hominins sequentially inhabited the floodplains of sinuous channels, then river-influenced contexts, which now comprises the oldest palaeolake setting documented regionally. Early Oldowan tools reveal a homogenous technology to utilise diverse, rapidly changing environments that ranged from fern meadows to woodland mosaics, naturally burned landscapes, to lakeside woodland/palm groves as well as hyper-xeric steppes. Hominins periodically used emerging landscapes and disturbance biomes multiple times over 235,000 years, thus predating by more than 180,000 years the earliest known hominins and Oldowan industries from the Eastern side of the basin.
https://www.nature.com/articles/s41467-020-20176-2

CÉLINE AMIEZ et al – Chimpanzee histology and functional brain imaging show that the paracingulate sulcus is not human-specific
The paracingulate sulcus -PCGS- has been considered for a long time to be specific to the human brain. Its presence/absence has been discussed in relation to interindividual variability of personality traits and cognitive abilities. Recently, a putative PCGS has been observed in chimpanzee brains. To demonstrate that this newly discovered sulcus is the homologue of the PCGS in the human brain, we analyzed cytoarchitectonic and resting-state functional magnetic resonance imaging data in chimpanzee brains which did or did not display a PCGS. The results show that the organization of the mid-cingulate cortex of the chimpanzee brain is comparable to that of the human brain, both cytoarchitectonically and in terms of functional connectivity with the lateral frontal cortex. These results demonstrate that the PCGS is not human-specific but is a shared feature of the primate brain since at least the last common ancestor to humans and great apes ~6 mya.
https://www.nature.com/articles/s42003-020-01571-3

Nature Ecology & Evolution

ARTICLES

RICHARD POTTS – Microevolution in our megadont relative
Cranial variation in South African specimens of Paranthropus robustus illustrate temporal changes that suggest how the morphology of this hominin fossil species related to its palaeoenvironment and microevolutionary processes.
https://www.nature.com/articles/s41559-020-01339-2

PAPERS

JESSE M. MARTIN et al – Drimolen cranium DNH 155 documents microevolution in an early hominin species
Paranthropus robustus is a small-brained extinct hominin from South Africa characterized by derived, robust craniodental morphology. The most complete known skull of this species is DNH 7 from Drimolen Main Quarry, which differs from P. robustus specimens recovered elsewhere in ways attributed to sexual dimorphism. Here, we describe a new fossil specimen from Drimolen Main Quarry, dated from approximately 2.04–1.95 million years ago, that challenges this view. DNH 155 is a well-preserved adult male cranium that shares with DNH 7 a suite of primitive and derived features unlike those seen in adult P. robustus specimens from other chronologically younger deposits. This refutes existing hypotheses linking sexual dimorphism, ontogeny and social behaviour within this taxon, and clarifies hypotheses concerning hominin phylogeny. We document small-scale morphological changes in P. robustus associated with ecological change within a short time frame and restricted geography. This represents the most highly resolved evidence yet of microevolutionary change within an early hominin species.
https://www.nature.com/articles/s41559-020-01319-6

Nature Human Behaviour

PAPERS

KIRAN BASAVA, HANZHI ZHANG & RUTH MACE – A phylogenetic analysis of revolution and afterlife beliefs
Beliefs about the fate of humanity and the soul after death may structure behaviours of religious groups. Here we test theories from religious studies: that belief in an imminent apocalypse co-evolved with and facilitated revolutionary violence, whereas belief in reincarnation caused people to acquiesce to existing social orders and withdraw from political activism. We test these hypotheses by building a cultural phylogeny of historical Islamic sects and schools from the seventh to twentieth centuries and use phylogenetic comparative methods to show that these two types of belief display distinct relationships with intergroup violence. There is substantial evidence that apocalyptic beliefs co-evolved with revolutionary violence, whereas reincarnation beliefs were evolutionarily stable in peaceful groups. In both cases, violence precedes the emergence of beliefs, which suggests that conditions that generate revolutionary violence changed beliefs rather than beliefs generating violence. We also found that apocalyptic beliefs are associated with accelerated group extinction, although causal relationships cannot be determined.
https://www.nature.com/articles/s41562-020-01013-4

BRIAN M. WOOD et al – Gendered movement ecology and landscape use in Hadza hunter-gatherers
Understanding how gendered economic roles structure space use is critical to evolutionary models of foraging behaviour, social organization and cognition. Here, we examine hunter-gatherer spatial behaviour on a very large scale, using GPS devices worn by Hadza foragers to record 2,078 person-days of movement. Theory in movement ecology suggests that the density and mobility of targeted foods should predict spatial behaviour and that strong gender differences should arise in a hunter-gatherer context. As predicted, we find that men walked further per day, explored more land, followed more sinuous paths and were more likely to be alone. These data are consistent with the ecology of male- and female-targeted foods and suggest that male landscape use is more navigationally challenging in this hunter-gatherer context. Comparisons of Hadza space use with space use data available for non-human primates suggest that the sexual division of labour likely co-evolved with increased sex differences in spatial behaviour and landscape use.
https://www.nature.com/articles/s41562-020-01002-7

OZAN ISLER, ONURCAN YILMAZ & A. JOHN MAULE – Religion, parochialism and intuitive cooperation
Religions promote cooperation, but they can also be divisive. Is religious cooperation intuitively parochial against atheists? Evidence supporting the social heuristics hypothesis (SHH) suggests that cooperation is intuitive, independent of religious group identity. We tested this prediction in a one-shot prisoner's dilemma game, where 1,280 practising Christian believers were paired with either a coreligionist or an atheist and where time limits were used to increase reliance on either intuitive or deliberated decisions. We explored another dual-process account of cooperation, the self-control account (SCA), which suggests that visceral reactions tend to be selfish and that cooperation requires deliberation. We found evidence for religious parochialism but no support for SHH's prediction of intuitive cooperation. Consistent with SCA but requiring confirmation in future studies, exploratory analyses showed that religious parochialism involves decision conflict and concern for strong reciprocity and that deliberation promotes cooperation independent of religious group identity.
https://www.nature.com/articles/s41562-020-01014-3

Nature Scientific Reports

PAPERS

MARIA LAHTINEN et al – Excess protein enabled dog domestication during severe Ice Age winters
Dogs (Canis familiaris) are the first animals to be domesticated by humans and the only ones domesticated by mobile hunter-gatherers. Wolves and humans were both persistent, pack hunters of large prey. They were species competing over resources in partially overlapping ecological niches and capable of killing each other. How could humans possibly have domesticated a competitive species? Here we present a new hypothesis based on food/resource partitioning between humans and incipient domesticated wolves/dogs. Humans are not fully adapted to a carnivorous diet; human consumption of meat is limited by the liver's capacity to metabolize protein. Contrary to humans, wolves can thrive on lean meat for months. We present here data showing that all the Pleistocene archeological sites with dog or incipient dog remains are from areas that were analogous to subarctic and arctic environments. Our calculations show that during harsh winters, when game is lean and devoid of fat, Late Pleistocene hunters-gatherers in Eurasia would have a surplus of animal derived protein that could have been shared with incipient dogs. Our partitioning theory explains how competition may have been ameliorated during the initial phase of dog domestication. Following this initial period, incipient dogs would have become docile, being utilized in a multitude of ways such as hunting companions, beasts of burden and guards as well as going through many similar evolutionary changes as humans.
https://www.nature.com/articles/s41598-020-78214-4

ESTI BLANCO-ELORRIETA et al – Adaptation to mis-pronounced speech: evidence for a prefrontal-cortex repair mechanism
Speech is a complex and ambiguous acoustic signal that varies significantly within and across speakers. Despite the processing challenge that such variability poses, humans adapt to systematic variations in pronunciation rapidly. The goal of this study is to uncover the neurobiological bases of the attunement process that enables such fluent comprehension. Twenty-four native English participants listened to words spoken by a "canonical" American speaker and two non-canonical speakers, and performed a word-picture matching task, while magnetoencephalography was recorded. Non-canonical speech was created by including systematic phonological substitutions within the word (e.g. [s] → [sh]). Activity in the auditory cortex (superior temporal gyrus) was greater in response to substituted phonemes, and, critically, this was not attenuated by exposure. By contrast, prefrontal regions showed an interaction between the presence of a substitution and the amount of exposure: activity decreased for canonical speech over time, whereas responses to non-canonical speech remained consistently elevated. Grainger causality analyses further revealed that prefrontal responses serve to modulate activity in auditory regions, suggesting the recruitment of top-down processing to decode non-canonical pronunciations. In sum, our results suggest that the behavioural deficit in processing mispronounced phonemes may be due to a disruption to the typical exchange of information between the prefrontal and auditory cortices as observed for canonical speech.
https://www.nature.com/articles/s41598-020-79640-0

F. ERBS et al – Contribution to unravel variability in bowhead whale songs and better understand its ecological significance
Since the first studies on bowhead whale singing behaviour, song variations have been consistently reported. However, there has been little discussion regarding variability in bowhead whale singing display and its ecological significance. Unlike the better studied humpback whales, bowhead whales do not appear to share songs at population level, but several studies have reported song sharing within clusters of animals. Over the winter season 2013–2014, in an unstudied wintering ground off Northeast Greenland, 13 song groups sharing similar hierarchical structure and units were identified. Unit types were assessed through multidimensional maps, showing well separated clusters corresponding to manually labelled units, and revealing the presence of unit subtypes. Units presented contrasting levels of variability over their acoustic parameters, suggesting that bowhead whales keep consistency in some units while using a continuum in values of frequency, duration and modulation parameters for other unit types. Those findings emphasise the need to account for variability in song analysis to better understand the behavioural ecology of this endangered species. Additionally, shifting from song toward units or phrase-based analysis, as it has been suggested for humpback whales, offers the opportunity to identify and track similarities in songs over temporal and geographical scales relevant to population monitoring.

https://www.nature.com/articles/s41598-020-80220-5

ABHISHEK UDAY PATIL et al – Static and dynamic functional connectivity supports the configuration of brain networks associated with creative cognition

Creative cognition is recognized to involve the integration of multiple spontaneous cognitive processes and is manifested as complex networks within and between the distributed brain regions. We propose that the processing of creative cognition involves the static and dynamic re-configuration of brain networks associated with complex cognitive processes. We applied the sliding-window approach followed by a community detection algorithm and novel measures of network flexibility on the blood-oxygen level dependent (BOLD) signal of 8 major functional brain networks to reveal static and dynamic alterations in the network reconfiguration during creative cognition using functional magnetic resonance imaging (fMRI). Our results demonstrate the temporal connectivity of the dynamic large-scale creative networks between default mode network (DMN), salience network, and cerebellar network during creative cognition, and advance our understanding of the network neuroscience of creative cognition.

https://www.nature.com/articles/s41598-020-80293-2

New Scientist

NEWS

Ancient human remains hint at undiscovered species

A haul of more than 100 ancient human bones found in a cave in South Africa may belong to a previously undiscovered human species.

http://click.e.newscientist.com/?qs=1b0c126c6f615854a21875f7af98b03f93576c0b170aed657a963441ae7f42460a8c0b1a8fcbcaa8c64e6763f1604ac312325af801333a4a

PLoS One

PAPERS

AMAIA ALBIZUA et al – Social networks influence farming practices and agrarian sustainability

The social-ecological effects of agricultural intensification are complex. We explore farmers' perceptions about the impacts of their land management and the impact of social information flows on their management through a case study in a farming community in Navarra, Spain, that is undergoing agricultural intensification due to adoption of large scale irrigation. We found that modern technology adopters are aware that their management practices often have negative social-ecological implications; by contrast, more traditional farmers tend to recognize their positive impacts on non-material benefits such as those linked with traditions and traditional knowledge, and climate regulation. We found that farmers' awareness about nature contributions to people co-production and their land management decisions determine, in part, the structure of the social networks among the farming community. Since modern farmers are at the core of the social network, they are better able to control the information flow within the community. This has important implications, such as the fact that the traditional farmers, who are more aware of their impacts on the environment, rely on information controlled by more intensive modern farmers, potentially jeopardizing sustainable practices in this region. We suggest that this might be counteracted by helping traditional farmers obtain information tailored to their practices from outside the social network.

https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0244619

PNAS

PAPERS

MATTHEW N. ZIPPLE et al with ELIZABETH V. LONSDORF – Maternal death and offspring fitness in multiple wild primates

Primate offspring often depend on their mothers well beyond the age of weaning, and offspring that experience maternal death in early life can suffer substantial reductions in fitness across the life span. Here, we leverage data from eight wild primate populations (seven species) to examine two underappreciated pathways linking early maternal death and offspring fitness that are distinct from direct effects of orphaning on offspring survival. First, we show that, for five of the seven species, offspring face reduced survival during the years immediately preceding maternal death, while the mother is still alive. Second, we identify an intergenerational effect of early maternal loss in three species (muriquis, baboons, and blue monkeys), such that early maternal death experienced in one generation leads to reduced offspring survival in the next. Our results have important implications for the evolution of slow life histories in primates, as they suggest that maternal condition and survival are more important for offspring fitness than previously realized.

https://www.pnas.org/content/118/1/e2015317118.abstract?etoc

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