

CONTENTS

NOTICES	2
PUBLICATION ALERTS.....	2
LIFE IN THE SLOW LANE.....	2
SOCIETY FOR SCIENCE – New Guinea's Neolithic period may have started without outside help.....	2
BREAKING SCIENCE – Diet of Figueira Brava Neanderthals Was Rich in Seafood, Archaeologists Say.....	2
SCIENCE DAILY – How squid communicate in the dark.....	2
SCIENCE DAILY – Brain mapping study suggests motor regions for hand also connect to entire body.....	3
SCIENCE DAILY – Neanderthals ate mussels, fish, and seals too.....	3
SCIENCE DAILY – How cognitive intelligence is a whole brain phenomenon.....	3
NATURE BRIEFING – Neanderthals loved a fish supper.....	3
OTHER NEWS – A new view of the so-called ‘Lion Man’.....	3
ELLE CLIFFORD & PAUL BAHN – The Bear Necessities: A new view of the so-called ‘Lion Man’.....	3
PUBLICATIONS	3
Acta Linguistica Hafniensia.....	3
PAPERS	3
JOSHUA NASH et al – On languages on islands.....	3
American Journal of Physical Anthropology.....	3
PAPERS	3
EDUARDO FERNANDEZ-DUQUE et al – The evolution of pair-living, sexual monogamy, and cooperative infant care: Insights from research on wild owl monkeys, titis, sakis, and tamarins.....	3
DUNCAN N. E. STIBBARD-HAWKES et al – To the hunter go the spoils? No evidence of nutritional benefit to being or marrying a well-reputed Hadza hunter.....	4
Current Biology.....	4
ARTICLES	4
EDWIN J.C. VAN LEEUWEN et al – Social culture in bonobos.....	4
Language and Cognition.....	4
PAPERS	4
FRANCESCA BONALUMI et al with THOM SCOTT-PHILLIPS – Commitment and communication: Are we committed to what we mean, or what we say?.....	4
Nature Scientific Reports.....	4
PAPERS	4
JENNIFER KOSUBEK-LANGER & CONSTANCE SCHARFF – Dynamic FoxP2 levels in male zebra finches are linked to morphology of adult-born Area X medium spiny neurons.....	4
TAMAS DAVID-BARRETT – Herding Friends in Similarity-Based Architecture of Social Networks.....	5
CAMILLE DAUJEARD et al with JEAN-JACQUES HUBLIN – Earliest African evidence of carcass processing and consumption in cave at 700 ka, Casablanca, Morocco.....	5
AMÉLIE BEAUDET et al – The atlas of StW 573 and the late emergence of human-like head mobility and brain metabolism.....	5
MIGUEL ARENAS et al – The Early Peopling of the Philippines based on mtDNA.....	5
DARIO MADEO & CHIARA MOCENNI – Self-regulation versus social influence for promoting cooperation on networks.....	6
New Scientist.....	6
NEWS	6
DNA analysis reveals just how intertwined ancient human lineages are.....	6
PLoS One.....	6
PAPERS	6
JULIAN FRIEDLAND, KYLE EMICH & BENJAMIN M. COLE – Uncovering the moral heuristics of altruism: A philosophical scale.....	6
ANNA OLESZKIEWICZ & TERESA KUPCZYK – Sensory impairment reduces money sharing in the Dictator Game regardless of the recipient’s sensory status.....	6
PNAS.....	7
PAPERS	7
JACOB FREEMAN, JACOPO A. BAGGIO & THOMAS R. COYLE – Social and general intelligence improves collective action in a common pool resource system.....	7
CHI XUE, ZHIRU LIU & NIGEL GOLDENFELD – Scale-invariant topology and bursty branching of evolutionary trees emerge from niche construction.....	7
MARGARET L. TRAEGER et al – Vulnerable robots positively shape human conversational dynamics in a human–robot team.....	7

BRIAN A. STEWART et al – Ostrich eggshell bead strontium isotopes reveal persistent macroscale social networking across late Quaternary southern Africa	7
Proceedings of the Royal Society B.....	8
PAPERS	8
TINA ROESKE et al with DAVID POEPEL – Listening to birdsong reveals basic features of rate perception and aesthetic judgements	8
MATTHIAS SCHULTZE-KRAFT et al – Preparation and execution of voluntary action both contribute to awareness of intention	8
Royal Society Open Science.....	8
PAPERS	8
ALECIA J. CARTER et al – Baboon thanatology: responses of filial and non-filial group members to infants' corpses	8
Science.....	8
ARTICLES	8
MANUEL WILL – Neanderthal surf and turf.....	8
PAPERS	9
J. ZILHÃO et al with F. D'ERRICO – Last Interglacial Iberian Neandertals as fisher-hunter-gatherers	9
Science Advances.....	9
PAPERS	9
BEN SHAW et al – Emergence of a Neolithic in highland New Guinea by 5000 to 4000 years ago	9
Trends in Cognitive Sciences	9
PAPERS	9
CECILIA HEYES et al with CHRISTOPHER D. FRITH – Knowing Ourselves Together: The Cultural Origins of Metacognition	9
To subscribe to the EAORC Bulletin	9
To unsubscribe from the EAORC Bulletin	9
Produced by and for the EAORC email group	9

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.

LIFE IN THE SLOW LANE

Whether you are locked-down, locked-up, locked-in, lockjawed, or locked down with lockjaw while locked in the lock-up at Bow Locks, I intend to keep up the weekly bombardment. I hope you are all well, both physically and mentally. Me, I’m trying to get my head around online lecturing and tutoring, collecting more academic papers (4,312 so far), gardening, Fakebooking, and sending my fleet of Excelsior-class battleships to bring peace to the whole galaxy. Have a good trip to the edge of madness, courtesy of the ideas-free zone we call the British Government.

SOCIETY FOR SCIENCE – New Guinea's Neolithic period may have started without outside help

Islanders on New Guinea experienced cultural changes sparked by farming about 1,000 years before Southeast Asians arrived, a study suggests.

<http://click.societyforscience-email.com/?qs=41d5d0b3f568514281e9ecba6f21e1fe5efab4a9477d354dd6e3010cc6e1a3adea1d5bf81a50f47b7501bd08b01bcdb67eff4fe798a95525>

BREAKING SCIENCE – Diet of Figueira Brava Neanderthals Was Rich in Seafood, Archaeologists Say

An international team of archaeologists found that the Neanderthals who occupied Gruta da Figueira Brava in the Arrábida range, Portugal, between 86,000 and 106,000 years ago ate mollusks, crabs, fish, and even dolphins and seals.

http://feedproxy.google.com/~r/BreakingScienceNews/~3/FcUZRhsh4Bl/seafood-diet-figueira-brava-neanderthals-08271.html?utm_source=feedburner&utm_medium=email

SCIENCE DAILY – How squid communicate in the dark

Researchers begin to reveal how social squid communicate in the near-blackness of the deep sea.

<https://www.sciencedaily.com/releases/2020/03/200324131928.htm>

SCIENCE DAILY – Brain mapping study suggests motor regions for hand also connect to entire body

Investigators report that they have used microelectrode arrays implanted in human brains to map out motor functions down to the level of the single nerve cell. The study revealed that an area believed to control only one body part actually operates across a wide range of motor functions. It also demonstrated how different neurons coordinate with each other.

<https://www.sciencedaily.com/releases/2020/03/200326144409.htm>

SCIENCE DAILY – Neanderthals ate mussels, fish, and seals too

Over 80,000 years ago, Neanderthals fed themselves on mussels, fish and other marine life. The first evidence has been found by an international team in the cave of Figueira Brava in Portugal. The excavated layers date from 86,000 to 106,000 years ago, the period when Neanderthals settled in Europe. Sourcing food from the sea at that time had only been attributed to anatomically modern humans in Africa.

<https://www.sciencedaily.com/releases/2020/03/200326144433.htm>

SCIENCE DAILY – How cognitive intelligence is a whole brain phenomenon

An international collaborative study provides findings on the neural basis of intelligence, otherwise known as general cognitive ability (IQ).

<https://www.sciencedaily.com/releases/2020/03/200326124145.htm>

NATURE BRIEFING – Neanderthals loved a fish supper

A pile of ancient kitchen rubbish shows Neanderthals had a highly varied diet. Digging in a seaside cave in Portugal, researchers found bones of seals, dolphins and many types of fish, including sharks. The 86,000- to 106,000-year-old remains contribute to showing how Neanderthals' behaviour — and perhaps their cognitive abilities — were not too different from those of their contemporary modern humans. The cave was so cramped that only a maximum of three people could work inside at any given time. "I was in the fetal position every single day," says archaeologist Filipa Rodrigues, a coauthor of the study.

<https://nature.us17.list-manage.com/track/click?u=2c6057c528fdc6f73fa196d9d&id=a7bf1c58e8&e=1db4b9a19b>

OTHER NEWS – A new view of the so-called 'Lion Man'

Current World Archaeology 100, 24-29 (2020).

ELLE CLIFFORD & PAUL BAHN – The Bear Necessities: A new view of the so-called 'Lion Man'

Fragments of ivory found in a German cave on the eve of war have been reconstructed to create a magnificent 'Lion Man'. This figure has been feted as the earliest representation of a god, and a representation of shamanic beliefs, but how secure are these interpretations?

<https://shop.exacteditions.com/current-world-archaeology>

PUBLICATIONS

Acta Linguistica Hafniensia

PAPERS

JOSHUA NASH et al – On languages on islands

Islands as specific research sites in their own right have been given little direct attention by linguists. The physical segregation, distinctness, and isolation of islands from mainland and continental environments may provide scholars of language with distinct and robust sets of singular and combined case studies for examining the role of islandness in any appreciation of language. Whether distinct and particular sociolinguistic and typological phenomena can be attributable to islands and their islandness and vice versa remains unexplored. This position article considers the possibility of there being anything particular and peculiar about languages spoken on islands as compared to languages spoken on mainlands and continents. It arose out of a workshop titled 'Exploring island languages' held at Aarhus University, Denmark on 30 April 2018. The main question posed was: Is there anything special socially, linguistically, grammatically, and typologically about the languages of islands? If so, is it possible to talk about such a thing as an island language?

<https://www.tandfonline.com/doi/abs/10.1080/03740463.2020.1736747>

American Journal of Physical Anthropology

PAPERS

EDUARDO FERNANDEZ-DUQUE et al – The evolution of pair-living, sexual monogamy, and cooperative infant care: Insights from research on wild owl monkeys, titis, sakis, and tamarins

"Monogamy" and pair bonding have long been of interest to anthropologists and primatologists. Their study contributes to our knowledge of human evolutionary biology and social evolution without the cultural trappings associated with studying human societies directly. Here, we first provide an overview of theoretical considerations, followed by an evaluation of recent comparative studies of the evolution of "social monogamy"; we are left with serious doubts about the conclusions of

these studies that stem from the often poor quality of the data used and an overreliance on secondary sources without vetting the data therein. We then describe our field research program on four “monogamous” platyrrhines (owl monkeys, titis, sakis, and tamarins), evaluate how well our data support various hypotheses proposed to explain “monogamy,” and compare our data to those reported on the same genera in comparative studies. Overall, we found a distressing lack of agreement between the data used in comparative studies and data from the literature for the taxa that we work with. In the final section, we propose areas of research that deserve more attention. We stress the need for more high-quality natural history data, and we urge researchers to be cautious about the uncritical use of variables of uncertain internal validity. Overall, it is imperative that biological anthropologists establish and follow clear criteria for comparing and combining results from published studies and that researchers, reviewers, and editors alike comply with these standards to improve the transparency, reproducibility, and interpretability of causal inferences made in comparative studies.

<https://onlinelibrary.wiley.com/doi/abs/10.1002/ajpa.24017?campaign=wolearlyview>

DUNCAN N. E. STIBBARD-HAWKES et al – To the hunter go the spoils? No evidence of nutritional benefit to being or marrying a well-reputed Hadza hunter

We measured male hunting success, hemoglobin concentration and body fatness among bush-living Hadza. Hunting success was measured using an aggregated reputation score. Hemoglobin concentration, a proxy for dietary red meat, was measured from fingerprick capillary blood. Body fatness, a proxy for energy balance, was measured using BMI and bioelectrical impedance. We find no statistically significant relationship between a hunter's success and any measure of his nutritional status or that of his spouse. We further find that: women are, as elsewhere, at greater risk of iron-deficiency anemia than men; men had slightly lower BMIs than women; men but not women had significantly lower hemoglobin levels than in the 1960s. The absence of an association between hunting reputation and nutritional status is consistent with generalized food sharing. Null results are difficult to interpret and findings could potentially be a consequence of insufficient signal in the study measures or some confounding effect. In any event, our results add to a substantial corpus of existing research that identifies few nutritional advantages to being or marrying a well-reputed Hadza hunter.

<https://onlinelibrary.wiley.com/doi/abs/10.1002/ajpa.24027?campaign=wolearlyview>

Current Biology

ARTICLES

EDWIN J.C. VAN LEEUWEN et al – Social culture in bonobos

Van Leeuwen et al. found that two peculiar interactive behaviors (social scratching and groom slapping) transmitted socially through bonobo networks across six European zoos.

[https://www.cell.com/current-biology/fulltext/S0960-9822\(20\)30211-6?dgcid=raven_jbs_etoc_email](https://www.cell.com/current-biology/fulltext/S0960-9822(20)30211-6?dgcid=raven_jbs_etoc_email)

Language and Cognition

PAPERS

FRANCESCA BONALUMI et al with THOM SCOTT-PHILLIPS – Commitment and communication: Are we committed to what we mean, or what we say?

Are communicators perceived as committed to what they actually say (what is explicit), or to what they mean (including what is implicit)? Some research claims that explicit communication leads to a higher attribution of commitment and more accountability than implicit communication. Here we present theoretical arguments and experimental data to the contrary. We present three studies exploring whether the saying–meaning distinction affects commitment attribution in promises, and, crucially, whether commitment attribution is further modulated by the degree to which the hearer will actually rely on the promise. Our results support the conclusion that people perceive communicators to be committed to ‘what is meant’, and not simply to ‘what is said’. Our findings add to the experimental literature showing that the saying–meaning distinction is not as pivotal to social relations as often assumed, and that its role in commitment attribution might be overestimated. The attribution of commitment is strongly dependent on the (mutually known) relevance of ‘what is meant’.

<https://www.cambridge.org/core/journals/language-and-cognition/article/commitment-and-communication-are-we-committed-to-what-we-mean-or-what-we-say/763D5D1BD8590F1CD56F62A562842D03>

Nature Scientific Reports

PAPERS

JENNIFER KOSUBEK-LANGER & CONSTANCE SCHARFF – Dynamic FoxP2 levels in male zebra finches are linked to morphology of adult-born Area X medium spiny neurons

The transcription factor FOXP2 is crucial for the formation and function of cortico-striatal circuits. FOXP2 mutations are associated with specific speech and language impairments. In songbirds, experimentally altered FoxP2 expression levels in the striatal song nucleus Area X impair vocal learning and song production. Overall FoxP2 protein levels in Area X are low in adult zebra finches and decrease further with singing. However, some Area X medium spiny neurons (MSNs) express FoxP2 at high levels (FoxP2^{high} MSNs) and singing does not change this. Because Area X receives many new neurons throughout adulthood, we hypothesized that the FoxP2^{high} MSNs are newly recruited neurons, not yet integrated into the local Area X circuitry and thus not active during singing. Contrary to our expectation, FoxP2 protein levels did not predict whether new

MSNs were active during singing, assayed via immediate early gene expression. However, new FoxP2^{high} MSNs had more complex dendrites, higher spine density and more mushroom spines than new FoxP2^{low} MSNs. In addition, FoxP2 expression levels correlated positively with nucleus size of new MSNs. Together, our data suggest that dynamic FoxP2 levels in new MSNs shape their morphology during maturation and their incorporation into a neural circuit that enables the maintenance and social modulation of adult birdsong.

<https://www.nature.com/articles/s41598-020-61740-6>

TAMAS DAVID-BARRETT – Herding Friends in Similarity-Based Architecture of Social Networks

Although friendship as a social behaviour is an evolved trait that shares many similarities with kinship, there is a key difference: to choose friends, one must select few from many. Homophily, i.e., a similarity-based friendship choice heuristic, has been shown to be the main factor in selecting friends. Its function has been associated with the efficiency of collective action via synchronised mental states. Recent empirical results question the general validity of this explanation. Here I offer an alternative hypothesis: similarity-based friendship choice is an individual-level adaptive response to falling clustering coefficient of the social network typical during urbanisation, falling fertility, increased migration. The mathematical model shows how homophily as a friend-choice heuristic affects the network structure: (1) homophilic friendship choice increases the clustering coefficient; (2) network proximity-based and similarity-based friendship choices have additive effects on the clustering coefficient; and (3) societies that face falling fertility, urbanisation, and migration, are likely go through a u-shaped transition period in terms of clustering coefficient. These findings suggest that social identity can be seen as an emergent phenomenon and is the consequence, rather than the driver of, homophilic social dynamics, and offer an alternative explanation for the rise of “fake news” as a societal phenomenon.

<https://www.nature.com/articles/s41598-020-61330-6>

CAMILLE DAUJEARD et al with JEAN-JACQUES HUBLIN – Earliest African evidence of carcass processing and consumption in cave at 700 ka, Casablanca, Morocco

To date, in Africa, evidence for animal processing and consumption in caves routinely used as living spaces is only documented in the late Middle Pleistocene of the North and South of the continent and postdates the Middle Pleistocene in East Africa. Here we report the earliest evidence in a North-African cave (Grotte des Rhinocéros at Casablanca, Morocco) of cut, percussion and human gnawing marks on faunal remains directly associated with lithic knapping activities in the same space and in a well-documented stratified context. Ages for this Acheulean site are provided by the dating of herbivorous teeth to 690–720 ka and 520–550 ka (lower and upper sets) by combined Electron Spin Resonance (ESR) and U-series techniques. Traces of butchery on gazelle, alcelaphin, and zebra bones demonstrate that hominins had primary access to herbivore carcasses. Hominins brought and consumed meat in the cave, as documented by herbivore bones bearing human tooth marks concentrated in a circumscribed area of the excavation. In Africa, this site provides the earliest evidence for in situ carcass processing and meat-eating in cave, directly associated with lithic production and demonstrates the recurrent use by early Middle Pleistocene hominins of a North African cave site 400 000 years before that by *Homo sapiens* at Jebel Irhoud (Morocco).

<https://www.nature.com/articles/s41598-020-61580-4>

AMÉLIE BEAUDET et al – The atlas of StW 573 and the late emergence of human-like head mobility and brain metabolism

Functional morphology of the atlas reflects multiple aspects of an organism’s biology. More specifically, its shape indicates patterns of head mobility, while the size of its vascular foramina reflects blood flow to the brain. Anatomy and function of the early hominin atlas, and thus, its evolutionary history, are poorly documented because of a paucity of fossilized material. Meticulous excavation, cleaning and high-resolution micro-CT scanning of the StW 573 (‘Little Foot’) skull has revealed the most complete early hominin atlas yet found, having been cemented by breccia in its displaced and flipped over position on the cranial base anterolateral to the foramen magnum. Description and landmark-free morphometric analyses of the StW 573 atlas, along with other less complete hominin atlases from Sterkfontein (StW 679) and Hadar (AL 333-83), confirm the presence of an arboreal component in the positional repertoire of *Australopithecus*. Finally, assessment of the cross-sectional areas of the transverse foramina of the atlas and the left carotid canal in StW 573 further suggests there may have been lower metabolic costs for cerebral tissues in this hominin than have been attributed to extant humans and may support the idea that blood perfusion of these tissues increased over the course of hominin evolution.

<https://www.nature.com/articles/s41598-020-60837-2>

MIGUEL ARENAS et al – The Early Peopling of the Philippines based on mtDNA

Despite the efforts made to reconstruct the history of modern humans, there are still poorly explored regions that are key for understanding the phylogeography of our species. One of them is the Philippines, which is crucial to unravel the colonization of Southeast Asia and Oceania but where little is known about when and how the first humans arrived. In order to shed light into this settlement, we collected samples from 157 individuals of the Philippines with the four grandparents belonging to the same region and mitochondrial variants older than 20,000 years. Next, we analyzed the hypervariable I mtDNA region by approximate Bayesian computation based on extensive spatially explicit computer simulations to select among several migration routes towards the Philippines and to estimate population genetic parameters of this colonization. We found that

the colonization of the Philippines occurred more than 60,000 years ago, with long-distance dispersal and from both north and south migration routes. Our results also suggest an environmental scenario especially optimal for humans, with large carrying capacity and population growth, in comparison to other regions of Asia. In all, our study suggests a rapid expansion of modern humans towards the Philippines that could be associated with the establishment of maritime technologies and favorable environmental conditions.

<https://www.nature.com/articles/s41598-020-61793-7>

DARIO MADEO & CHIARA MOCENNI – Self-regulation versus social influence for promoting cooperation on networks

Cooperation is a relevant and controversial phenomenon in human societies. Indeed, although it is widely recognized essential for tackling social dilemmas, finding suitable policies for promoting cooperation can be arduous and expensive. More often, it is driven by pre-established schemas based on norms and punishments. To overcome this paradigm, we highlight the interplay between the influence of social interactions on networks and spontaneous self-regulating mechanisms on individuals behavior. We show that the presence of these mechanisms in a prisoner's dilemma game, may oppose the willingness of individuals to defect, thus allowing them to behave cooperatively, while interacting with others and taking conflicting decisions over time. These results are obtained by extending the Evolutionary Game Equations over Networks to account for self-regulating mechanisms. Specifically, we prove that players may partially or fully cooperate whether self-regulating mechanisms are sufficiently stronger than social pressure. The proposed model can explain unconditional cooperation (strong self-regulation) and unconditional defection (weak self-regulation). For intermediate self-regulation values, more complex behaviors are observed, such as mutual defection, recruiting (cooperate if others cooperate), exploitation of cooperators (defect if others cooperate) and altruism (cooperate if others defect). These phenomena result from dynamical transitions among different game structures, according to changes of system parameters and cooperation of neighboring players. Interestingly, we show that the topology of the network of connections among players is crucial when self-regulation, and the associated costs, are reasonably low. In particular, a population organized on a random network with a Scale-Free distribution of connections is more cooperative than on a network with an Erdős-Rényi distribution, and, in turn, with a regular one. These results highlight that social diversity, encoded within heterogeneous networks, is more effective for promoting cooperation.

<https://www.nature.com/articles/s41598-020-61634-7>

New Scientist

NEWS

DNA analysis reveals just how intertwined ancient human lineages are

Ancient human populations in Africa probably mixed far more than we previously thought. That is just one of the revelations about our genetic history that has been uncovered by sequencing the genomes of people from populations previously underrepresented in human genetic studies.

<https://www.newscientist.com/article/2238034-dna-analysis-reveals-just-how-intertwined-ancient-human-lineages-are/#ixzz6Htv2EEKw>

PLoS One

PAPERS

JULIAN FRIEDLAND, KYLE EMICH & BENJAMIN M. COLE – Uncovering the moral heuristics of altruism: A philosophical scale

Extant research suggests that individuals employ traditional moral heuristics to support their observed altruistic behavior; yet findings have largely been limited to inductive extrapolation and rely on relatively few traditional frames in so doing, namely, deontology in organizational behavior and virtue theory in law and economics. Given that these and competing moral frames such as utilitarianism can manifest as identical behavior, we develop a moral framing instrument—the Philosophical Moral-Framing Measure (PMFM)—to expand and distinguish traditional frames associated and disassociated with observed altruistic behavior. The validation of our instrument based on 1015 subjects in 3 separate real stakes scenarios indicates that heuristic forms of deontology, virtue-theory, and utilitarianism are strongly related to such behavior, and that egoism is an inhibitor. It also suggests that deontic and virtue-theoretical frames may be commonly perceived as intertwined and opens the door for new research on self-abnegation, namely, a perceived moral obligation toward suffering and self-denial. These findings hold the potential to inform ongoing conversations regarding organizational citizenship and moral crowding out, namely, how financial incentives can undermine altruistic behavior.

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0229124>

ANNA OLESZKIEWICZ & TERESA KUPCZYK – Sensory impairment reduces money sharing in the Dictator Game regardless of the recipient's sensory status

Altruism varies as a function of minimal social cues. Sensory impaired individuals elicit more altruistic behaviors, at the same time being more prone to be exploited. We tested whether information about recipient's sensory impairment (blindness or deafness or no impairment) would increase of the amount of money given to the anonymous partner in the Dictator Game (DG). We manipulated information about sensory status of a fictional recipient by indicating their sensory impairment (the

same as the participant) or not. Sample of DG players included blind (n = 99) and deaf (n = 74) individuals and their fully functional counterparts (n = 197). Age, socioeconomic status (SES), and education were controlled. We observed higher offers in the sighted and hearing subjects as compared to sensory impaired subjects, regardless of information about the recipient's sensory status.

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0230637>

PNAS

PAPERS

JACOB FREEMAN, JACOPO A. BAGGIO & THOMAS R. COYLE – Social and general intelligence improves collective action in a common pool resource system

On a planet experiencing global environmental change, the governance of natural resources depends on sustained collective action by diverse populations. Engaging in such collective action can only build upon the foundation of human cognition in social–ecological settings. To help understand this foundation, we assess the effect of cognitive abilities on the management of a common pool resource. We present evidence that two functionally distinct cognitive abilities, general and social intelligence, improve the ability of groups to manage a common pool resource. Groups high in both forms of intelligence engage in more effective collective action that is also more consistent, despite social or ecological change. This result provides a foundation for integrating the effects of cognitive abilities with other dimensions of cognitive diversity to explain when groups will and will not sustainably govern natural resources.

<https://www.pnas.org/content/early/2020/03/23/1915824117.abstract?etoc>

CHI XUE, ZHIRU LIU & NIGEL GOLDENFELD – Scale-invariant topology and bursty branching of evolutionary trees emerge from niche construction

Phylogenetic trees describe both the evolutionary process and community diversity. Recent work has established that they exhibit scale-invariant topology, which quantifies the fact that their branching lies in between the two extreme cases of balanced binary trees and maximally unbalanced ones. In addition, the backbones of phylogenetic trees exhibit bursts of diversification on all timescales. Here, we present a simple, coarse-grained statistical model of niche construction coupled to speciation. Finite-size scaling analysis of the dynamics shows that the resultant phylogenetic tree topology is scale-invariant due to a singularity arising from large niche construction fluctuations that follow extinction events. The same model recapitulates the bursty pattern of diversification in time. These results show how dynamical scaling laws of phylogenetic trees on long timescales can reflect the indelible imprint of the interplay between ecological and evolutionary processes.

<https://www.pnas.org/content/early/2020/03/23/1915088117.abstract?etoc>

MARGARET L. TRAEGER et al – Vulnerable robots positively shape human conversational dynamics in a human–robot team

Social robots are becoming increasingly influential in shaping the behavior of humans with whom they interact. Here, we examine how the actions of a social robot can influence human-to-human communication, and not just robot–human communication, using groups of three humans and one robot playing 30 rounds of a collaborative game (n = 51 groups). We find that people in groups with a robot making vulnerable statements converse substantially more with each other, distribute their conversation somewhat more equally, and perceive their groups more positively compared to control groups with a robot that either makes neutral statements or no statements at the end of each round. Shifts in robot speech have the power not only to affect how people interact with robots, but also how people interact with each other, offering the prospect for modifying social interactions via the introduction of artificial agents into hybrid systems of humans and machines.

<https://www.pnas.org/content/117/12/6370.abstract?etoc>

BRIAN A. STEWART et al – Ostrich eggshell bead strontium isotopes reveal persistent macroscale social networking across late Quaternary southern Africa

Hunter-gatherer exchange networks dampen subsistence and reproductive risks by building relationships of mutual support outside local groups that are underwritten by symbolic gift exchange. Hxaro, the system of delayed reciprocity between Ju/'hoān individuals in southern Africa's Kalahari Desert, is the best-known such example and the basis for most analogies and models of hunter-gatherer exchange in prehistory. However, its antiquity, drivers, and development remain unclear, as they do for long-distance exchanges among African foragers more broadly. Here we show through strontium isotope analyses of ostrich eggshell beads from highland Lesotho, and associated strontium isoscape development, that such practices stretch back into the late Middle Stone Age. We argue that these exchange items originated beyond the macroband from groups occupying the more water-stressed subcontinental interior. Tracking the emergence and persistence of macroscale, transbiome social networks helps illuminate the evolution of social strategies needed to thrive in stochastic environments, strategies that in our case study show persistence over more than 33,000 y.

<https://www.pnas.org/content/117/12/6453.abstract?etoc>

Proceedings of the Royal Society B

PAPERS

TINA ROESKE et al with DAVID POEPPPEL – Listening to birdsong reveals basic features of rate perception and aesthetic judgements

The timing of acoustic events is central to human speech and music. Tempo tends to be slower in aesthetic contexts: rates in poetic speech and music are slower than non-poetic, running speech. We tested whether a general aesthetic preference for slower rates can account for this, using birdsong as a stimulus: it structurally resembles human sequences but is unbiased by their production or processing constraints. When listeners selected the birdsong playback tempo that was most pleasing, they showed no bias towards any range of note rates. However, upon hearing a novel stimulus, listeners rapidly formed a robust, implicit memory of its temporal properties, and developed a stimulus-specific preference for the memorized tempo. Interestingly, tempo perception in birdsong stimuli was strongly determined by individual, internal preferences for rates of 1–2 Hz. This suggests that processing complex sound sequences relies on a default time window, while aesthetic appreciation appears flexible, experience-based and not determined by absolute event rates.

<https://royalsocietypublishing.org/doi/full/10.1098/rspb.2019.3010>

MATTHIAS SCHULTZE-KRAFT et al – Preparation and execution of voluntary action both contribute to awareness of intention

How and when motor intentions form has long been controversial. In particular, the extent to which motor preparation and action-related processes produce a conscious experience of intention remains unknown. Here, we used a brain-computer interface (BCI) while participants performed a self-paced movement task to trigger cues upon the detection of a readiness potential (a well-characterized brain signal that precedes movement) or in its absence. The BCI-triggered cues instructed participants either to move or not to move. Following this instruction, participants reported whether they felt they were about to move at the time the cue was presented. Participants were more likely to report an intention (i) when the cue was triggered by the presence of a readiness potential than when the same cue was triggered by its absence, and (ii) when they had just made an action than when they had not. We further describe a time-dependent integration of these two factors: the probability of reporting an intention was maximal when cues were triggered in the presence of a readiness potential, and when participants also executed an action shortly afterwards. Our results provide a first systematic investigation of how prospective and retrospective components are integrated in forming a conscious intention to move.

<https://royalsocietypublishing.org/doi/full/10.1098/rspb.2019.2928>

Royal Society Open Science

PAPERS

ALECIA J. CARTER et al – Baboon thanatology: responses of filial and non-filial group members to infants' corpses

What do animals know of death? What can animals' responses to death tell us about the evolution of species' minds, and the origins of humans' awareness of death and dying? A recent surge in interest in comparative thanatology may provide beginnings of answers to these questions. Here, we add to the comparative thanatology literature by reporting 12 cases of group members' responses to infants' deaths, including 1 miscarriage and 2 stillbirths, recorded over 13 years in wild Namibian chacma baboons. Wild baboons' responses to dead infants were similar to other primates: in general, the mother of the infant carried the infants' corpse for varying lengths of time (less than 1 h to 10 days) and tended to groom the corpses frequently, though, as in other studies, considerable individual differences were observed. However, we have not yet observed any corpse carriage of very long duration (i.e. greater than 20 days), which, though rare, occurs in other Old World monkeys and chimpanzees. We hypothesize this is due to the costs of carrying the corpse over the greater daily distances travelled by the Tsaobis baboons. Additionally, in contrast to other case reports, we observed male friends' 'protection' of the infant corpse on three occasions. We discuss the implications of these reports for current questions in the field.

<https://royalsocietypublishing.org/doi/full/10.1098/rsos.192206>

Science

ARTICLES

MANUEL WILL – Neanderthal surf and turf

Humans share a deep bond with coasts and oceans. More than 500 million people live in coastal communities, and beaches and seafood attract tourists from around the world. Archaeological research in southern Africa revealed early human coastal adaptations that occurred at least as far back as ~160,000 years ago in the Middle Stone Age (MSA)—the cultural period of the earliest *Homo sapiens*. Paleolithic sites across Africa and elsewhere support the hypothesis that coastal adaptations have a long and lasting history. Yet, scientists still debate the importance of coastal adaptations for the evolution and dispersal of *H. sapiens* during the Pleistocene (Ice Age). On page 1443 of this issue, Zilhão et al. tackle an even more contentious issue with wide-ranging implications for human evolution: Did Neanderthals share our species' interest in oceans and their inhabitants?

<https://science.sciencemag.org/content/367/6485/1422>

PAPERS

J. ZILHÃO et al with F. D'ERRICO – Last Interglacial Iberian Neandertals as fisher-hunter-gatherers

The Figueira Brava archeological sequence dates to ~86 to 106 thousand years ago (kya). Throughout, there is evidence of a settlement-subsistence system based on regular exploitation of all animal resources offered by the coastal environment: large crabs, marine mollusks, fish, marine birds and mammals, tortoise, waterfowl, and hoofed game. The composition of the food basket and the structure of the deposit vary as a function of the following: (i) sea-level oscillation, with implications for the ecosystems that were preferentially targeted; (ii) frequency of human occupation; (iii) site-formation process; and (iv) position of the archeological trenches relative to the changing configuration of the inhabited space. The initial occupations (phases FB1 and FB2), when the sea was closer to the cave (~750 m), include shell-supported accumulations. These occupations were followed by a period of infrequent use (phase FB3) and a final phase (FB4), when the shoreline was ~2000 m away but shellfish were again discarded at the site in substantial amounts. The density of marine food remains compares well to that seen in the regional Mesolithic and the Last Interglacial of South Africa and the Maghreb and exceeds the latter two in the case of crabs and fish. Figueira Brava also documents a stone pine economy featuring seasonal harvesting and on-site storage of the cones for deferred consumption of the nuts. The stability of this subsistence system suggests successful long-term adaptation.

<https://science.sciencemag.org/content/367/6485/eaaz7943>

Science Advances

PAPERS

BEN SHAW et al – Emergence of a Neolithic in highland New Guinea by 5000 to 4000 years ago

The emergence of agriculture was one of the most notable behavioral transformations in human history, driving innovations in technologies and settlement globally, referred to as the Neolithic. Wetland agriculture originated in the New Guinea highlands during the mid-Holocene (8000 to 4000 years ago), yet it is unclear if there was associated behavioral change. Here, we report the earliest figurative stone carving and formally manufactured pestles in Oceania, dating to 5050 to 4200 years ago. These discoveries, at the highland site of Waim, occur with the earliest planilateral axe-adzes in New Guinea, the first evidence for fibercraft, and interisland obsidian transfer. The combination of symbolic social systems, complex technologies, and highland agricultural intensification supports an independent emergence of a Neolithic ~1000 years before the arrival of Neolithic migrants (Iapita) from southeast Asia.

https://advances.sciencemag.org/content/6/13/eaay4573?utm_campaign=toc_advances_2020-03-27&et rid=17774313&et cid=3263117

Trends in Cognitive Sciences

PAPERS

CECILIA HEYES et al with CHRISTOPHER D. FRITH – Knowing Ourselves Together: The Cultural Origins of Metacognition

Metacognition – the ability to represent, monitor and control ongoing cognitive processes – helps us perform many tasks, both when acting alone and when working with others. While metacognition is adaptive, and found in other animals, we should not assume that all human forms of metacognition are gene-based adaptations. Instead, some forms may have a social origin, including the discrimination, interpretation, and broadcasting of metacognitive representations. There is evidence that each of these abilities depends on cultural learning and therefore that cultural selection might shape human metacognition. The cultural origins hypothesis is a plausible and testable alternative that directs us towards a substantial new programme of research.

[https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613\(20\)30059-0?dgcid=raven_jbs_aip_email](https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(20)30059-0?dgcid=raven_jbs_aip_email)

To subscribe to the EAORC Bulletin

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

To 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.