EAORC BULLETIN 1,019 – 25 December 2022

CONTENTS

NOTICES

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.

ACADEMIA.EDU – Relational authenticity

In O. Flanagan & G. Caruso (eds.), Neuroexistentialism: Meaning, Morals, and Purpose in the Age of Neuroscience, Oxford University Press 126-145 (2018).

S. GALLAGHER, B. MORGAN & N. ROKOTNITZ – Relational authenticity

How should we think of existential authenticity given the dominant view of human existence in science, and in contemporary materialist philosophical approaches, where discussions frequently come down to talk of neural processes? More generally, can the 4Ms – mind, meaning, morals, and modality (Price 2004) – translate without loss into neuro-vocabulary? In this chapter we argue that to understand existential authenticity it will not do to return to the individuality celebrated by classical existentialism. Nor is it right to look for a reductionist explanation in terms of neuronal patterns or mental representations that would simply opt for a more severe methodological individualism and a conception of authenticity confined to proper brain processes. Rather, we propose to look for a fuller picture of authenticity in what has been termed the '4Es'– the embodied, embedded, enactive and extended conception of mind (Menary 2010; Rowlands 2015). One requires the 4Es to maintain the 4Ms in the face of reductionistic tendencies in neurophilosophy. The 4E approach gives due consideration to the importance of the brain, taken as part the brain-body-environment system. It incorporates neuroscience in in its explanations, but it also integrates important phenomenological-existentialist conceptions that emphasize embodiment (especially following the work of Merleau-Ponty) and the social environment. Specifically, phenomenological conceptions of intersubjectivity, or in existentialist terms, being-with (Mitsein) and being-for-others, play significant roles in our rethinking of authenticity.
https://www.academia.edu/93113535/Gallagher_S_Morgan_B_and_Rokotnitz_N_2018_Relational_authenticity

ACADEMIA.EDU – Phenomenology and Pragmatism: From the End to the Beginning

In European Journal of Pragmatism and American Philosophy XIV-2 (2022).

S. GALLAGHER – Phenomenology and Pragmatism: From the End to the Beginning

There are numerous ways to approach the question about the relation between phenomenology, understood as a philosophical approach associated with a tradition that follows the work of Edmund Husserl, and pragmatism, understood widely as inclusive of classic American pragmatism and neopragmatism. Clearly one could propose a straightforward historical account of connections between these two schools of thought. One could also consider specific issues that are addressed in both traditions. One could also focus on thinkers who have attempted to combine both approaches. Each of these strategies could fill the pages of a good-sized article, chapter, or even book. The story I will try to tell will combine these approaches, but I will frame (and thereby limit) my scope by a focus on some contemporary claims about what has been called the "pragmatic turn" in recent embodied-enactive theory. The story has a beginning, a middle and an end, and a plot with two or three turns. I'll start with the end, and finish with the beginning.
https://www.academia.edu/93202842/Gallagher_S_2022_Phenomenology_and_pragmatism_From_the_end_to_the_beginning_European_Journal_of_Pragmatism_and_American_Philosophy_14_2_

ACADEMIA.EDU – Digging up concrescences: a hermeneutics for process archaeology

In World Archaeology 53:1, 15-25 (2021).

S. GALLAGHER – Digging up concrescences: a hermeneutics for process archaeology

In this paper I build on the process philosophy of Whitehead and on enactive approaches to hermeneutics, to suggest that if we want to conceive of archaeological practice in terms of a process archaeology, then rather than characterizing it as 'digging up the past', it is better to think of it as digging up concrescences. From the perspective of enactive hermeneutics, no artifact (from past or present) is a completely determinate matter of fact; its meaning is enacted in an ecology of practices, and should be understood as part of a dynamical network (of uses and beliefs) that changes when viewed from different perspectives. To the extent that an artifact retains an affordance-related meaning, whether original or new, it remains a concrescence and is never reducible to a determinate matter of fact.

https://www.academia.edu/93205026/Gallagher_S_2021_Digging_up_concrescences_A_hermeneutics_for_process_archaeology_World_Archaeology

ACADEMIA.EDU – Hunting the European sky-bears: on the origins of the non-zodiacal constellations

In Clive Ruggles, Frank Prendergast & Tom Ray (eds.), Astronomy, Cosmology and Landscape: Proceedings of the SEAC 98 Meeting, Dublin, Ireland, September 1998. Ocarina Books, 15-43 (2001).

ROSLYN M. FRANK & JESÚS ARREGI BENGOA – Hunting the European sky-bears: on the origins of the non-zodiacal constellations

Theories put forward previously to explain the origins of the non-zodiacal constellations are examined in the light of new evidence drawn from the project "Hunting the European Sky Bears". At this stage a reassessment of the research models used in the past is in order, particularly in view of the conclusions brought forward over the past ten years concerning residual Bear Ceremonialism in Europe and related social practices (Frank 1996a; 1997; n.d.b; Frank and Patrick 1993). The review of the literature begins with the model proposed by Maunder in 1908 (Maunder 1922[1908]), moves on to those of Ovenden (1966), Roy (1984) and Gingerich (1984), and concludes with a discussion of the most recent synthesis of the research, the model proposed by Rogers (1998a; 1998b). More specifically, the assumptions underpinning the previous models are subjected to scrutiny, as are the premises implicit in their methodological approaches. In the final section a revised research model and methodology are proposed along with a modified set of assumptions. The result is a slightly altered research model although one that still builds directly on conclusions derived from previous investigations. We suggest that once the new data are introduced, the earlier research paradigm takes on added meaning. In short, by only slightly altering the nature of the underlying set of assumptions a much more profitable and comprehensive approach to the data can be developed.

https://www.academia.edu/81572943/Hunting_the_European_Sky_Bears_On_the_origins_of_the_non_zodiacal_constellations

NEWS

SCIENCE NEWS – Ancient hunter-gatherers were potters, too

Early Europeans didn't simply adopt revolutionary technology from farmers, study finds.

https://www.science.org/content/article/ancient-hunter-gatherers-were-potters-too

PUBLICATIONS

Animal Behaviour

PAPERS

ELSA ADDESSI, MARTA PANUNZI & GABRIELE SCHINO – Behaviour of tufted capuchin monkeys in a snowdrift game: is there a role for self-control?

Social dilemmas play an important role in the study of cooperative behaviours. In this experiment we tested the strategies adopted by tufted capuchin monkeys, Sapajus spp., when faced with a cooperative situation involving a conflict of interest, simulating a Snowdrift game. We tested 12 capuchin monkeys (six dyads) in two experimental conditions: Snowdrift (cooperation) and Competition. Monkeys had the opportunity to pull a string to move a rotating bar and obtain a reward while delivering a different reward to their partner. Pulling in the Snowdrift condition delivered a smaller reward to the individual pulling the string and a larger reward to the partner, while the opposite happened in the Competition condition. If neither monkey pulled within 30 s, neither received a reward. Monkeys were also individually tested in a battery of self-control tasks. Capuchin monkeys successfully coordinated (i.e. obtained a reward) in 100% of trials and flexibly adapted their behaviour to the different experimental conditions, by pulling earlier in the Competition and later in the Snowdrift condition. Dominance rank and self-control had no effect on the latencies to pull in either experimental condition. No evidence of any alternation strategy was observed. Our results suggest that capuchin monkeys can solve a conflict of interest without engaging in complex calculations.

https://www.sciencedirect.com/science/article/abs/pii/S0003347222002925

VIVIENNE FOROUGHIRAD et al – Small effects of family size on sociality despite strong kin preferences in female bottlenose dolphins

The quantity and quality of individual social relationships is a fundamental feature of social structure for group-living species. In many species, individuals preferentially associate with close relatives, which can amplify social benefits through inclusive fitness. Reproductive variation, dispersal and other factors may nevertheless impact relative kin availability, especially for species with slow life histories. As such, variation in family size can affect the social integration of the individual. Here, we investigated the effects of family size on female sociality in a population of Indo-Pacific bottlenose dolphins, Tursiops aduncus, in Shark Bay, Australia. This population exhibits high fission–fusion dynamics, with females varying widely in gregariousness and both sexes remaining philopatric, providing females with both matrilineal and nonmatrilineal kin as potential associates. We used genetic relatedness data obtained from a large single nucleotide polymorphism (SNP) panel and a spatially explicit null model to measure females' propensities to form affiliations with both related and unrelated individuals. We found that females had strong social preferences for matrilineal close (first, second and third degree) kin, but also significant preferences for nonmatrilineal close and more distant kin compared to unrelated individuals. Despite these preferences, we found only small effects of kin availability on individual social position. Stronger and more consistent effects were attributable to individual foraging ecology, although much of the variation remains unexplained. Overall, our models suggest that while female dolphins have strong kin preferences, their social connectivity is not determined by family size; rather, individual foraging strategies and high fission–fusion dynamics enable a diverse repertoire of social strategies to coexist within a population.

https://www.sciencedirect.com/science/article/abs/pii/S0003347222002937

Biolinguistics

PAPERS

DENIZ SATIK – The Strong Minimalist Thesis is too Strong: Syntax is More Than Just Merge

This paper raises specific puzzles for the Strong Minimalist Thesis (SMT) based on certain crosslinguistic patterns. I do so by pointing out that the SMT entails two undesirable consequences: first, the SMT assumes that the Borer-Chomsky Conjecture is true; in other words, that all syntactic variation across languages is due to lexical differences. Second, it assumes that there can be no ordering restrictions on Merge, because they would imply the existence of an independent linguistically proprietary entity. I first present crosslinguistic evidence from case and agreement that the Borer-Chomsky Conjecture alone is not sufficient to account for syntactic variation. I then present evidence for the existence of ordering restrictions on Merge, based on a cartographic distinction between high and low complementizers. I argue that both of these patterns are purely syntactic, in that they are independent of Merge. I conclude that these independent problems raise puzzles for saltationist theories of language evolution.

https://bioling.psychopen.eu/index.php/bioling/article/view/9861

Current Biology

ARTICLES

ANDREAS WUTZ & NATHAN WEISZ – Brain development: Viewing the world through infants' eyes

Categories help us make sense of sensory input. A new study has directly compared category-related brain signals between human infants and adults, discovering delayed and temporally highly compressed processing in infants.

https://www.cell.com/current-biology/fulltext/S0960-9822(22)01710-9

PAPERS

SIYING XIE et al – Visual category representations in the infant brain

Visual categorization is a human core cognitive capacity that depends on the development of visual category representations in the infant brain. However, the exact nature of infant visual category representations and their relationship to the corresponding adult form remains unknown. Our results clarify the nature of visual category representations from electroencephalography (EEG) data in 6- to 8-month-old infants and their developmental trajectory toward adult maturity in the key characteristics of temporal dynamics, representational format, and spectral properties. Temporal dynamics change from slowly emerging, developing representations in infants to quickly emerging, complex representations in adults. Despite those differences, infants and adults already partly share visual category representations. The format of infants' representations is visual features of low to intermediate complexity, whereas adults' representations also encode high-complexity features. Theta band activity contributes to visual category representations in infants, and these representations are shifted to the alpha/beta band in adults. Together, we reveal the developmental neural basis of visual categorization in humans, show how information transmission channels change in development, and demonstrate the power of advanced multivariate analysis techniques in infant EEG research for theory building in developmental cognitive science.

https://www.cell.com/current-biology/fulltext/S0960-9822(22)01772-9

HUGO LONING et al – The social role of a song in wild zebra finches

Male songbirds sing to establish territories and to attract mates. However, increasing reports of singing in non-reproductive contexts and by females show that song use is more diverse than previously considered. Therefore, alternative functions of song, such as social cohesion and synchronization of breeding, by and large, were overlooked even in such well-studied species such as the zebra finch (Taeniopygia guttata). In these social songbirds, only the males sing, and pairs breed synchronously in loose colonies, following aseasonal rain events in their arid habitat. As males are not territorial, and pairs form long-term monogamous bonds early in life, conventional theory predicts that zebra finches should not sing much at all; however, they do and their song is the focus of hundreds of lab-based studies. We hypothesize that zebra finch song functions to maintain social cohesion and to synchronize breeding. Here, we test this idea using data from 5 years of field studies, including observational transects, focal and year-round audio recordings, and a large-scale playback experiment. We show that zebra finches frequently sing while in groups, that breeding status influences song output at the nest and at aggregations, that they sing year round, and that they predominantly sing when with their partner, suggesting that the song remains important after pair formation. Our playback reveals that song actively features in social aggregations as it attracts conspecifics. Together, these results demonstrate that birdsong has important functions beyond territoriality and mate choice, illustrating its importance in coordination and cohesion of social units within larger societies.
https://www.cell.com/current-biology/fulltext/S0960-9822(22)01838-3

eLife

PAPERS

NICHOLAS W BARENDREGT et al – Normative decision rules in changing environments

Models based on normative principles have played a major role in our understanding of how the brain forms decisions. However, these models have typically been derived for simple, stable conditions, and their relevance to decisions formed under more naturalistic, dynamic conditions is unclear. We previously derived a normative decision model in which evidence accumulation is adapted to fluctuations in the evidence-generating process that occur during a single decision (Glaze et al., 2015), but the evolution of commitment rules (e.g. thresholds on the accumulated evidence) under dynamic conditions is not fully understood. Here, we derive a normative model for decisions based on changing contexts, which we define as changes in evidence quality or reward, over the course of a single decision. In these cases, performance (reward rate) is maximized using decision thresholds that respond to and even anticipate these changes, in contrast to the static thresholds used in many decision models. We show that these adaptive thresholds exhibit several distinct temporal motifs that depend on the specific predicted and experienced context changes and that adaptive models perform robustly even when implemented imperfectly (noisily). We further show that decision models with adaptive thresholds outperform those with constant or urgency-gated thresholds in accounting for human response times on a task with time-varying evidence quality and average reward. These results further link normative and neural decision-making while expanding our view of both as dynamic, adaptive processes that update and use expectations to govern both deliberation and commitment.
https://elifesciences.org/articles/79824

ASIEH ZADBOOD et al – Neural representations of naturalistic events are updated as our understanding of the past changes

The brain actively reshapes our understanding of past events in light of new incoming information. In the current study, we ask how the brain supports this updating process during the encoding and recall of naturalistic stimuli. One group of participants watched a movie ('The Sixth Sense') with a cinematic 'twist' at the end that dramatically changed the interpretation of previous events. Next, participants were asked to verbally recall the movie events, taking into account the new 'twist' information. Most participants updated their recall to incorporate the twist. Two additional groups recalled the movie without having to update their memories during recall: one group never saw the twist; another group was exposed to the twist prior to the beginning of the movie, and thus the twist information was incorporated both during encoding and recall. We found that providing participants with information about the twist beforehand altered neural response patterns during movie-viewing in the default mode network (DMN). Moreover, presenting participants with the twist at the end of the movie changed the neural representation of the previously-encoded information during recall in a subset of DMN regions. Further evidence for this transformation was obtained by comparing the neural activation patterns during encoding and recall and correlating them with behavioral signatures of memory updating. Our results demonstrate that neural representations of past events encoded in the DMN are dynamically integrated with new information that reshapes our understanding in natural contexts.
https://elifesciences.org/articles/79045

iScience

PAPERS

WEN-YI WU et al – Affective Mirror and Anti-mirror Neurons Relate to Prosocial Help in Rats

While empathic emotion is closely related to prosocial behavior, neuronal substrate that accounts for empathy-associated prosocial action remains poorly understood. We recorded neurons in the anterior cingulate cortex (ACC) and insular cortex

(InC) in rats when they observed another rat in pain. We discovered neurons with anti-mirror properties in the ACC and InC, in addition to those with mirror properties. ACC neurons show higher coupling between activation of self-in-pain and others-in-pain, while the InC has a higher ratio of neurons with anti-mirror properties. During others-in-pain, ACC neurons activated more when actively nose-poking toward others and InC neurons activated more when freezing. To further illustrate prosocial function, we examined neuronal activities in the helping behavior test. Both ACC and InC neurons showed specific activation to rat rescuing which is contributed by mirror, but not anti-mirror neurons. Our work indicates the functional involvement of mirror neuron system in prosocial behaviors.
https://www.cell.com/iscience/fulltext/S2589-0042(22)02138-1

Nature Human Behaviour

PAPERS

EKATERINA DOLBUNOVA et mul – The transmission of pottery technology among prehistoric European hunter-gatherers

Human history has been shaped by global dispersals of technologies, although understanding of what enabled these processes is limited. Here, we explore the behavioural mechanisms that led to the emergence of pottery among hunter-gatherer communities in Europe during the mid-Holocene. Through radiocarbon dating, we propose this dispersal occurred at a far faster rate than previously thought. Chemical characterization of organic residues shows that European hunter-gatherer pottery had a function structured around regional culinary practices rather than environmental factors. Analysis of the forms, decoration and technological choices suggests that knowledge of pottery spread through a process of cultural transmission. We demonstrate a correlation between the physical properties of pots and how they were used, reflecting social traditions inherited by successive generations of hunter-gatherers. Taken together the evidence supports kinship-driven, super-regional communication networks that existed long before other major innovations such as agriculture, writing, urbanism or metallurgy.
https://www.nature.com/articles/s41562-022-01491-8

Nature Neuroscience

PAPERS

KAUÊ MACHADO COSTA et al – The role of the lateral orbitofrontal cortex in creating cognitive maps

We use mental models of the world—cognitive maps—to guide behavior. The lateral orbitofrontal cortex (lOFC) is typically thought to support behavior by deploying these maps to simulate outcomes, but recent evidence suggests that it may instead support behavior by underlying map creation. We tested between these two alternatives using outcome-specific devaluation and a high-potency chemogenetic approach. Selectively inactivating lOFC principal neurons when male rats learned distinct cue–outcome associations, but before outcome devaluation, disrupted subsequent inference, confirming a role for the lOFC in creating new maps. However, lOFC inactivation surprisingly led to generalized devaluation, a result that is inconsistent with a complete mapping failure. Using a reinforcement learning framework, we show that this effect is best explained by a circumscribed deficit in credit assignment precision during map construction, suggesting that the lOFC has a selective role in defining the specificity of associations that comprise cognitive maps.
https://www.nature.com/articles/s41593-022-01216-0

Nature Scientific Reports

PAPERS

NADA EL YOUSSEF et al – Consciousness alteration in focal epilepsy is related to loss of signal complexity and information processing

Alteration of awareness is a main feature of focal epileptic seizures. In this work, we studied how the information contained in EEG signals was modified during temporal lobe seizures with altered awareness by using permutation entropy (PE) as a measure of the complexity of the signal. PE estimation was performed in thirty-six seizures of sixteen patients with temporal lobe epilepsy who underwent SEEG recordings. We tested whether altered awareness (based on the Consciousness Seizure Score) was correlated with a loss of signal complexity. We estimated global changes in PE as well as regional changes to gain insight into the mechanisms associated with awareness impairment. Our results reveal a positive correlation between the decrease of entropy and the consciousness score as well as the existence of a threshold on entropy that could discriminate seizures with no alteration of awareness from seizures with profound alteration of awareness. The loss of signal complexity was diffuse, extending bilaterally and to the associative cortices, in patients with profound alteration of awareness and limited to the temporal mesial structures in patients with no alteration of awareness. Thus PE is a promising tool to discriminate between the different subgroups of awareness alteration in TLE.
https://www.nature.com/articles/s41598-022-25861-4

SOPHIE DUFOUR, JONATHAN MIRAULT & JONATHAN GRAINGER – Transposed-word effects in speeded grammatical decisions to sequences of spoken words

We used the grammatical decision task (a speeded version of the grammaticality judgment task) with auditorily presented sequences of five words that could either form a grammatically correct sentence or an ungrammatical sequence. The critical ungrammatical sequences were either formed by transposing two adjacent words in a correct sentence (transposed-word sequences: e.g., "The black was dog big") or were matched ungrammatical sequences that could not be resolved into a correct sentence by transposing any two words (control sequences: e.g., "The black was dog slowly"). These were intermixed with an equal number of correct sentences for the purpose of the grammatical decision task. Transposed-word sequences were harder to reject as being ungrammatical (longer response times and more errors) relative to the ungrammatical control sequences, hence attesting for the first time that transposed-word effects can be observed in the spoken language version of the grammatical decision task. Given the relatively unambiguous nature of the speech input in terms of word order, we interpret these transposed-word effects as reflecting the constraints imposed by syntax when processing a sequence of spoken words in order to make a speeded grammatical decision.
https://www.nature.com/articles/s41598-022-26584-2

PAIGE AMORMINO, MONTANA L. PLOE & ABIGAIL A. MARSH – Moral foundations, values, and judgments in extraordinary altruists

Donating a kidney to a stranger is a rare act of extraordinary altruism that appears to reflect a moral commitment to helping others. Yet little is known about patterns of moral cognition associated with extraordinary altruism. In this preregistered study, we compared the moral foundations, values, and patterns of utilitarian moral judgments in altruistic kidney donors (n = 61) and demographically matched controls (n = 58). Altruists expressed more concern only about the moral foundation of harm, but no other moral foundations. Consistent with this, altruists endorsed utilitarian concerns related to impartial beneficence, but not instrumental harm. Contrary to our predictions, we did not find group differences between altruists and controls in basic values. Extraordinary altruism generally reflected opposite patterns of moral cognition as those seen in individuals with psychopathy, a personality construct characterized by callousness and insensitivity to harm and suffering. Results link real-world, costly, impartial altruism primarily to moral cognitions related to alleviating harm and suffering in others rather than to basic values, fairness concerns, or strict utilitarian decision-making.
https://www.nature.com/articles/s41598-022-26418-1

New Scientist

NEWS

A family tree of humanity released in 2022 shows how we're all related

Researchers unveiled a picture of humanity's genealogy based on 3601 modern genomes and eight ancient genomes going back 2 million years.
https://www.newscientist.com/article/mg25634174-900-a-family-tree-of-humanity-released-in-2022-shows-how-were-all-related/

Royal Society Open Science

PAPERS

ROBERT D. MCINTOSH et al – Skill and self-knowledge: empirical refutation of the dual-burden account of the Dunning–Kruger effect

For many intellectual tasks, the people with the least skill overestimate themselves the most, a pattern popularly known as the Dunning–Kruger effect (DKE). The dominant account of this effect depends on the idea that assessing the quality of one's performance (metacognition) requires the same mental resources as task performance itself (cognition). Unskilled people are said to suffer a dual burden: they lack the cognitive resources to perform well, and this deprives them of metacognitive insight into their failings. In this Registered Report, we applied recently developed methods for the measurement of metacognition to a matrix reasoning task, to test the dual-burden account. Metacognitive sensitivity (information exploited by metacognition) tracked performance closely, so less information was exploited by the metacognitive judgements of poor performers; but metacognitive efficiency (quality of metacognitive processing itself) was unrelated to performance. Metacognitive bias (overall tendency towards high or low confidence) was positively associated with performance, so poor performers were appropriately less confident—not more confident—than good performers. Crucially, these metacognitive factors did not cause the DKE pattern, which was driven overwhelmingly by performance scores. These results refute the dual-burden account and suggest that the classic DKE is a statistical regression artefact that tells us nothing much about metacognition.
https://royalsocietypublishing.org/doi/full/10.1098/rsos.191727

Science Advances

PAPERS

LOREN G. DAVIS et al – Dating of a large tool assemblage at the Cooper's Ferry site (Idaho, USA) to ~15,785 cal yr B.P. extends the age of stemmed points in the Americas

The timing and character of the Pleistocene peopling of the Americas are measured by the discovery of unequivocal artifacts from well-dated contexts. We report the discovery of a well-dated artifact assemblage containing 14 stemmed projectile points from the Cooper's Ferry site in western North America, dating to ~16,000 years ago. These stemmed points are several thousand years older than Clovis fluted points (~13,000 cal yr B.P.) and are ~2300 years older than stemmed points found previously at the site. These points date to the end of Marine Isotope Stage 2 when glaciers had closed off an interior land route into the Americas. This assemblage includes an array of stemmed projectile points that resemble pre-Jomon Late Upper Paleolithic tools from the northwestern Pacific Rim dating to ~20,000 to 19,000 years ago, leading us to hypothesize that some of the first technological traditions in the Americas may have originated in the region.
https://www.science.org/doi/full/10.1126/sciadv.ade1248

Trends in Cognitive Sciences

PAPERS

ADRIANO R. LAMEIRA – Arboreal origin of consonants and thus, ultimately, speech

The world's spoken languages are universally composed of vowels and consonants, but the primate prototypical call repertoire is almost exclusively composed of vowel-like calls. What was the origin of consonant-like calls? Their prevalence across great apes suggests that an arboreal lifestyle and extractive foraging were ecological preconditions for speech evolution.
https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(22)00297-2

BRANDON M. WOO et al – Socially evaluative contexts facilitate mentalizing

Our ability to understand others' minds stands at the foundation of human learning, communication, cooperation, and social life more broadly. Although humans' ability to mentalize has been well-studied throughout the cognitive sciences, little attention has been paid to whether and how mentalizing differs across contexts. Classic developmental studies have examined mentalizing within minimally social contexts, in which a single agent seeks a neutral inanimate object. Such object-directed acts may be common, but they are typically consequential only to the object-seeking agent themselves. Here, we review a host of indirect evidence suggesting that contexts providing the opportunity to evaluate prospective social partners may facilitate mentalizing across development. Our article calls on cognitive scientists to study mentalizing in contexts where it counts.
https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(22)00264-9

JAMES B. HEALD, MÁTÉ LENGYEL & DANIEL M. WOLPERT – Contextual inference in learning and memory

Context is widely regarded as a major determinant of learning and memory across numerous domains, including classical and instrumental conditioning, episodic memory, economic decision-making, and motor learning. However, studies across these domains remain disconnected due to the lack of a unifying framework formalizing the concept of context and its role in learning. Here, we develop a unified vernacular allowing direct comparisons between different domains of contextual learning. This leads to a Bayesian model positing that context is unobserved and needs to be inferred. Contextual inference then controls the creation, expression, and updating of memories. This theoretical approach reveals two distinct components that underlie adaptation, proper and apparent learning, respectively referring to the creation and updating of memories versus time-varying adjustments in their expression. We review a number of extensions of the basic Bayesian model that allow it to account for increasingly complex forms of contextual learning.
https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(22)00265-0

FUMIHIRO KANO – Evolution of the uniformly white sclera in humans: critical updates

The human eye characteristically has exposed and uniformly white sclera, which is hypothesized to have evolved to enhance eye-gaze signaling for conspecific communication. Although recent studies have put this hypothesis into question, current morphological and experimental evidence supports its key premise, albeit with recommendations for critical updates.
https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(22)00232-7

CHRISTOPHER TIMMERMANN et al with MIND AND LIFE EUROPE (MLE) ENCECON RESEARCH GROUP – A neurophenomenological approach to non-ordinary states of consciousness: hypnosis, meditation, and psychedelics

No contemporary unifying framework has been provided for the study of non-ordinary states of consciousness (NSCs) despite increased interest in hypnosis, meditation, and psychedelics. NSCs induce shifts in experiential contents (what appears to the experiencer) and/or structure (how it appears). This can allow the investigation of the plastic and dynamic nature of experience from a multiscale perspective that includes mind, brain, body, and context. We propose a neurophenomenological (NP) approach to the study of NSCs which highlights their role as catalysts of transformation in

clinical practice by refining our understanding of the relationships between experiential (subjective) and neural dynamics. We outline the ethical implications of the NP approach for standard conceptions of health and pathology as well as the crucial role of experience-based know-how in NSC-related research and application.
https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(22)00291-1

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