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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.

ACADEMIA.EDU – The Unknown History of Cognitive Linguistics

Academia Letters, Article 8 (2020)

ANDREAS HÖLZL – The Unknown History of Cognitive Linguistics

Cognitive Linguistics is known to have adopted aspects of Gestalt Psychology, such as the figure-ground organization and the idea of a gestalt (or whole). Blended spaces, idioms, constructions, and frames are all instances of gestalts. The figure-ground organization has also been called profile-base, word-frame, or trajector-landmark. But there is a much more intimate connection to gestaltist thinking that has previously been neglected, ranging from broad principles to specific details. Long before Lakoff (1990) postulated his cognitive and generalization commitments, Uhlán von Slagle (1937–1986), who explicitly based his findings on Gestalt Psychology, wrote about “the problem of cognition in general” (von Slagle 1975: 178). An example of a specific influence is the riddle of the Buddhist monk often employed to illustrate the theory of conceptual blending.

https://www.academia.edu/44608750/The_Unknown_History_of_Cognitive_Linguistics?email_work_card=view-paper

ACADEMIA.EDU – The Unknown History of Cognitive Linguistics

Peter Lang: Bern, Switzerland (2004)

PER AAGE BRANDT – Spaces, Domains, and Meaning: Essays In Cognitive Semiotics

Two separate trends in the study of meaning have been crossing each other’s paths since the 1980s: the cognitive sciences and structural semiotics. One is as closely linked to neuropsychology as the other is to phenomenology and aesthetics. But both aim at grasping basic, foundational properties of the human conceptualization of reality. None of them is particularly engaged with the militant nominalistic and relativistic schools of cultural studies, while both are open to, and even committed to, comparative cultural analysis and the analysis of such specifications and differentiations as occur across

languages and cultures of our species. A common field of phenomena is open to contemporary research on meaning—comprising the conundrums of linguistic semantics, the vast field of behavioral studies, affective science, psychiatry, gestural semiotics, the study of signs and representations in discourse, in social life, in art, and in perception as such—and appeals to a host of disciplines and to experiential as well as experimental methodologies. The shared ontological claim—that meaning can be understood both in terms of the biology of our mind and as a highly 'spiritual' semiosphere—might even cancel our classical needs for a unification of methods and terminologies, and for a unified philosophical view. Philosophers are often left perplexed by the flood of findings in this field of semiocognitive studies; the wisest stance seems to be to postpone the sort of generalizations that traditionally nourish and distinguish the 'schools' of thought. The label Cognitive Semiotics is not a new school; it emerged as a straightforward nominal compound naming minimally the intersection and maximally the product of the main theoretical components in current research on meaning in this extended sense. This appellation also expresses a belief in an ongoing communication across faculties and former 'chapels' of knowledge, and a will to share ideas and projects which only contingencies can limit.

https://www.academia.edu/4021114/Per_Aage_Brandt_Spaces_Domains_and_Meaning_Essays_in_Cognitive_Semiotics_2004?email_work_card=view-paper

PSYARXIV PREPRINTS – Evolution of syntax & semantics from psycholinguistic & neurolinguistic views

PETAR GABRIĆ – Evolution of syntax and semantics from psycholinguistic and neurolinguistic perspectives: a working paper

In the present paper, I shall provide a narrative review of selected scientific studies and discussions dealing with the evolution of semantics and syntax. The aim of the present paper is not to provide a complete review. The number of studies and discussions on language evolution has exploded recently and the studies stem from various scientific disciplines, impeding my ability to review and understand the entire literature. The focus of this paper will be on psycholinguistic and neurolinguistic literature which has, however, only sporadically tested hypotheses on language evolution. Independently of this obstacle, I shall search in these studies for potential implications for the evolution of semantics and syntax. The aim of this paper is to acquaint Croatian scientists with the topics of the evolution of semantics and syntax and offer them an interdisciplinary view of different approaches and problems which will provide basic information on the topic to the interested reader. In the second chapter, I shall briefly describe language evolution in the context of contemporary evolutionary sciences and address some studies which putatively show that animals may display both semantic and syntactic behaviors in their communication. In the third chapter, I shall introduce psycholinguistic and neurolinguistic studies which suggest that semantics and syntax are embodied in perceptuo-motor system. In the fourth chapter, I shall portray the protolanguage model of language evolution and the accompanying theory of language fossils.

<https://psyarxiv.com/e9w4u/>

CONFERENCE ALERT – Virtual Evolution 2021 - June 21 - 25, 2021

Registration is Open!

<https://www.evolutionmeetings.org/>

The Evolution conference is the joint annual meeting of the American Society of Naturalists <http://www.amnat.org/>, the Society for the Study of Evolution <http://www.evolutionsociety.org/>, and the Society of Systematic Biologists <https://www.systbio.org/>. The

meeting is one of the premier opportunities for sharing research on evolutionary biology each year. For 2021, our conference will be virtual with live-streamed plenaries, scheduled faux-live concurrent sessions, on-demand talks, and topical networking events.

We are pleased to offer free meeting registration to 200 society members from 139 countries and territories around the world. Applicants must be members of ASN, SSB, or SSE. If you have joined SSE through the Global Membership Assistance Program <http://www.evolutionsociety.org/index.php?module=content&type=user&func=view&pid=8#gma>, you are eligible for free registration. Learn more and apply here: <https://www.evolutionmeetings.org/global-participation.html>.

CONFERENCE ALERT – Cognition, Behavior and Evolution Network Upcoming Conference

This year's meeting of the Cognition, Behavior and Evolution Network will be hosted at Tilburg University on November 18-19. Further details on registration and submissions will follow.

<http://www.cognitionbehaviorevolution.nl/?p=724>

CONFERENCE ALERT – Human Behavior and Evolution Society

The conference of the Human Behavior and Evolution Society (HBES) will take place online between June 24 and July 2, 2021. Submissions for symposia and individual talks are due by April 23.

<https://www.hbes.com/hbes2021-virtually-everywhere-official-announcement/>

NEWS

BREAKING SCIENCE – Archaeologists Unearth Rare Bone Artifact in Australia

The newly-discovered bone artifact was likely used for piercing soft materials or possibly as a projectile point. The ancient bone point was found at the site of Murrawong near the Lower Murray River in Ngarrindjeri country in southern Australia. The artifact was situated in the archaeological layer dating to between 5,303 and 3,875 years ago.

http://feedproxy.google.com/~r/BreakingScienceNews/~3/z14fP4W3IYM/murrawong-bone-point-09463.html?utm_source=feedburner&utm_medium=email

NATURE BRIEFING – Puppies are hardwired to understand us

Nearly 400 adorable puppies have helped researchers to show that dogs' ability to understand human pointing — a rarity in the animal kingdom — appears to be hardwired in doggy DNA. The team used 8-week-old labrador and golden-retriever pups in a series of experiments to see how the furballs responded to human cues, such as pointing and 'puppy talk'. Some puppies were more successful than others, but the researchers found that approximately 43% of that variation in performance was due to genetics. The finding suggests people strongly selected for these abilities in the past, paving the way for dogs to become the human mind-readers they are today.

<https://nature.us17.list-manage.com/track/click?u=2c6057c528fdc6f73fa196d9d&id=63452788cf&e=1db4b9a19b>

SCIAM NEWS – Forecast or Remember: The Brain Must Choose One

Trying to predict a situation impedes memory formation.

<http://links.email.scientificamerican.com/els/v2/-RWPCaPWxbT-/ROE5dVY4SjIHcTFZLzdQT1hyTHdld0gwS2d6cHZuVG4xYIVNZVpDdE9MQ0VuV2Q2RTdaQXcxVkybUVyRnBRTnJmVUhkRHhQaXUzU2ZYMWkrbnZQajFJZUovQy9YazRUNWFnbE1iMnFZTFE9S0/>

SCIAM NEWS – Baby Talk and Lemur Chatter--but Not Birdsong--Help an Infant's Brain Develop

Researchers probe the outer boundaries of what types of sounds human infants tune in to for building cognition.

<http://links.email.scientificamerican.com/els/v2/7my4CADVexBYm/ROE5dVY4SjIHcTFZLzdQT1hyTHdld0gwS2d6cHZuVG4xYIVNZVpDdE9MQ0VuV2Q2RTdaQXcxVkybUVyRnBRTnJmVUhkRHhQaXUzU2ZYMWkrbnZQajFJZUovQy9YazRUNWFnbE1iMnFZTFE9S0/>

SCIENCE DAILY – What happens in your brain when you 'lose yourself' in fiction

If you count yourself among those who lose themselves in the lives of fictional characters, scientists now have a better idea of how that happens. Researchers found that the more immersed people tend to get into 'becoming' a fictional character, the more they use the same part of the brain to think about the character as they do to think about themselves.

<https://www.sciencedaily.com/releases/2021/03/210315132143.htm>

SCIENCE DAILY – Parental burnout hits individualist Western countries hardest

It's a first: approximately 100 scientists in 42 countries joined forces to learn about the incidence of parental burnout. They found that Western countries are the most affected by parental burnout. The cause? The often individualistic culture of Western countries. This international study, shows how culture, rather than socio-economic factors, plays a predominant role in parental burnout.

<https://www.sciencedaily.com/releases/2021/03/210318085604.htm>

SCIENCE NEWS – Watch dolphins 'talk' to each other to synchronize their behaviors

If you've ever counted to three before jumping into the pool with a friend, you've got something in common with dolphins. The sleek marine mammals use coordinated clicks and whistles to tell each other the precise moment to perform a backflip or push a button, according to new research. That makes them the only animals besides humans known to cooperate with vocal cues.

https://www.sciencemag.org/news/2021/03/watch-dolphins-talk-each-other-synchronize-their-behaviors?utm_campaign=news_daily_2021-03-17

SCIENCE NEWS – Who is Camille Noûs, the fictitious French researcher with nearly 200 papers?

Camille Noûs first appeared on the research scene 1 year ago, as a signatory to an open letter protesting French science policy. Since then, Noûs has been an author on 180 journal papers, in fields as disparate as astrophysics, molecular biology, and ecology, and is racking up citations.

But Noûs is not a real person. The name—intentionally added to papers, sometimes without the knowledge of journal editors—is meant to personify collective efforts in science and to protest individualism, according to RogueESR, a French research advocacy group that dreamed up the character. But the campaign is naïve and ethically questionable, says Lisa

Rasmussen, a bioethicist at the University of North Carolina, Charlotte. It flouts the basic principle of taking responsibility alongside the credit of authorship, she says. And some journal editors are balking at going along with the protest.

https://www.sciencemag.org/news/2021/03/who-camille-no-s-fictitious-french-researcher-nearly-200-papers?utm_campaign=news_daily_2021-03-17&et rid=17774313&et_cid=3703486

SCIENCE NEWS – These adorable puppies may help explain why dogs understand our body language

Few scientific mysteries can be solved with the help of nearly 400 adorably naughty puppies, but a new study is a pleasant exception. Researchers have used the furballs to show dogs' ability to understand human pointing—a rarity in the animal kingdom and key to social intelligence—appears to be hardwired in doggy DNA.

https://www.sciencemag.org/news/2021/03/these-adorable-puppies-may-help-explain-why-dogs-understand-our-body-language?utm_campaign=news_daily_2021-03-18&et rid=17774313&et_cid=3705014

SOCIETY FOR SCIENCE – Two bonobos adopted infants outside their group, marking a first for great apes

Females bonobos in a reserve in the Congo took care of orphaned infants — feeding, carrying and cuddling them — for at least one year.

<http://click.societyforscience-email.com/?qs=93279a86258665c148fd797836482f4ae7af31f068ca0222bba80b34858310cd227099fa3695136465073572eb4b9caabcc809aedc40202>

OTHER NEWS – GUARDIAN – Sperm whales in 19th century shared ship attack information

A remarkable new study on how whales behaved when attacked by humans in the 19th century has implications for the way they react to changes wreaked by humans in the 21st century.

The paper, published by the Royal Society on Wednesday, is authored by Hal Whitehead and Luke Rendell, pre-eminent scientists working with cetaceans, and Tim D Smith, a data scientist, and their research addresses an age-old question: if whales are so smart, why did they hang around to be killed? The answer? They didn't.

<https://www.theguardian.com/environment/2021/mar/17/sperm-whales-in-19th-century-shared-ship-attack-information>

PUBLICATIONS

American Journal of Physical Anthropology

PAPERS

ELIZABETH V. LONSDORF et al – Wild chimpanzee offspring exhibit adult-like foraging patterns around the age of weaning

The prolonged juvenile period exhibited by primates is an evolutionary conundrum. Here we examine wild chimpanzee feeding development in the context of two hypotheses regarding prolonged development in primates: the needing-to-learn hypothesis and the expensive brain hypothesis. We found that chimpanzee offspring attained adult-like feeding behaviors between 4 and 6 years of age, concomitant with the completion of weaning. Thus, our data do not support the needing-to-learn feeding skills hypothesis of a prolonged juvenile period, but additional data are needed to evaluate how and when adolescent chimpanzees are able to make foraging decisions independent of their mothers. Existing data on growth provides support for the expensive brain hypothesis, however, these hypotheses are not necessarily mutually exclusive. As more studies across taxa accumulate sufficient datasets on a range of developmental metrics, we will be able to achieve a more robust understanding of prolonged development in primates.

<https://onlinelibrary.wiley.com/doi/abs/10.1002/ajpa.24267?campaign=wolearlyview>

Biology Letters

PAPERS

HAL WHITEHEAD, TIM D. SMITH AND LUKE RENDELL – Adaptation of sperm whales to open-boat whalers: rapid social learning on a large scale?

Animals can mitigate human threats, but how do they do this, and how fast can they adapt? Hunting sperm whales was a major nineteenth century industry. Analysis of data from digitized logbooks of American whalers in the North Pacific found that the rate at which whalers succeeded in harpooning ('striking') sighted whales fell by about 58% over the first few years of exploitation in a region. This decline cannot be explained by the earliest whalers being more competent, as their strike rates outside the North Pacific, where whaling had a longer history, were not elevated. The initial killing of particularly vulnerable individuals would not have produced the observed rapid decline in strike rate. It appears that whales swiftly learned effective defensive behaviour. Sperm whales live in kin-based social units. Our models show that social learning, in which naive social units, when confronted by whalers, learned defensive measures from grouped social units with experience, could lead to the documented rapid decline in strike rate. This rapid, large-scale adoption of new behaviour enlarges our concept of the spatio-temporal dynamics of non-human culture.

<https://royalsocietypublishing.org/doi/10.1098/rsbl.2021.0030>

CAMILO R. RONDEROS, ERNESTO GUERRA & PIA KNOEFERLE – The Role of Literal Features During Processing of Novel Verbal Metaphors

When a word is used metaphorically (for example “walrus” in the sentence “The president is a walrus”), some features of that word's meaning (“very fat,” “slow-moving”) are carried across to the metaphoric interpretation while other features (“has large tusks,” “lives near the north pole”) are not. What happens to these features that relate only to the literal meaning during processing of novel metaphors? In four experiments, the present study examined the role of the feature of physical containment during processing of verbs of physical containment. That feature is used metaphorically to signify difficulty, such as “fenced in” in the sentence “the journalist's opinion was fenced in after the change in regime.” Results of a lexical decision task showed that video clips displaying a ball being trapped by a box facilitated comprehension of verbs of physical containment when the words were presented in isolation. However, when the verbs were embedded in sentences that rendered their interpretation metaphorical in a novel way, no such facilitation was found, as evidenced by two eye-tracking reading studies. We interpret this as suggesting that features that are critical for understanding the encoded meaning of verbs but are not part of the novel metaphoric interpretation are ignored during the construction of metaphorical meaning. Results and limitations of the paradigm are discussed in relation to previous findings in the literature both on metaphor comprehension and on the interaction between language comprehension and the visual world.

https://www.frontiersin.org/articles/10.3389/fpsyg.2020.556624/full?utm_source=F-AAE&utm_medium=EMLF&utm_campaign=MRK_1579023_69_Psycho_20210318_arts_A

Mind & Language

PAPERS

HANNAH GINSBORG – Going on as one ought: Kripke and Wittgenstein on the normativity of meaning

Kripke's thesis that meaning is normative is typically interpreted, following Boghossian, as the thesis that meaningful expressions allow of true or warranted use. I argue for an alternative interpretation centered on Wittgenstein's conception of the normativity involved in “knowing how to go on” in one's use of an expression. Meaning is normative for Kripke because it justifies claims, not to be saying something true, but to be going on as one ought from previous uses of the expression. I argue that this represents a distortion of Wittgenstein's conception of the normativity of meaning, and that Wittgenstein's conception is preferable.

<https://onlinelibrary.wiley.com/doi/abs/10.1111/mila.12342?campaign=wolearlyview>

GERARDO VIERA – The perceived unity of time

While we perceive events in our environment through multiple sensory systems, we nevertheless perceive all of these events as occupying a single unified timeline. Time, as we perceive it, is unified. I argue that existing accounts of the perceived unity of time fail. Instead, the perceived unity of time must be constructed by integrating our initially fragmented timekeeping capacities. However, existing accounts of multimodal integration do not tell us how this might occur. Something new is needed. I finish the paper by articulating the hurdles that must be overcome to provide an account of the perceived unity of time.

<https://onlinelibrary.wiley.com/doi/full/10.1111/mila.12331?campaign=wolearlyview>

JORDAN C. V. TAYLOR – Solipsistic sentience

This article examines the nature of affective states across biological taxa. It argues that affect constitutes a primary form of consciousness. Creatures capable of affect are sentient of their bodily states and can behave in ways intended to maintain or restore them to a homeostatic range. After reviewing and critiquing neurobiological and philosophical theories of the evolution of consciousness, this article argues that some possible creatures are limited to self-directed affective states, even if those creatures are capable of exteroception. Such creatures enjoy solipsistic sentience: awareness of their own selves and bodily demands, but unawareness of their exogenous environments.

{Solipsistic sentience is awareness of self; but exteroception is “sensitivity to stimuli originating outside of the body” – and therefore does not require awareness; single-celled animals have exteroception. This is comparing orange pips and oranges.}

<https://onlinelibrary.wiley.com/doi/abs/10.1111/mila.12341?campaign=wolearlyview>

Nature

NEWS

Bonobo mums open their arms to outsider orphans

Two female bonobos adopted youngsters from another troop — an unprecedented behaviour for wild great apes.

<https://www.nature.com/articles/d41586-021-00726-4>

ARTICLES

CHRIS REED – Argument technology for debating with humans

A fully autonomous computer system has been developed that can take part in live debates with people. The findings hint at a future in which artificial intelligence can help humans to formulate and make sense of complex arguments.

<https://www.nature.com/articles/d41586-021-00539-5>

PAPERS

NOAM SLONIM et al – An autonomous debating system

Artificial intelligence (AI) is defined as the ability of machines to perform tasks that are usually associated with intelligent beings. Argument and debate are fundamental capabilities of human intelligence, essential for a wide range of human activities, and common to all human societies. The development of computational argumentation technologies is therefore an important emerging discipline in AI research¹. Here we present Project Debater, an autonomous debating system that can engage in a competitive debate with humans. We provide a complete description of the system's architecture, a thorough and systematic evaluation of its operation across a wide range of debate topics, and a detailed account of the system's performance in its public debut against three expert human debaters. We also highlight the fundamental differences between debating with humans as opposed to challenging humans in game competitions, the latter being the focus of classical 'grand challenges' pursued by the AI research community over the past few decades. We suggest that such challenges lie in the 'comfort zone' of AI, whereas debating with humans lies in a different territory, in which humans still prevail, and for which novel paradigms are required to make substantial progress.

<https://www.nature.com/articles/s41586-021-03215-w>

Nature Communications

PAPERS

CINZIA FORNAI et al – Sacrum morphology supports taxonomic heterogeneity of "Australopithecus africanus" at Sterkfontein Member 4

The presence of multiple *Australopithecus* species at Sterkfontein Member 4, South Africa (2.07–2.61 Ma), is highly contentious, and quantitative assessments of craniodental and postcranial variability remain inconclusive. Using geometric morphometrics, we compared the sacrum of the small-bodied, presumed female subadult *Australopithecus africanus* skeleton Sts 14 to the large, alleged male adult StW 431 against a geographically diverse sample of modern humans, and two species of *Pan*, *Gorilla*, and *Pongo*. The probabilities of sampling morphologies as distinct as Sts 14 and StW 431 from a single species ranged from 1.3 to 2.5% for the human sample, and from 0.0 to 4.5% for the great apes, depending on the species and the analysis. Sexual dimorphism and developmental or geologic age could not adequately explain the differences between StW 431 and Sts 14, suggesting that they are unlikely to be conspecific. This supports earlier claims of taxonomic heterogeneity at Sterkfontein Member 4.

<https://www.nature.com/articles/s42003-021-01850-7>

Nature Human Behaviour

PAPERS

ZHIQIANG SHA et al – The genetic architecture of structural left–right asymmetry of the human brain

Left–right hemispheric asymmetry is an important aspect of healthy brain organization for many functions including language, and it can be altered in cognitive and psychiatric disorders. No mechanism has yet been identified for establishing the human brain's left–right axis. We performed multivariate genome-wide association scanning of cortical regional surface area and thickness asymmetries, and subcortical volume asymmetries, using data from 32,256 participants from the UK Biobank. There were 21 significant loci associated with different aspects of brain asymmetry, with functional enrichment involving microtubule-related genes and embryonic brain expression. These findings are consistent with a known role of the cytoskeleton in left–right axis determination in other organs of invertebrates and frogs. Genetic variants associated with brain asymmetry overlapped with those associated with autism, educational attainment and schizophrenia. Comparably large datasets will likely be required in future studies, to replicate and further clarify the associations of microtubule-related genes with variation in brain asymmetry, behavioural and psychiatric traits.

<https://www.nature.com/articles/s41562-021-01069-w>

Nature Humanities & Social Sciences Communications

PAPERS

CHESTER WAI-JEN LIU, SHENG-FENG SHEN & WEI-CHUNG LIU – On the evolution of social ties as an instrumental tool for resource competition in resource patch networks

Human is a highly cultural species with diversified skills and knowledge. In this paper, we examine whether the diversification of skills and knowledge can promote the emergence of social ties between individuals as means for acquiring resources. Specifically, we construct a simulation model consisting of two types of actors—one who uses social ties to search for resources and one who does not—and allow them to compete for resources that are distributed in resource patch networks of varying structures. In a densely connected resource patch network, implying a setting with less diversified sets of skills and

knowledge, model result demonstrates that social ties can be detrimental to those adopting it. In a sparsely connected network, implying a setting with more diversified sets of skills and knowledge, social-type strategy can outcompete solitary-type strategy. Furthermore, actors with a pure social-type strategy are always inferior to their solitary competitors, regardless the structure of the resource patch network. Our modeling framework is of a very fundamental nature, and its relevance to existing theories and the sociological implication of its results are discussed.

<https://www.nature.com/articles/s41599-021-00753-6>

Nature Scientific Reports

PAPERS

NAHOKO TOKUYAMA et al – Two wild female bonobos adopted infants from a different social group at Wamba

Adoption, the act of taking another individual's offspring and treating it as one's own, is rare but widely observed in various mammal species and may increase the survival of adoptees. Adoption may also benefit adoptive mothers, for example they might care for close kin to gain indirect fitness or to learn caregiving behaviours. Here, we report two cases of a wild bonobo adopting an infant from a different social group, the first report of cross-group adoption in great apes. In one case, the adoptive mother was already a mother of two dependent offspring. In the other case, the adoptive mother was an old parous female whose own offspring had already emigrated into a different social group. The adoptive mothers provided various maternal care to the adoptees, such as carrying, grooming, nursing, and sharing food. No aggression was observed by group members towards the out-group adoptees. In both cases, adoptees had no maternal kin-relationship with their adoptive mothers. Both adoptive mothers already had experience of rearing their own offspring. Instead, these cases of adoption may have been driven by other evolutionary adaptive traits of bonobos, such as their strong attraction to infants and high tolerance towards immatures and out-group individuals.

<https://www.nature.com/articles/s41598-021-83667-2>

LÉON FRANZEN, ZOHEY STARK & AARON P. JOHNSON – Individuals with dyslexia use a different visual sampling strategy to read text

Individuals with dyslexia present with reading-related deficits including inaccurate and/or less fluent word recognition and poor decoding abilities. Slow reading speed and worse text comprehension can occur as secondary consequences of these deficits. Reports of visual symptoms such as atypical eye movements during reading gave rise to a search for these deficits' underlying mechanisms. This study sought to replicate established behavioral deficits in reading and cognitive processing speed while investigating their underlying mechanisms in more detail by developing a comprehensive profile of eye movements specific to reading in adult dyslexia. Using a validated standardized reading assessment, our findings confirm a reading speed deficit among adults with dyslexia. We observed different eye movements in readers with dyslexia across numerous eye movement metrics including the duration of a stop (i.e., fixation), the length of jumps (i.e., saccades), and the number of times a reader's eyes expressed a jump atypical for reading. We conclude that individuals with dyslexia visually sample written information in a laborious and more effortful manner that is fundamentally different from those without dyslexia. Our findings suggest a mix of aberrant cognitive linguistic and oculomotor processes being present in adults with dyslexia.

{An interesting paper, but... "aberrant cognitive linguistic and oculomotor processes"? Has general reading been around long enough for genetic selection to generate standard cognitive linguistic and oculomotor processes?}

<https://www.nature.com/articles/s41598-021-84945-9>

New Scientist

NEWS

Early humans may have turned to small game after wiping out big beasts

Our ancestors' diets changed dramatically over the course of the past 2.5 million years, and one research team thinks that profoundly affected our evolution. According to a team including Miki Ben-Dor and Ran Barkai at Tel Aviv University in Israel, hominin diets were once so dominated by meat from massive animals that the hunters caused some of those species to go extinct. This, in turn, forced our ancestors to develop more sophisticated hunting techniques to bring down smaller, more elusive prey, leading to greater intelligence and the evolution of modern humans.

<https://www.newscientist.com/article/2271316-early-humans-may-have-turned-to-small-game-after-wiping-out-big-beasts/#ixzz6pbCgNuLb>

PLoS One

PAPERS

LES SIKOS et al – Reevaluating pragmatic reasoning in language games

The results of a highly influential study that tested the predictions of the Rational Speech Act (RSA) model suggest that (a) listeners use pragmatic reasoning in one-shot web-based referential communication games despite the artificial, highly constrained, and minimally interactive nature of the task, and (b) that RSA accurately captures this behavior. In this work, we reevaluate the contribution of the pragmatic reasoning formalized by RSA in explaining listener behavior by comparing RSA to a baseline literal listener model that is only driven by literal word meaning and the prior probability of referring to an

object. Across three experiments we observe only modest evidence of pragmatic behavior in one-shot web-based language games, and only under very limited circumstances. We find that although RSA provides a strong fit to listener responses, it does not perform better than the baseline literal listener model. Our results suggest that while participants playing the role of the Speaker are informative in these one-shot web-based reference games, participants playing the role of the Listener only rarely take this Speaker behavior into account to reason about the intended referent. In addition, we show that RSA's fit is primarily due to a combination of non-pragmatic factors, perhaps the most surprising of which is that in the majority of conditions that are amenable to pragmatic reasoning, RSA (accurately) predicts that listeners will behave non-pragmatically. This leads us to conclude that RSA's strong overall correlation with human behavior in one-shot web-based language games does not reflect listener's pragmatic reasoning about informative speakers.

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0248388>

PNAS

PAPERS

MARK DYBLE – The evolution of altruism through war is highly sensitive to population structure and to civilian and fighter mortality

Many evolutionary theorists have suggested that the human capacity for altruism was forged in war, with cohesive and altruistic groups outcompeting their selfish neighbors. Assessing this “parochial altruism” hypothesis relies largely on computational modeling. Here, I reexamine a well-known model that explores the coevolution of altruism and war. As well as clarifying the importance of factors such as the lethality of war to fighters and civilians, the results show that the evolution of altruism in this model relies on a degree of genetic differentiation between groups that exceeds that seen among hunter-gatherers. Furthermore, when the model produces a more realistic population structure, altruism does not evolve, casting doubt on the plausibility of the parochial altruism hypothesis.

<https://www.pnas.org/content/118/11/e2011142118.abstract?etoc>

Social Cognitive and Affective Neuroscience

PAPERS

TIMOTHY W BROOM, ROBERT S CHAVEZ & DYLAN D WAGNER – Becoming the King in the North: Identification with fictional characters is associated with greater self–other neural overlap

During narrative experiences, identification with a fictional character can alter one's attitudes and self-beliefs to be more similar to those of the character. The ventral medial prefrontal cortex (vmPFC) is a brain region that shows increased activity when introspecting about the self but also when thinking of close friends. Here, we test whether identification with fictional characters is associated with increased neural overlap between self and fictional others. Nineteen fans of the HBO series *Game of Thrones* performed trait evaluations for the self, 9 real-world friends and 9 fictional characters during functional neuroimaging. Overall, the participants showed a larger response in the vmPFC for self compared to friends and fictional others. However, among the participants higher in trait identification, we observed a greater neural overlap in the vmPFC between self and fictional characters. Moreover, the magnitude of this association was greater for the character that participants reported feeling closest to/liked the most as compared to those they felt least close to/liked the least. These results suggest that identification with fictional characters leads people to incorporate these characters into their self-concept: the greater the immersion into experiences of ‘becoming’ characters, the more accessing knowledge about characters resembles accessing knowledge about the self.

<https://academic.oup.com/scan/advance-article/doi/10.1093/scan/nsab021/6143004>

Trends in Cognitive Sciences

PAPERS

GORDON PENNYCOOK & DAVID G. RAND – The Psychology of Fake News

We synthesize a burgeoning literature investigating why people believe and share false or highly misleading news online. Contrary to a common narrative whereby politics drives susceptibility to fake news, people are ‘better’ at discerning truth from falsehood (despite greater overall belief) when evaluating politically concordant news. Instead, poor truth discernment is associated with lack of careful reasoning and relevant knowledge, and the use of heuristics such as familiarity. Furthermore, there is a substantial disconnect between what people believe and what they share on social media. This dissociation is largely driven by inattention, more so than by purposeful sharing of misinformation. Thus, interventions can successfully nudge social media users to focus more on accuracy. Crowdsourced veracity ratings can also be leveraged to improve social media ranking algorithms.

[https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613\(21\)00051-6?dgcid=raven_jbs_aip_email](https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(21)00051-6?dgcid=raven_jbs_aip_email)

COMMENTARIES

TOBIAS GROSSMANN – Developmental Origins of the Pathway for Social Perception

Pitcher and Ungerleider argue for a revision of the two visual pathway (dorsal and ventral) model by presenting evidence for the existence of a third visual pathway specialized for social perception. This pathway is located at the lateral surface of the brain, processes dynamic social information, and projects into the superior temporal sulcus. This letter further supports and

critically extends this new account by highlighting an existing body of research that sheds light on the developmental emergence of this third pathway in the human brain during infancy.

[https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613\(21\)00059-0?dgid=raven_jbs_aip_email](https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(21)00059-0?dgid=raven_jbs_aip_email)

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