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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.

CONFERENCE ALERT – Joint Conference on Language Evolution

(Kanazawa, Japan & Online, September 5th-8th, 2022)

<https://evolang.us16.list-manage.com/track/click?u=3c02037f31127170cc4814a4e&id=f0bca75b0e&e=1da5838da4>

CALL FOR PAPERS

Joint Conference on Language Evolution (Kanazawa, Japan & Online, September 5th-8th, 2022) co-organized by Evolang, Protolang, and Evolving linguistics invites substantive contributions relating to the evolution of human language. This joint conference will provide an unprecedented opportunity to bring together all the language evolution research communities, enabling a global platform for interdisciplinary discussion. Submissions may be in any relevant discipline, including, but not limited to, anthropology, archeology, artificial life, biology, cognitive science, genetics, linguistics, modeling, neuroscience, paleontology, physiology, primatology, and psychology. We particularly welcome submissions with an interdisciplinary character. Normal standards of academic excellence apply.

The deadline for submission is February 1, 2022.

The submission system will open in December.

Submitted papers/abstracts should aim to make clear their own substantive claim, relating it to relevant, current scientific literature in the field of language evolution. Submitted papers/abstracts should briefly set out the method by which the claim is substantiated, the nature of the relevant data, and/or the core of the theoretical argument concerned. Submissions may be theory-based, but empirical studies should not rest on preliminary results. Submissions which do not have clear relevance to the field or do not adhere to the guidelines may be rejected without review.

Submissions can be made both for podium presentations (15 min talk + 5 min Q&A) and for poster presentations. They are limited to one first-authored podium presentation and one first-authored poster per person. There is no limit on second authored submissions. When submitting, please indicate whether your submission is to be considered for inclusion as a talk, as a poster, or as either of the two. Both podium and poster presentations can be held on site or online. Please indicate whether you are currently planning to present your work on site or online. (We are aware that this is your preliminary decision.)

For both podium and poster presentations, there are two possible types of submission: (a) Full papers, which can have a length of between 6 and 8 pages, and (b) Abstracts, which can be up to 2 pages long.

In addition to your submission, you will be asked to provide a 150-word summary of your contribution.

Please carefully read the submission guidelines (<https://evolang.us16.list-manage.com/track/click?u=3c02037f31127170cc4814a4e&id=289c22e4b0&e=1da5838da4>) to prepare your submission.

The conference language of Joint Conference on Language Evolution is English.

CALL FOR WORKSHOP PROPOSALS

In addition to the general session, Joint Conference on Language Evolution will be able to host thematically focused workshops to be held during the conference. The time slot of 2 hours will be provided for each workshop. We encourage the organizers to host the workshop mainly onsite, but it is of course possible to do online workshops depending on the individual needs. The responsibility for the detailed scheduling of the workshops and for the quality of workshop contributions will rest with workshop organizers.

Workshop proposals should be submitted by January 5th, 2022.

Please carefully read the submission guidelines (<https://evolang.us16.list-manage.com/track/click?u=3c02037f31127170cc4814a4e&id=ee697990ef&e=1da5838da4>) to prepare your submission.

Please spread the word!

Twitter: @JCoLE2022

CONFERENCE ALERT – The Science of Consciousness – April 18-23, 2022 (Links at bottom)

Hybrid Format – Remote Online and/or Live In-Person, Loews Ventana Canyon Resort, Tucson AZ

The Science of Consciousness ('TSC') is an interdisciplinary conference emphasizing rigorous approaches to the study of consciousness and its place in the universe. Topical areas include neuroscience, philosophy, psychology, cognitive science,

biology, quantum physics and quantum brain biology, cosmology, meditation, altered states, artificial intelligence/machine consciousness, the nature of reality, culture and experiential phenomenology. Held annually since 1994, the TSC conference is hosted by the Center for Consciousness Studies at the University of Arizona, and alternates yearly between Tucson, Arizona and various locations in Italy, Denmark, Japan, Sweden, Czech Republic, Hungary, Hong Kong, India, Finland, San Diego and Switzerland.

The 27th annual TSC will be held April 18-23, 2022. Because of pandemic uncertainty, TSC 2022 is being planned as a hybrid event, with both 1) remote online livestreaming, and 2) live in-person participation. Live participation and broadcast will take place at the Loews Ventana Canyon Resort, a beautiful eco-lodge in the hills above Tucson, Arizona. An early room rate is available for on-site registrants (\$140) and the resort fee is waived.

Tucson TSC conferences consist of keynote, plenary and concurrent talks, posters, exhibits, workshops and social events. For April 2022, the mix of live and remote presentations and audience will depend on the pandemic conditions. We hope for a robust in-person audience and will update and finalize conditions and participation mode in early 2022. Looking forward to your participation.

Program Committee: Co-Chairs: Stuart Hameroff U Arizona; George Mashour, U Michigan

Committee: Tom Bever, U Arizona; Jay Sanguinetti, U Arizona; M Bruce MacIver, Stanford U; Dante Lauro, U Arizona, Abi Behar-Montefiore, U Arizona

Sponsors: Center for Consciousness Science, U Michigan; Alvin J. Clark Foundation; Center for Consciousness Studies, U Arizona; Mani Bhaumik; Ronald Gruber; Jhong Family Foundation

PLENARY AND KEYNOTE PROGRAM

Plenary Sessions (3 sessions per day, Tuesday, April 19 through Friday, April 23)

Live sessions will be held in the Kiva Ballroom, and all sessions will be live streamed for remote registrants

KEYNOTE SESSIONS

PSYCHEDELICS – Robin Carhart-Harris, UCSF

REALITY+ - David Chalmers, NYU

ASTROBIOLOGY AND ASTROCONSCIOUSNESS - Avi Loeb, Harvard U

PLENARY SESSIONS

ASTROBIOLOGY AND ASTROCONSCIOUSNESS: Dante Lauro, U Arizona; Paul Davies, Arizona State U; Sir Roger Penrose, U Oxford

BRAIN CONNECTIVITY: Jean-Rémi King, CNRS; Zirui Huang, U Michigan; Anirban Bandyopadhyay, NIMS

SLEEP, WAKEFULNESS & ANESTHESIA: Giancarlo Vanini, U Michigan; Matthew Larkum, Humboldt U; Alex Proekt, U Pennsylvania

PSYCHEDELIC MECHANISMS: Alex C Kwan, Yale U; Katrin Preller, U Zurich/Yale U

ORIGINS OF LIFE: Sara Walker, Arizona State U; Steen Rasmussen, U Southern Denmark; Stuart Hameroff, U Arizona

ALTERED STATES OF CONSCIOUSNESS: Emma Huels, U Michigan; Charlotte Martial, U Liège; Elizabeth Krasnoff, Sound Healing

Additional Plenary Sessions to be Added

WORKSHOPS

PROGRESS ON DUAL-ASPECT THINKING: Harald Atmanspacher, ETH Zurich; Paavo Pylkkanen, U Helsinki; Dean Rickles, U Sydney; Robert Prentner, U Munich

QUANTUM MECHANICS AND CONSCIOUSNESS: Justin Riddle, U North Carolina; Johannes Kleiner, Ludwig Maximilian U Munich, Kevin J. McQueen, Chapman U

CONSCIOUSNESS AND NON-LOCALITY: Dean Radin, IONS; Stephan A. Schwartz, Saybrook U

TESTING ORCH OR: UPDATE ON TWCF PROJECT: Jack Tuszynski, U Alberta; Aarat Kalra, Princeton U; Greg Scholes, Princeton U; Aristide Dogariu, U. Central Florida; Travis Craddock, Nova Southeastern U; Bruce MacIver, Stanford U

BRAIN MODULATION WITH TRANSCRANIAL ULTRASOUND: Jay Sanguinetti, U Arizona; Sasha Bystritsky, UCLA

PLANTS AND CONSCIOUSNESS: Bruce MacIver, Stanford U; Rajnish Khanna, I-Cultiver

PEAK EXPERIENCE AND ADVERSE MENTAL EVENTS: Jay Sanguinetti, EPRC group, U Arizona

TIME AND RETROCAUSALITY: Daniel Sheehan, U San Diego

EMBEDDED INTELLIGENCE: Bill Mensch, Western Design Center, TBA

CONCURRENT SESSIONS

(evenings Tuesday April 19, Wednesday April 20 and Friday April 23): 5 speakers (20 minute talks) in each parallel (concurrent) thematic session, the number of sessions each day to be determined. 12 sessions

POSTERS/EXHIBITS

Scheduled live laptop projections, boards and technology demos at the Hotel and online presentations.

FILMS/ENTERTAINMENT/SOCIAL EVENTS

Proposals emailed to: center@email.arizona.edu

CONFERENCE REGISTRATION FEES

Registration – In-person attendance (fees taken via Eventbrite – after Nov. 1): Student \$400; Standard \$550; Thurs Dinner \$65

Registration includes all workshops, Tuesday opening reception, evening exhibit receptions, free 1 hour daily tennis court time, free daily courtesy shuttle to Sabino Canyon and Ventana Village shopping center.

Registration – Livestream/virtual: Student \$250; Standard \$300

CONFERENCE VENUE

Loews Ventana Canyon Resort, Tucson Arizona

Early Room Rate (\$140) resort fee waived through March 18, 2020

Loews Ventana Canyon Group Room Rate Link - now open

CALL FOR ABSTRACT SUBMISSIONS: THE ABSTRACT LINK IS NOW OPEN

Taxonomy for abstract categories - Additional themes welcomed in the 6 major categories: Philosophy, Neuroscience, Cog Sci-Psychology, Physical & Biological Sciences, Experiential Approaches, Culture & Humanities

DEADLINES

Submission deadline December 10-15, 2021

Acceptance notifications through December 22, 2021

Early Hotel Rate deadline March 18, 2022

DRAFT PROGRAM

Monday 4/18 Arrivals, Workshops

Tuesday 4/19 Workshops, Exhibits, Art-Tech-Health; Conference Opening, Keynote-Plenary, Welcome Reception

Wednesday 4/20 Plenary, Concurrent, Exhibits, Art-Tech-Health

Thursday 4/21 Plenary, Concurrent, Exhibits, Conference Dinner

Friday 4/22 Plenary, Concurrent, Exhibits, Art-Tech-Health, Poetry Slam

Saturday 4/23 Plenary

CONFERENCE LINKS

TSC-2022 Abstract Submission Link https://uarizona.co1.qualtrics.com/jfe/form/SV_863Ly5H4J8UxK6y

Eventbrite Registration Payment System <https://www.eventbrite.com/e/the-science-of-consciousness-tsc-2022-tucson-tickets-199479658027>

Loews Ventana Canyon Group Room Rate Link <https://www.loewshotels.com/ventana-canyon/the-science-of-consciousness>

Loews Resort Virtual Tour <https://www.youtube.com/watch?v=TOMB2XRua8>

Hotel Protocols <https://www.loewshotels.com/protocols>

CCS Center for Consciousness Studies Website <http://www.consciousness.arizona.edu/>

Videos CCS-TSC conferences & programs - through 2021 <https://www.youtube.com/channel/UCoNDcPkKXg2UioJKxTZI-ZA/videos>

Stay connected - Sign up for our e-announcements https://uarizona.co1.qualtrics.com/jfe/form/SV_aafy1XTDGZfbIP4

Contact Conference Manager center@email.arizona.edu

LECTURE ALERT – 4th International Student Course in Behavioural Biology

<http://leec.univ-paris13.fr/images/IFE.2021.html>

organised by the Institut Francilien d'Éthologie IFE, 2-3 December 2021

Université Sorbonne Paris Nord, Campus de Villetaneuse, France

This online course, which is free of charge, is offered to students and young researchers (Master students, PhD students, Post docs) in behavioural sciences and related disciplines. It will consist of six plenary talks by international senior researchers, see conference programme below.

REGISTRATION

To register, send an email to IFE.info.contact@gmail.com. Registrations until the 25 November 2021 will be considered.

Insert "Course registration" in the subject line of your email. In the body of this email, only include the following information:

Name, First name

Department, University or Institution

Country

Status (e.g. undergraduate student, Master student, PhD student, Post doc, researcher)

Once registered, you will receive a confirmation mail and another mail with your ZOOM link one day prior to the start of the conference. Participants will receive a certificate of participation on demand.

PROGRAMME

All times are given in Paris time (= CET +1)

THURSDAY, 2 DECEMBER 2021

09:00 am – 09:30 am: Opening and welcome address

09:30 am – 10:30 am: Genetic and behavioural regulation in superorganisms. Dr. Heikki Helanterä (University of Oulu, Finland)

10:30 am – 11:00 am: break

11:00 am – 11:45 am: What do birds say when they sing? Dr. Fanny Rybak (Institut des NeuroSciences Paris-Saclay, France)

11:45 am – 12:30 am: Behavioural anticipation in a rapidly changing world: timing of bird migration. Prof. Dr. Barbara Helm (University of Groningen, The Netherlands)

FRIDAY, 3 DECEMBER 2021

09:00 am – 09:15 am: Announcements

09:15 am – 10:00 am: Coping with adversity: integrating development, neuroendocrinology and behavior. Dr. Cédric Zimmer (Université Sorbonne Paris Nord, France)

10:00 am – 10:45 am: Social behavior and vocal communication in bats. Dr. Mirjam Knörnschild (Museum for Natural History, Berlin, Germany & Smithsonian Tropical Research Institute, Panama City, Panama)

10:45 am – 11:00 am: break

11:00 am – 11:45 am: How dispersal and mating behaviors affect genetic differentiation and speciation: a case study in Cataglyphis ants. Dr. Claudie Doums (EPHE-PSL, Paris, France)

11:45 am – 12:30 am: Final discussion

NEWS

BREAKING SCIENCE – Paleoanthropologists Find Fossil Remains of Immature Homo naledi

An international team of paleoanthropologists has discovered a partial skull and teeth from an immature individual of Homo naledi, a recently-discovered species of extinct hominin. The new fossil assemblage provides information about the maturation of Homo naledi and will be important in reconstructing the developmental sequence of immature remains from other Homo naledi occurrences.

http://feedproxy.google.com/~r/BreakingScienceNews/~3/dB5kq7Nk4ig/leti-homo-naledi-10242.html?utm_source=feedburner&utm_medium=email

SCIENCE DAILY – Mongooses give bullies the cold shoulder

Dwarf mongooses remember which groupmates have picked fights with others during the day and later shun the aggressors during pre-bedtime socializing sessions, according to new research.

<https://www.sciencedaily.com/releases/2021/11/211102093547.htm>

SCIENCE DAILY – Bilingualism comes naturally to our brains

The brain uses a shared mechanism for combining words from a single language and for combining words from two different languages, a team of neuroscientists has discovered. Its findings indicate that language switching is natural for those who are bilingual because the brain has a mechanism that does not detect that the language has switched, allowing for a seamless transition in comprehending more than one language at once.

<https://www.sciencedaily.com/releases/2021/11/211103140118.htm>

SCIENCE DAILY – Social motivation in voles differs by species and sex

Being with friends and family may be a positive experience for some voles but it is merely tolerable to others, suggests a new study.

<https://www.sciencedaily.com/releases/2021/11/211102140702.htm>

PUBLICATIONS

American Journal of Human Genetics

PAPERS

FRANCESCO MONTINARO et al – Revisiting the out of Africa event with a deep-learning approach

Anatomically modern humans evolved around 300 thousand years ago in Africa. They started to appear in the fossil record outside of Africa as early as 100 thousand years ago, although other hominins existed throughout Eurasia much earlier. Recently, several studies argued in favor of a single out of Africa event for modern humans on the basis of whole-genome sequence analyses. However, the single out of Africa model is in contrast with some of the findings from fossil records, which support two out of Africa events, and uniparental data, which propose a back to Africa movement. Here, we used a deep-learning approach coupled with approximate Bayesian computation and sequential Monte Carlo to revisit these hypotheses from the whole-genome sequence perspective. Our results support the back to Africa model over other alternatives. We estimated that there are two sequential separations between Africa and out of African populations happening around 60-90 thousand years ago and separated by 13-15 thousand years. One of the populations resulting from the more recent split has replaced the older West African population to a large extent, while the other one has founded the out of Africa populations.

[https://www.cell.com/ajhg/fulltext/S0002-9297\(21\)00342-6](https://www.cell.com/ajhg/fulltext/S0002-9297(21)00342-6)

eLife

PAPERS

SOOJUNG NA et al – Humans use forward thinking to exploit social controllability

The controllability of our social environment has a profound impact on our behavior and mental health. Nevertheless, neurocomputational mechanisms underlying social controllability remain elusive. Here, 48 participants performed a task where their current choices either did (Controllable), or did not (Uncontrollable), influence partners' future proposals. Computational modeling revealed that people engaged a mental model of forward thinking (FT; i.e., calculating the downstream effects of current actions) to estimate social controllability in both Controllable and Uncontrollable conditions. A large-scale online replication study (n=1342) supported this finding. Using functional magnetic resonance imaging (n=48), we further demonstrated that the ventromedial prefrontal cortex (vmPFC) computed the projected total values of current actions during forward planning, supporting the neural realization of the forward-thinking model. These findings demonstrate that humans use vmPFC-dependent FT to estimate and exploit social controllability, expanding the role of this neurocomputational mechanism beyond spatial and cognitive contexts.

<https://elifesciences.org/articles/64983>

Evolutionary Anthropology

PAPERS

RENÉ BOBE & BERNARD WOOD – Estimating origination times from the early hominin fossil record

The age of the earliest recovered fossil evidence of a hominin taxon is all too often equated with that taxon's origination. However, the earliest known fossil record nearly always postdates, sometimes by a substantial period of time, the true origination of a taxon. Here we evaluate the first appearance records of the earliest potential hominins (Sahelanthropus, Ardipithecus, Orrorin), as well as of the genera Australopithecus, Homo, and Paranthropus, to illustrate the considerable uncertainty regarding the actual timing of origin of these taxa. By placing confidence intervals on the first appearance records of early hominin taxa, we can better evaluate patterns of hominin diversity, turnover, and potential correlations with climatic and environmental changes.

<https://onlinelibrary.wiley.com/doi/full/10.1002/evan.21928>

Frontiers in Ecology and Evolution

PAPERS

ABEL BERNADOU, BORIS H. KRAMER & JUDITH KORB – Major Evolutionary Transitions in Social Insects, the Importance of Worker Sterility and Life History Trade-Offs

The evolution of eusociality in social insects, such as termites, ants, and some bees and wasps, has been regarded as a major evolutionary transition (MET). Yet, there is some debate whether all species qualify. Here, we argue that worker sterility is a decisive criterion to determine whether species have passed a MET (= superorganisms), or not. When workers are sterile, reproductive interests align among group members as individual fitness is transferred to the colony level. Division of labour among cooperating units is a major driver that favours the evolution of METs across all biological scales. Many METs are characterised by a differentiation into reproductive versus maintenance functions. In social insects, the queen specialises on reproduction while workers take over maintenance functions such as food provisioning. Such division of labour allows specialisation and it reshapes life history trade-offs among cooperating units. For instance, individuals within colonies of social insects can overcome the omnipresent fecundity/longevity trade-off, which limits reproductive success in organisms, when increased fecundity shortens lifespan. Social insect queens (particularly in superorganismal species) can reach adult lifespans of several decades and are among the most fecund terrestrial animals. The resulting enormous reproductive output may contribute to explain why some genera of social insects became so successful. Indeed, superorganismal ant lineages have more species than those that have not passed a MET. We conclude that the release from life history constraints at the individual level is an important, yet understudied, factor across METs to explain their evolutionary success.

<https://www.frontiersin.org/articles/10.3389/fevo.2021.732907/full>

Frontiers in Psychology

PAPERS

ELIAS GARCIA-PELEGRIN, CLIVE WILKINS & NICOLA S. CLAYTON – The Ape That Lived to Tell the Tale. The Evolution of the Art of Storytelling and Its Relationship to Mental Time Travel and Theory of Mind

Engaging in the art of creating and telling stories is a defining behaviour of humankind. Humans have been sharing stories with each other, with and without words, since the dawn of recorded history, but the cognitive foundations of the behaviour can be traced deeper into our past. The emergence of stories can be strongly linked to Mental Time Travel (the ability to recall the past and imagine the future) and plays a key role in our ability to communicate past, present and future scenarios with other individuals, within and beyond our lifetimes. Stories are products engraved within the concept of time, constructed to elucidate the past experiences of the self, but designed with the future in mind, thus imparting lessons of such experiences to the receiver. By being privy to the experiences of others, humans can imagine themselves in a similar position to the protagonist of the story, thus mentally learning from an experience they might have never encountered other than in

the mind's eye. Evolutionary Psychology investigates how the engagement in artistic endeavours by our ancestors in the Pleistocene granted them an advantage when confronted with obstacles that challenged their survival or reproductive fitness and questions whether art is an adaptation of the human mind or a spandrel of other cognitive adaptations. However, little attention has been placed on the cognitive abilities that might have been imperative for the development of art. Here, we examine the relationship between art, storytelling, Mental Time Travel and Theory of Mind (i.e., the ability to attribute mental states to others). We suggest that Mental Time Travel played a key role in the development of storytelling because through stories, humans can fundamentally transcend their present condition, by being able to imagine different times, separate realities, and place themselves and others anywhere within the time space continuum. We argue that the development of a Theory of Mind also sparked storytelling practises in humans as a method of diffusing the past experiences of the self to others whilst enabling the receiver to dissociate between the past experiences of others and their own, and to understand them as lessons for a possible future. We propose that when artistic products rely on storytelling in form and function, they ought to be considered separate from other forms of art whose appreciation capitalise on our aesthetic preferences.

<https://www.frontiersin.org/articles/10.3389/fpsyg.2021.755783/full>

KOFI YAKPO – Creole Prosodic Systems Are Areal, Not Simple

This study refutes the common idea that tone gets simplified or eliminated in creoles and contact languages. Speakers of African tone languages imposed tone systems on all Afro-European creoles spoken in the tone-dominant linguistic ecologies of Africa and the colonial Americas. African speakers of tone languages also imposed tone systems on the colonial varieties of English, French, Spanish, and Portuguese spoken in tonal Africa. A crucial mechanism involved in the emergence of the tone systems of creoles and colonial varieties is stress-to-tone mapping. A typological comparison with African non-creole languages shows that creole tone systems are no simpler than African non-creole tone systems. Demographic, linguistic, and social changes in an ecology can lead to switches from tone to stress systems and vice versa. As a result, there is an areal continuum of tone systems roughly coterminous with the presence of tone in the east (Africa) and stress in the west (Americas). Transitional systems combining features of tone and stress converge on the areal buffer zone of the Caribbean. The prosodic systems of creoles and European colonial varieties undergo regular processes of contact, typological change and areal convergence. None of these are specific to creoles. So far, creoles and colonial varieties have not featured in work on the world-wide areal clustering of prosodic systems. This study therefore aims to contribute to a broader perspective on prosodic contact beyond the narrow confines of the creole simplicity debate.

<https://www.frontiersin.org/articles/10.3389/fpsyg.2021.690593/full>

LAURA DOMÍNGUEZ & MARÍA J. ARCHE – The ‘Comparative Logic’ and Why We Need to Explain Interlanguage Grammars

In this paper we argue that Bley-Vroman’s Comparative Fallacy, which warns against comparisons between native speakers and learners in second-language acquisition (SLA) research, is not justified on either theoretical or methodological grounds and should be abandoned as it contravenes the explanatory nature of SLA research. We argue that for SLA to be able to provide meaningful explanations, grammatical comparisons with a baseline (usually of native speakers although not always the case) are not only justified but necessary, a position which we call the ‘Comparative Logic’. The methodological choices assumed by this position ensure that interlanguage grammars are analysed in their own right and respecting their own principles. Related issues, such as why we focus on the native speaker and why investigating deficits in linguistic-cognitive SLA is essential in our field are discussed as well.

<https://www.frontiersin.org/articles/10.3389/fpsyg.2021.717635/full>

Language and Cognition

PAPERS

RAYMOND W. GIBBS JR. & JOSIE SIMAN – How We Resist Metaphors

Most people love metaphor, but we still sometimes find ourselves resisting their presence or meanings for various reasons. We resist metaphors both as a general strategy (e.g., “Metaphors are meaningless” or “Mixed metaphor are incoherent”), and as a response to some metaphors in very specific situational and discourse contexts (e.g., “I do not like the idea that my cancer treatment is seen as a war against my body”). People resist metaphors they have produced, metaphors imposed on them by others, and metaphors that they find to be offensive or that negatively stigmatize other individuals, or groups of people. But metaphors are also resisted for their lack of explanatory power in, for instance, scientific communities. There are also many ironies associated with metaphor resistance, such as consciously resisting some metaphor while still being governed by that same metaphor in our unconscious thinking and actions. Most generally, though, metaphor resistance is its own kind of metaphorical action. Taking a dynamic systems approach to resistance to metaphors, we discuss several implications of these observations for theories of metaphorical thought and language.

<https://www.cambridge.org/core/journals/language-and-cognition/article/abs/how-we-resist-metaphors/DDCA242235DEF4CC8B4785675E8AE6FA>

Nature Ecology & Evolution

PAPERS

DAN ZHU et al – Global hunter-gatherer population densities constrained by influence of seasonality on diet composition

The dependence of hunter-gatherers on local net primary production (NPP) to provide food played a major role in shaping long-term human population dynamics. Observations of contemporary hunter-gatherers have shown an overall correlation between population density and annual NPP but with a 1,000-fold variation in population density per unit NPP that remains unexplained. Here, we build a process-based hunter-gatherer population model embedded within a global terrestrial biosphere model, which explicitly addresses the extraction of NPP through dynamically allocated hunting and gathering activities. The emergent results reveal a strong, previously unrecognized effect of seasonality on population density via diet composition, whereby hunter-gatherers consume high fractions of meat in regions where growing seasons are short, leading to greatly reduced population density due to trophic inefficiency. This seasonal carnivory bottleneck largely explains the wide variation in population density per unit NPP and questions the prevailing usage of annual NPP as the proxy of carrying capacity for ancient humans. Our process-based approach has the potential to greatly refine our understanding of dynamical responses of ancient human populations to past environmental changes.

<https://www.nature.com/articles/s41559-021-01548-3>

Nature Humanities & Social Sciences Communications

PAPERS

YULIA A. GRIBER, DIMITRIS MYLONAS & GALINA V. PARAMEI – Intergenerational differences in Russian color naming in the globalized era: linguistic analysis

The present study is an apparent-time analysis of color terms in Russian native speakers (N = 1927), whose age varied between 16 and 98 years. Stratified sampling was employed with the following age groups: 16–19, 20–29, and so on, with the oldest group of 70 years and over. Color names were elicited in a web-based psycholinguistic experiment (<http://colournaming.com>). Participants labeled color samples (N = 606) using an unconstrained color-naming method. Color vocabulary of each age group was estimated using multiple linguistic measures: diversity index; frequency of occurrences of 12 Russian basic color terms (BCTs) and of most frequent non-BCTs; color-naming pattern. Our findings show intergenerational differences in Russian color-term vocabulary, color-naming patterns, and object referents. The CT diversity (measured by the Margalef index) progressively increments with speakers' juniority; the lexical refinement is manifested by the increasing variety of BCT modifiers and growing use of non-BCTs, both traditional and novel. Furthermore, the most frequent Russian non-BCTs *sirenevij* "lilac", *salatovij* "lettuce-colored", and *birûzovij* "turquoise" appear to be the emerging BCTs. The greatest diversity and richness of CT inventory is observed in Russian speakers aged 20–59 years, i.e., those who constitute the active workforce and are enthusiastic consumers. In comparison, speakers of 60 and over manifest less diverse color inventory and greater prevalence of (modified) BCTs. The two youngest groups (16–29 years) are linguistic innovators: their color vocabulary includes abundant recent loanwords, predominantly from English and, not infrequently, CTs as nouns rather than adjectives. Moreover, Generation Z (16–19 years) tend to offer highly specific or idiosyncratic color descriptors that serve expressive rather than informative function. The apprehended dynamics of color naming in apparent time reflects intergenerational differences as such, but even more so dramatic changes of sociocultural reality in the post-Soviet era, whereby Russian speakers, in particular under 60 years, were/are greatly impacted by globalization of trade: new market product arrivals resulted in adoption of novel and elaboration of traditional CTs for efficient communication about perceived color.

<https://www.nature.com/articles/s41599-021-00943-2>

New Scientist

ARTICLES

LAURA SPINNEY – Do you speak elephant? With this new dictionary you will

An ambitious directory of elephant behaviours and vocalisations offers amazing insights into their minds and culture – and could help save these magnificent beasts from extinction

<https://www.newscientist.com/article/mg25233590-900-do-you-speak-elephant-with-this-new-dictionary-you-will/#ixzz7BH802COn>

Philosophical Transactions of the Royal Society B

PAPERS

THERESA MATZINGER & W. TECUMSEH FITCH – Voice modulatory cues to structure across languages and species

Voice modulatory cues such as variations in fundamental frequency, duration and pauses are key factors for structuring vocal signals in human speech and vocal communication in other tetrapods. Voice modulation physiology is highly similar in humans and other tetrapods due to shared ancestry and shared functional pressures for efficient communication. This has led to similarly structured vocalizations across humans and other tetrapods. Nonetheless, in their details, structural characteristics may vary across species and languages. Because data concerning voice modulation in non-human tetrapod vocal production and especially perception are relatively scarce compared to human vocal production and perception, this

review focuses on voice modulatory cues used for speech segmentation across human languages, highlighting comparative data where available. Cues that are used similarly across many languages may help indicate which cues may result from physiological or basic cognitive constraints, and which cues may be employed more flexibly and are shaped by cultural evolution. This suggests promising candidates for future investigation of cues to structure in non-human tetrapod vocalizations.

<https://royalsocietypublishing.org/doi/full/10.1098/rstb.2020.0393>

PNAS

ARTICLES

AMY MCDERMOTT – What was the first “art”? How would we know?

Recently discovered cave paintings and bone carvings offer new perspectives on long-held questions about art’s origins—not to mention the nature of art itself.

<https://www.pnas.org/content/118/44/e2117561118>

Science

REVIEWS

ALEX GOMEZ-MARIN – Embodying consciousness

Review of ‘Feeling and Knowing: Making Minds Conscious’ by Antonio Damasio, Pantheon, 2021. 256 pp.

<https://www.science.org/doi/10.1126/science.abm6378>

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