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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.

And if you have any other ideas for extending the “EAORC experience”, please contact me.

SOCIETY FOR SCIENCE – The 'language gene' didn't give humans a big leg up in evolution
Scientists have long debated the role of a gene called FOXP2 in recent human evolution.
http://click.societyforscienceemail.com/?qs=5af72f7d65d7630a2b4a4efe46b5915042d822f15e1154790063e9faa4f3bb658a308c126be6ca5c4b075fd4fa8d834172c3af1df8647fb9798f1c3f12e91

SOCIETY FOR SCIENCE – Indonesia’s pygmies didn’t descend from hobbits, DNA analysis suggests
Short people living on the Indonesian island of Flores don’t appear to have DNA from controversial, small-bodied Stone Age hominids called hobbits.
http://click.societyforscienceemail.com/?qs=5af72f7d65d76307ea8dad6b42178d19e77b99ed91020b5aca8b52593da54311d272b2d622c5b60dbb1819ee69ba695abd4c96cc13126aa00f9514304df042c

SOCIETY FOR SCIENCE – Cremated remains reveal hints of who is buried at Stonehenge
Ancient stone monument held burials of people from more than 200 kilometers away, a new study suggests.
http://click.societyforscienceemail.com/?qs=5af72f7d65d7630790e05843852311ff6b761a45367fb8b3473ca2fb4c730b3822cf4b103376419aaa527e156918512216f143101e49f53d2def5274e7ff8ca

SOCIETY FOR SCIENCE – The debate over people's pathway into the Americas heats up
Defenders of an ice-free inland passage for early Americans make their case.
http://click.societyforscienceemail.com/?qs=0dcb3b6ac5269357cb4e295e295b0c55fb0ceba2dfb7d1a2e104f1ad7b9b903c2c06db8b0db49f0d088e556f7d12139ae812d57b6c70a2aa5731a9ee1da

SCIENCE DAILY – Archaeologists found traces of submerged Stone Age settlement in Southeast Finland
The prehistoric settlement submerged under Lake Kuolimojarvi provides us with a clearer picture of the human occupation in South Karelia during the Mesolithic and Early Neolithic Stone Age (about 10,000 to 6,000 years ago).

SCIENCE DAILY – Primate study offers clues to evolution of speech
New research examining the brains and vocal repertoires of primates offers important insight into the evolution of human speech.

SCIENCE DAILY – Evolution in the human brain may have led to bipolar disorder & schizophrenia
The same aspects of relatively recent evolutionary changes that make us prone to bad backs and impacted third molars may have generated long, noncoding stretches of DNA that predispose individuals to schizophrenia, bipolar disorder, and other
neuropsychiatric diseases. A study identifies an unusually lengthy array of tandem repeats found only within the human version of a gene governing calcium transport in the brain.


**SCIENCE DAILY – Laziness helped lead to extinction of Homo erectus**

New archaeological research has found that Homo erectus, an extinct species of primitive humans, went extinct in part because they were ‘lazy’.

{Can you anthropomorphise early humans? Turns out, you can.}


**JSTOR NEWS – The Legendary Language of the Appalachian "Holler"**

Is the unique Appalachian dialect the preserved language of Elizabethan England? Left over from Scots-Irish immigrants? Or something else altogether?


**THE CONVERSATION – How ancient cultures explained comets and meteors**

Without the scientific knowledge we have today, ancient cultures turned to myths and legends to understand celestial objects.


**THE CONVERSATION – ‘Untranslatable’ words tell us more about English speakers than other cultures**

Be sceptical when it’s claimed that a language has ‘no word for X’ or ‘50 words for Y’.

https://theconversationuk.cmail20.com/t/r-l-ijjitill-khhiliahh-z/

**OTHER NEWS – NEW SCIENTIST LIVE: Meet the ancestors**

Who are we? How did we get here? We now have answers thanks to our ability to extract and analyse DNA from Neanderthals and other ancient hominins as never before.

Geneticist David Reich of Harvard University is a pioneer in the field of ancient DNA research. Join him at New Scientist Live to discover how genomics is transforming our understanding of the lineage of modern humans.

Book tickets now:

http://click.e.newscientist.com/?qs=e930ff5b7b3d52c8b0a81b1ba0ddc54a95d3bffd9475931735cd9280989381f3ebe45695d9d133425adcf0249022e4aba9dce475454b2c

**PUBLICATIONS**

*Interface: Journal of the Royal Society*

PAPERS

**MATTHEW C. O’NEILL et al – Three-dimensional kinematics and the origin of the hominin walking stride**

Humans are unique among apes and other primates in the musculoskeletal design of their lower back and pelvis. While the last common ancestor of the Pan–Homo lineages has long been thought to be ‘African ape-like’, including in its lower back and ilia design, recent descriptions of early hominin and Miocene ape fossils have led to the proposal that its lower back and ilia were more similar to those of some Old World monkeys, such as macaques. Here, we compared three-dimensional kinematics of the pelvis and hind/lower limbs of bipedal macaques, chimpanzees and humans walking at similar dimensionless speeds to test the effects of lower back and ilia design on gait. Our results indicate that locomotor kinematics of bipedal macaques and chimpanzees are remarkably similar, with both species exhibiting greater pelvis motion and more flexed, abducted hind limbs than humans during walking. Some differences between macaques and chimpanzees in pelvis tilt and hip abduction were noted, but they were small in magnitude; larger differences were observed in ankle flexion. Our results suggest that if Pan and Homo diverged from a common ancestor whose lower back and ilia were either ‘African ape-like’ or more ‘Old World monkey-like’, at its origin, the hominin walking stride likely involved distinct (i.e. non-human-like) pelvis motion on flexed, abducted hind limbs.

http://rsif.royalsocietypublishing.org/content/15/145/20180205

**Journal of Language Evolution**

New edition here https://academic.oup.com/jole/issue/3/2, but I couldn’t see anything likely to interest an EAORC audience. I’m beginning to regret not carrying forward the proposal for a free-to-write-free-to-read journal on language evolution. JoLE is turning out to be rather niche.
especially in contexts where prosocial behaviour is paramount, such as responding to infectious disease threats. Stronger when impact uncertainty was made more salient. Our findings offer insights into communicating uncertainty, uncertainty on prosocial behaviour did not depend on the individuation of others or the mere mention of harm, about infectious disease threats. Perceptions of social norms paralleled the behavioural effects. The effect of impact outcome). Consistent with past research, we found decreased prosocial behaviour under outcome uncertainty. In contrast, others, there is also impact uncertainty (uncertainty about how others' we...Uncertainty about how our choices will affect others infuses social life. Past research suggests uncertainty has a negative opposite effects on prosocial behaviour. Previous work focused on outcome uncertainty (uncertainty about whether or not a decision will lead to a particular outcome). However, as soon as people's decisions might have negative consequences for others, there is also impact uncertainty (uncertainty about how others' well-being will be impacted by the negative outcome). Consistent with past research, we found decreased prosocial behaviour under outcome uncertainty. In contrast, prosocial behaviour was increased under impact uncertainty in incentivized economic decisions and hypothetical decisions about infectious disease threats. Perceptions of social norms paralleled the behavioural effects. The effect of impact uncertainty on prosocial behaviour did not depend on the individuation of others or the mere mention of harm, and was stronger when impact uncertainty was made more salient. Our findings offer insights into communicating uncertainty, especially in contexts where prosocial behaviour is paramount, such as responding to infectious disease threats.
Numerous studies in the field of embodied cognition have shown a crosstalk between language and sensorimotor processes. In particular, it has been demonstrated that perceiving an action influences subsequent language processing. However, when studying the effect of action observation on language processing it has not been considered whether the context of action representation plays a role.

Integration of multimodal sensory information is fundamental to many aspects of human behavior, but the neural mechanisms underpinning these processes remain mysterious. For example, during face-to-face communication, we know that the brain integrates dynamic auditory and visual inputs, but we do not yet understand where and how such integration mechanisms support speech comprehension. Here, we quantify representational interactions between dynamic audio and visual speech signals and show that different brain regions exhibit different types of representational interaction. With a novel information theoretic measure, we found that theta (3–7 Hz) oscillations in the posterior superior temporal gyrus/sulcus (pSTG/S) represent auditory and visual inputs redundantly (i.e., represent common features of the two), whereas the same oscillations in left motor and inferior temporal cortex represent the inputs synergistically (i.e., the instantaneous relationship between audio and visual inputs is also represented). Importantly, redundant coding in the left pSTG/S and synergistic coding in the left motor cortex predict behavior—i.e., speech comprehension performance. Our findings therefore demonstrate that processes classically described as integration can have different statistical properties and may reflect distinct mechanisms that occur in different brain regions to support audiovisual speech comprehension.

http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.2006558
presentation could modulate this influence. To test this assumption, the participants in our study observed a prime, specifically a cartoon picture of a person performing an action in either a usual or an unusual context, and then had to perform a semantic decision task involving action verbs that could be congruent or incongruent with the action in the prime. Data analyses showed a significant difference on response times for congruent action verbs compared with incongruent action verbs in the usual context, whereas no difference was observed in the unusual context. This finding indicates that the influence of action observation on language appears only with usual actions, suggesting that the context of action presentation is crucial to enable the influence of action observation on action verbs processing.

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0201966

YOO NJE ONG LEE et al – Articulatory, acoustic, and prosodic accommodation in a cooperative maze navigation task
This study uses a maze navigation task in conjunction with a quasi-scripted, prosodically controlled speech task to examine acoustic and articulatory accommodation in pairs of interacting speakers. The experiment uses a dual electromagnetic articulography set-up to collect synchronized acoustic and articulatory kinematic data from two facing speakers simultaneously. We measure the members of a dyad individually before they interact, while they are interacting in a cooperative task, and again individually after they interact. The design is ideally suited to measure speech convergence, divergence, and persistence effects during and after speaker interaction. This study specifically examines how convergence and divergence effects during a dyadic interaction may be related to prosodically salient positions, such as preceding a phrase boundary. The findings of accommodation in fine-grained prosodic measures illuminate our understanding of how the realization of linguistic phrasal structure is coordinated across interacting speakers. Our findings on individual speaker variability and the time course of accommodation provide novel evidence for accommodation at the level of cognitively specified motor control of individual articulatory gestures. Taken together, these results have implications for understanding the cognitive control of interactional behavior in spoken language communication.

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0201444

GABRIEL SEVILLA et al with WOLFRAM HINZEN – Deficits in nominal reference Identify thought disordered speech in a narrative production task
Formal thought disorder (TD) is a neuropathology manifest in formal language dysfunction, but few behavioural linguistic studies exist. These have highlighted problems in the domain of semantics and more specifically of reference. Here we aimed for a more complete and systematic linguistic model of TD, focused on (i) a more in-depth analysis of anomalies of reference as depending on the grammatical construction type in which they occur, and (ii) measures of formal grammatical complexity and errors. Narrative speech obtained from 40 patients with schizophrenia, 20 with TD and 20 without, and from 14 healthy controls matched on pre-morbid IQ, was rated blindly. Results showed that of 10 linguistic variables annotated, 4 showed significant differences between groups, including the two patient groups. These all concerned mis-uses of noun phrases (NPs) for purposes of reference, but showed sensitivity to how NPs were classed: definite and pronominal forms of reference were more affected than indefinite and non-pronominal (lexical) NPs. None of the measures of formal grammatical complexity and errors distinguished groups. We conclude that TD exhibits a specific and differentiated linguistic profile, which can illuminate TD neuro-cognitively and inform future neuroimaging studies, and can have clinical utility as a linguistic biomarker.

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0201545

PNAS
PAPERS

JAMES F. O'CONNELL et al – When did Homo sapiens first reach Southeast Asia and Sahul?
anatomically modern humans (Homo sapiens, AMH) began spreading across Eurasia from Africa and adjacent Southwest Asia about 50,000–55,000 years ago (ca. 50–55 ka). Some have argued that human genetic, fossil, and archaeological data indicate one or more prior dispersals, possibly as early as 120 ka. A recently reported age estimate of 65 ka for Madjedbebe, an archaeological site in northern Sahul (Pleistocene Australia–New Guinea), if correct, offers what might be the strongest support yet presented for a pre–55-ka African AMH exodus. We review evidence for AMH arrival on an arc spanning South China through Sahul and then evaluate data from Madjedbebe. We find that an age estimate of >50 ka for this site is unlikely to be valid. While AMH may have moved far beyond Africa well before 50–55 ka, data from the region of interest offered in support of this idea are not compelling.

http://www.pnas.org/content/early/2018/07/31/1808385115?etoc=

SYLVIA A. MORELLI et al – Neural detection of socially valued community members
As people form social groups, they benefit from being able to detect socially valuable community members—individuals who act prosocially, support others, and form strong relationships. Multidisciplinary evidence demonstrates that people indeed track others’ social value, but the mechanisms through which such detection occurs remain unclear. Here, we combine social network and neuroimaging analyses to examine this process. We mapped social networks in two freshman dormitories (n = 97), identifying how often individuals were nominated as socially valuable (i.e., sources of friendship, empathy, and support) by their peers. Next, we scanned a subset of dorm members (“perceivers”; n = 50) as they passively viewed photos of their dormmates (“targets”). Perceiver brain activity in regions associated with mentalizing and value computation differentiated between highly valued targets and other community members but did not differentiate between targets with middle versus
low levels of social value. Cross-validation analysis revealed that brain activity from novel perceivers could be used to accurately predict whether targets viewed by those perceivers were high in social value or not. These results held even after controlling for perceivers’ own ratings of closeness to targets, and even though perceivers were not directed to focus on targets’ social value. Overall, these findings demonstrate that individuals spontaneously monitor people identified as sources of strong connection in the broader community.

http://www.pnas.org/content/115/32/8149?etoc=

Quarterly Review of Biology

REVIEW

JOHN C. MITANI – Evolution
Review of ‘Chimpanzees and Human Evolution’ edited by Martin N. Muller, Richard W. Wrangham, and David R. Pilbeam.
https://www.journals.uchicago.edu/doi/abs/10.1086/699443

JOSH ARMSTRONG – Behavior
https://www.journals.uchicago.edu/doi/abs/10.1086/699455

Science Advances

PAPERS

BEN A. POTTER et al with DAVID REICH – Current Evidence Allows Multiple Models for the Peopling of the Americas
Some recent academic and popular literature implies that the problem of the colonization of the Americas has been largely resolved in favor of one specific model: a pacific coastal migration, dependent on high marine productivity, from the bering strait to south America, thousands of years before Clovis, the earliest widespread cultural manifestation south of the glacial ice. Speculations on maritime adaptations and typological links (stemmed points) across thousands of kilometers have also been advanced. A review of the current genetic, archeological, and paleoecological evidence indicates that ancestral native American population expansion occurred after 16,000 years ago, consistent with the archeological record, particularly with the earliest securely dated sites after ~15,000 years ago. These data are largely consistent with either an inland (ice-free corridor) or pacific coastal routes (or both), but neither can be rejected at present. Systematic archeological and paleoecological investigations, informed by geomorphology, are required to test each hypothesis.
http://advances.sciencemag.org/content/4/8/eaat5473?utm_campaign=toc_advances_2018-08-10&et_rid=17774313&et_cid=2249093

Trends in Ecology and Evolution

PAPERS

ELEANOR M.L. SCERRI et al with CHRIS STRINGER & FRANCESCO D’ERRICO – Did Our Species Evolve in Subdivided Populations across Africa, and Why Does It Matter?
We challenge the view that our species, Homo sapiens, evolved within a single population and/or region of Africa. The chronology and physical diversity of Pleistocene human fossils suggest that morphologically varied populations pertaining to the H. sapiens clade lived throughout Africa. Similarly, the African archaeological record demonstrates the polycentric origin and persistence of regionally distinct Pleistocene material culture in a variety of paleoecological settings. Genetic studies also indicate that present-day population structure within Africa extends to deep times, paralleling a paleoenvironmental record of shifting and fractured habitable zones. We argue that these fields support an emerging view of a highly structured African prehistory that should be considered in human evolutionary inferences, prompting new interpretations, questions, and interdisciplinary research directions.

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