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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.

SCIENCE NEWS – The real 'paleo diet' may have been full of toxic metals

You'll be healthier if you ate as your ancestors did. At least that's the promise of some modern fads such as the "caveman" or paleo diet—characterized by avoiding processed food and grains and only eating things like meat, fish, and seeds. But a new study suggests the food some early humans in Norway ate may have not only been unhealthy, but downright toxic. In some cases, these people may have consumed more than 20 times the levels of dangerous metals recommended for humans today.

<https://www.sciencemag.org/news/2020/02/real-paleo-diet-may-have-been-full-toxic-metals>

SCIENCE NEWS – Mysterious 'ghost' populations had multiple trysts with human ancestors

The story of human evolution is full of ancient trysts. Genes from fossils have shown that the ancestors of many living people mated with Neanderthals and with Denisovans, a mysterious group of extinct humans who lived in Asia. Now, a flurry of papers suggests the ancestors of all three groups mixed at least twice with even older "ghost" lineages of unknown extinct hominins. One candidate partner: Homo erectus, an early human who left Africa by 1.8 million years ago, spread around the world, and could have mated with later waves of human ancestors.

<https://www.sciencemag.org/news/2020/02/mysterious-ghost-populations-had-multiple-trysts-human-ancestors>

SOCIETY FOR SCIENCE – New cave fossils have revived the debate over Neandertal burials

Part of a Neandertal's skeleton was found in a hole dug in the same cave in Iraqi Kurdistan where the "flower burial" was found in 1960.

<http://click.societyforscience->

email.com/?qs=6428b52bcf20317e27ee9a8132eb1b8a2191aecfe6e3d00c66de0f44daec34c704944c95dee4304f86163616b9ff477bb9ae16f8f084c175

BREAKING SCIENCE – Ancestors of Neanderthals and Denisovans Interbred with 'Superarchaic' Hominin

A new study by researchers from the Department of Anthropology at the University of Utah shows that over 700,000 years ago, the ancestors of Neanderthals and Denisovans interbred with their Eurasian predecessors — members of a 'superarchaic' population that separated from other humans about 2 million years ago.

http://feedproxy.google.com/~r/BreakingScienceNews/~3/H-VJr19oS0/superarchaic-hominin-interbreeding-08148.html?utm_source=feedburner&utm_medium=email

SCIENCE DAILY – Researchers were not right about left brains

The left and right side of the brain are involved in different tasks. This functional lateralization and associated brain asymmetry are well documented in humans. Scientists now challenge the long-held notion that the human pattern of brain asymmetry is unique. They found the same asymmetry pattern in chimpanzees, gorillas, and orangutans. However, humans were the most variable in this pattern. This suggests that lateralized, uniquely human cognitive abilities evolved by adapting a presumably ancestral asymmetry pattern.

<https://www.sciencedaily.com/releases/2020/02/200214144339.htm>

SCIENCE DAILY – Facial expressions don't tell the whole story of emotion

Facial expressions might not be reliable indicators of emotion, research indicates. In fact, it might be more accurate to say we should never trust a person's face, new research suggests.

<https://www.sciencedaily.com/releases/2020/02/200216184520.htm>

SCIENCE DAILY – Ancient plant foods discovered in Arnhem Land, Australia

The new study includes the earliest evidence of Homo sapiens use of plant foods outside Africa and the Middle East.

<https://www.sciencedaily.com/releases/2020/02/200218104709.htm>

SCIENCE DAILY – Discovery at 'flower burial' site could unravel mystery of Neandertal death rites

The first articulated Neandertal skeleton to come out of the ground for over 20 years has been unearthed at one of the most important sites of mid-20th century archaeology: Shanidar Cave, in the foothills of Iraqi Kurdistan.

<https://www.sciencedaily.com/releases/2020/02/200218073450.htm>

SCIENCE DAILY – Dog domestication during ice age

Analysis of Paleolithic-era teeth from a 28,500-year-old fossil site in the Czech Republic provides supporting evidence for two groups of canids -- one dog-like and the other wolf-like - with differing diets, which is consistent with the early domestication of dogs.

<https://www.sciencedaily.com/releases/2020/02/200219124229.htm>

SCIENCE DAILY – Earliest interbreeding event between ancient human populations discovered

A new study documented the earliest known interbreeding event between ancient human populations -- a group known as the 'super-archaics' in Eurasia interbred with a Neanderthal-Denisovan ancestor about 700,000 years ago. The event was between two populations more distantly related than any other recorded. The authors proposed a revised timeline for human migration out of Africa and into Eurasia. The method for analyzing ancient DNA provides a new way to look farther back into the human lineage.

<https://www.sciencedaily.com/releases/2020/02/200220141232.htm>

ACADEMIA.EDU – Engraved ochres from the Middle Stone Age levels at Blombos Cave, South Africa

Journal of Human Evolution 57 (2009) 27–47.

CHRISTOPHER S. HENSILWOOD, FRANCESCO D'ERRICO & IAN WATTS – Engraved ochres from the Middle Stone Age levels at Blombos Cave, South Africa

Powerful categories of evidence for symbolically mediated behaviour, variously described as 'modern' or 'cognitively modern' human behaviour, are geometric or iconographic representations. After 40,000 years ago such evidence is well documented in much of the Old World and is widely considered as typifying 'modern human culture,' but earlier evidence is rare. In Africa, this includes two deliberately engraved ochre pieces from c. 75,000 year old levels at Blombos Cave, Western Cape, South Africa and the greater than 55,000 year old incised ostrich egg shell from the Diepkloof shelter, located in the same province. Here we report on thirteen additional pieces of incised ochre recovered from c.75,000–100,000 year old levels at Blombos Cave. These finds, taken together with other engraved objects reported from other southern African sites, suggest that symbolic intent and tradition were present in this region at an earlier date than previously thought.

https://www.academia.edu/8238834/Henshilwood_C.S._d_Errico_F._and_Watts_I._2009._Engraved_ochres_from_the_Middle_Stone_Age_levels_at_Blombos_Cave_South_Africa._Journal_of_Human_Evolution_57_27-47?email_work_card=view-paper

ACADEMIA.EDU – Recognizing Complex Cognition through Innovative Technology in Stone

Cambridge Archaeological Journal 23:2, 163–83.

LYN WADLEY – Recognizing Complex Cognition through Innovative Technology in Stone Age and Palaeolithic Sites

Cognitive complexity is defined here as the capacity for abstract thought, analogical reasoning, cognitive fluidity, innovative thought, complex goal-directed actions, flexibility in problem-solving, multi-tasking, task switching, response inhibition and planning over long distances or time. Some of these attributes are archaeologically recognizable in transformative technologies such as heat treatment of rocks and ochre, and the manufacture of compound adhesives and paints. Advanced executive functions of the brain are also required for remote capture during snaring, which is implied by circumstantial archaeological evidence. Some technologies seem good indicators of complex cognition and the emphasis here is on making the connection, but this does not mean that cognition necessarily drove innovation in the past any more than it does today. The recursive relationships between cognition, social behaviour and technology mean that change cannot be attributed to a single stimulus.

https://www.academia.edu/11935496/Recognizing_Complex_Cognition_through_Innovative_Technology_in_Stone?email_work_card=view-paper

GUARDIAN SCIENCE – World's oldest art under threat from cement mining in Indonesia

Hunting scene dated to 40,000 years ago 'crumbling before our eyes', say scientists

<https://www.theguardian.com/science/2020/feb/21/worlds-oldest-art-under-threat-from-cement-mining-in-indonesia-sulawesi>

OTHER NEWS – International Journal of Language Description

N.B. This is not an endorsement, but it seems a worthy project

Aims and scope

The purpose of this new peer-reviewed online journal is to provide a venue for the dissemination of descriptions of language use and usage from a wide number of perspectives, including linguistic, usage-based, cognitive, sociolinguistic, socio-psychological, and pedagogical.

Areas of particular interest are language evolution and contact phenomena, learning-related issues, communicative strategies, variation and variability, multicompetence, linguistic repertoires, and lingua franca interactions, among others. There are no fees of any kind involved, neither to publish nor to access the contents of the journal.

Review and publication process

- The journal uses a double-blind review procedure.
- Contributors can expect to receive feedback within four weeks.
- Upon final acceptance, manuscripts are published immediately and, thus, become available for citation.
- Authors retain copyright of their work and, once published, are encouraged to upload their papers to networking sites such as ResearchGate.
- All papers published within a given year will be compiled into an annual volume.

Submission procedure

- Please prepare the manuscript according to the Formatting guidelines below.
- Prepare a second PDF file for the Title Page providing your full name, affiliation and physical address, title of the article, abstract, acknowledgments, and, if applicable, funding information (e.g., grants).
- Send both PDF files attached to an email to the editor: editor@ijld.net
- It is important to the editorial board for contributors to know that, regardless of the outcome of the review process, you and your work will be treated with respect.

Formatting guidelines

- Please prepare the manuscript for blind review and submit it as a PDF file.
- Use 1.5 line spacing.
- Use Times New Roman 12pt for all text.
- If other fonts are necessary, make sure to embed them in the PDF file and notify the editor.
- Keep charts, figures, tables, etc. in place in the text.
- For all other formatting considerations, follow the APA 6th Edition manual.

Editorial board

- George O'Neal, Niigata University
- Miki Shibata, Hiroshima University
- Toshiko Yamaguchi, University of Malaya
- Leah Gilner, Aichi University
- Franc Morales, Chief Editor

Contact

Please direct any inquiries via email to the editor: editor@ijld.net

Volume 1 (2021) is accepting submissions.

PUBLICATIONS

Evolutionary Anthropology

ARTICLES

FELIX RIEDE et al – Cultural taxonomies in the Paleolithic—Old questions, novel perspectives

Time and time again, the systematics of Paleolithic archeology have been discussed, albeit most often in relation to specific periods or phenomena,^{1, 2} or in difficult-to-access publications.³⁻⁵ Despite these recurring debates, however, the practice of classification and of building cultural taxonomies has changed little over the last many decades. Today, the cultural taxonomies of the Paleolithic are in crisis.⁶ Still, a robust definition of the analytical taxonomic units—cultures, industries, facies, groups—used for charting cultural and behavioral change in space and time is critical.

<https://onlinelibrary.wiley.com/doi/full/10.1002/evan.21819?campaign=wolibraryview>

Nature Communications

PAPERS

S. ANNA FLORIN et al – The first Australian plant foods at Madjedbebe, 65,000–53,000 years ago

There is little evidence for the role of plant foods in the dispersal of early modern humans into new habitats globally. Researchers have hypothesised that early movements of human populations through Island Southeast Asia and into Sahul were driven by the lure of high-calorie, low-handling-cost foods, and that the use of plant foods requiring processing was not common in Sahul until the Holocene. Here we present the analysis of charred plant food remains from Madjedbebe rockshelter in northern Australia, dated to between 65 kya and 53 kya. We demonstrate that Australia's earliest known human population exploited a range of plant foods, including those requiring processing. Our finds predate existing evidence for such subsistence practices in Sahul by at least 23ky. These results suggest that dietary breadth underpinned the success of early modern human populations in this region, with the expenditure of labour on the processing of plants guaranteeing reliable access to nutrients in new environments.

<https://www.nature.com/articles/s41467-020-14723-0>

ANDREW R. TILMAN, JOSHUA B. PLOTKIN & EROL AKÇAY – Evolutionary games with environmental feedbacks

Strategic interactions arise in all domains of life. This form of competition often plays out in dynamically changing environments. The strategies employed in a population may alter the state of the environment, which may in turn feedback to change the incentive structure of strategic interactions. Feedbacks between strategies and the environment are common in social-ecological systems, evolutionary-ecological systems, and even psychological-economic systems. Here we develop a framework of 'eco-evolutionary game theory' that enables the study of strategic and environmental dynamics with feedbacks. We consider environments governed either by intrinsic growth, decay, or tipping points. We show how the joint dynamics of strategies and the environment depend on the incentives for individuals to lead or follow behavioral changes, and on the relative speed of environmental versus strategic change. Our analysis unites dynamical phenomena that occur in settings as diverse as human decision-making, plant nutrient acquisition, and resource harvesting. We discuss implications in fields ranging from ecology to economics.

<https://www.nature.com/articles/s41467-020-14531-6>

Nature Human Behaviour

ARTICLES

MATTHEW SIEGELMAN & CHRISTOPHER BALDASSANO – Remembering together

What is the connection between the curated narrative of a society and the representations of memories in the individual brains of its members? In a new study, Gagnepain and colleagues show that the organization of memories in the brain reflects the structure of a culture's shared discourse.

<https://www.nature.com/articles/s41562-019-0789-x>

ANNE-MARIKE SCHIFFER – Cognitive models of cooperation

Our daily lives are full of interaction with other people, requiring us to make decisions about whether and when to cooperate or compete. Such decisions are often studied in the context of game theoretic models. These models generally start from a description of what ideal behaviour would look like and try to understand human decision-making in reference to that. Game theoretic models have uncovered a number of ways in which humans deviate from rational choice, but some of their assumptions are debated.

<https://www.nature.com/articles/s41562-020-0830-0>

JOSEPH B. BAYER & BAS HOFSTRA – Toward curation and personality-driven social networks

Whether or not social networks are significantly changing due to emergent technologies continues to be contested by researchers. Our understanding may advance by clarifying the cognitive mechanisms through which people curate their connections, along with the accompanying role of personality in shaping networks in the future.

<https://www.nature.com/articles/s41562-019-0751-y>

PAPERS

PIERRE GAGNEPAIN et al – Collective memory shapes the organization of individual memories in the medial prefrontal cortex

It has long been hypothesized that individual recollection fits collective memory. To look for a collective schema, we analysed the content of 30 years of media coverage of World War II on French national television. We recorded human brain activity using functional magnetic resonance imaging as participants recalled World War II displays at the Caen Memorial Museum following an initial tour. We focused on the medial prefrontal cortex, a key region for social cognition and memory schemas. The organization of individual memories captured using the distribution of the functional magnetic resonance imaging signal in the dorsal part of the medial prefrontal cortex was more accurately predicted by the structure of the collective schema than by various control models of contextual or semantic memory. Collective memory, which exists outside and beyond individuals, can also organize individual memories and constitutes a common mental model that connects people's memories across time and space.

<https://www.nature.com/articles/s41562-019-0779-z>

SOPHIE BRIDGERS, JULIAN JARA-ETTINGER & HYOWON GWEON – Young children consider the expected utility of others' learning to decide what to teach

Direct instruction facilitates learning without the costs of exploration, yet teachers must be selective because not everything can nor needs to be taught. How do we decide what to teach and what to leave for learners to discover? Here we investigate the cognitive underpinnings of the human ability to prioritize what to teach. We present a computational model that decides what to teach by maximizing the learner's expected utility of learning from instruction and from exploration, and we show that children (aged 5–7 years) make decisions that are consistent with the model's predictions (that is, minimizing the learner's costs and maximizing the rewards). Children flexibly considered either the learner's utility or their own, depending on the context, and even considered costs they had not personally experienced, to decide what to teach. These results suggest that utility-based reasoning may play an important role in curating cultural knowledge by supporting selective transmission of high-utility information.

<https://www.nature.com/articles/s41562-019-0748-6>

PNAS

PAPERS

KRISTIAN TYLÉN et al with MARLIZE LOMBARD – The evolution of early symbolic behavior in Homo sapiens

How did human symbolic behavior evolve? Dating up to about 100,000 y ago, the engraved ochre and ostrich eggshell fragments from the South African Blombos Cave and Diepkloof Rock Shelter provide a unique window into presumed early symbolic traditions of Homo sapiens and how they evolved over a period of more than 30,000 y. Using the engravings as stimuli, we report five experiments which suggest that the engravings evolved adaptively, becoming better-suited for human perception and cognition. More specifically, they became more salient, memorable, reproducible, and expressive of style and human intent. However, they did not become more discriminable over time between or within the two archeological sites. Our observations provide support for an account of the Blombos and Diepkloof engravings as decorations and as socially transmitted cultural traditions. By contrast, there was no clear indication that they served as denotational symbolic signs. Our findings have broad implications for our understanding of early symbolic communication and cognition in H. sapiens.

<https://www.pnas.org/content/early/2020/02/11/1910880117.abstract?etoc>

Science

NEWS

Strange bedfellows for human ancestors

The story of human evolution is full of ancient trysts. Genes from fossils have shown that the ancestors of many living people mated with Neanderthals and with Denisovans, a mysterious group of extinct humans who lived in Asia. Now, a flurry of papers suggests the ancestors of all three groups mixed at least twice with even older "ghost" lineages of unknown extinct hominins. Taken together, the studies build a strong case that even before modern humans left Africa 60,000 years ago or so, it was not uncommon for different human ancestors to meet and mate.

<https://science.sciencemag.org/content/367/6480/838>

Science Advances

PAPERS

ALAN R. ROGERS, NATHAN S. HARRIS & ALAN A. ACHENBACH – Neanderthal-Denisovan ancestors interbred with a distantly related hominin

Previous research has shown that modern Eurasians interbred with their Neanderthal and Denisovan predecessors. We show here that hundreds of thousands of years earlier, the ancestors of Neanderthals and Denisovans interbred with their own Eurasian predecessors—members of a “Superarchaic” population that separated from other humans about 2 million years ago. The Superarchaic population was large, with an effective size between 20 and 50 thousand individuals. We confirm previous findings that (i) Denisovans also interbred with Superarchaics, (ii) Neanderthals and Denisovans separated early in the middle Pleistocene, (iii) their ancestors endured a bottleneck of population size, and (iv) the Neanderthal population was large at first but then declined in size. We provide qualified support for the view that (v) Neanderthals interbred with the ancestors of modern humans.

https://advances.sciencemag.org/content/6/8/eaay5483?utm_campaign=toc_advances_2020-02-21&et rid=17774313&et cid=3216875

B. A. SCENZA et al – High rate of extrapair paternity in a human population demonstrates diversity in human reproductive strategies

Among nonhuman species, social monogamy is rarely accompanied by complete fidelity. Evolutionary theory predicts that the rate of extrapair paternity (EPP) should vary according to socioecological conditions. In humans, however, geneticists contend that EPP is negligible and relatively invariable. This conclusion is based on a limited set of studies, almost all of which describe European-descent groups. Using a novel, double-blind method designed in collaboration with a community of Himba pastoralists, we find that the rate of EPP in this population is 48%, with 70% of couples having at least one EPP child. Both men and women were very accurate at detecting cases of EPP. These data suggest that the range of variation in EPP across human populations is substantially greater than previously thought. We further show that a high rate of EPP can be accompanied by high paternity confidence, which highlights the importance of disaggregating EPP from the notion of “cuckoldry.”

https://advances.sciencemag.org/content/6/8/eaay6195?utm_campaign=toc_advances_2020-02-21&et rid=17774313&et cid=3216875

Trends in Cognitive Sciences

PAPERS

SAM V. WASS et al – Interpersonal Neural Entrainment during Early Social Interaction

Currently, we understand much about how children’s brains attend to and learn from information presented while they are alone, viewing a screen – but less about how interpersonal social influences are substantiated in the brain. Here, we consider research that examines how social behaviors affect not one, but both partners in a dyad. We review studies that measured

interpersonal neural entrainment during early social interaction, considering two ways of measuring entrainment: concurrent entrainment (e.g., 'when A is high, B is high' – also known as synchrony) and sequential entrainment ('changes in A forward-predict changes in B'). We discuss possible causes of interpersonal neural entrainment, and consider whether it is merely an epiphenomenon, or whether it plays an independent, mechanistic role in early attention and learning.

[https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613\(20\)30024-3?dgcid=raven_jbs_aip_email](https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(20)30024-3?dgcid=raven_jbs_aip_email)

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