EAORC BULLETIN 900 – 13 September 2020

CONTENTS

EAORC 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.

EAORC NEWS – Biennial Membership Check – Please Respond

2020 is a membership checking year, when I ask for confirmation that you wish to continue receiving the bulletins. So please let me know that you wish to continue by emailing me with **Bulletin Yes**, or something similar. If you do not wish to continue receiving the bulletin then you need do nothing. Anyone who has not indicated they wish to continue will be taken off the list at the end of October. This biennial membership check has been in operation since 2008, and GDPR has made it even more important that it is carried out regularly.
Many thanks to everyone who has responded so far. I already have enough to ensure the continued existence of the list. When I am about to purge the list, you will receive a separate email, either confirmation of your continued membership, or notification of your final issue.

NEWS

BREAKING SCIENCE – Researchers Find Unique Ancient Rock Drawing of Extinct Sloth Lemur

An international team of scientists has discovered stylistically unique ancient drawings, including the only known prehistoric depiction of a now-extinct giant sloth lemur, on the walls of a rock shelter in western Madagascar. The drawings were discovered by Dr. David Burney from Hawaii's National Tropical Botanical Garden and his colleagues.
http://feedproxy.google.com/~r/BreakingScienceNews/~3/R1uiEWbNlFc/sloth-lemur-drawing-08820.html?utm_source=feedburner&utm_medium=email

BREAKING SCIENCE – Researchers Sequence Mitochondrial Genome of 80ky-Old European Neanderthal

An international team of scientists has successfully extracted and sequenced the mitochondrial DNA from an 80,000-year-old adult Neanderthal tooth found in a small cave in Poland. The Neanderthal molar tooth, dubbed S5000, was found in 2007 in Stajnia Cave in Poland's Kraków-Częstochowa Upland.
http://feedproxy.google.com/~r/BreakingScienceNews/~3/PvKavYJ9MAc/stajnia-cave-neanderthal-mitochondrial-genome-08830.html?utm_source=feedburner&utm_medium=email

SCIENCE DAILY – Children use both brain hemispheres to understand language, unlike adults

Infants and young children have brains with a superpower, of sorts, say neuroscientists. Whereas adults process most discrete neural tasks in specific areas in one or the other of their brain's two hemispheres, youngsters use both the right and left hemispheres to do the same task. The finding suggests a possible reason why children appear to recover from neural injury much easier than adults.
https://www.sciencedaily.com/releases/2020/09/200907163333.htm

SCIENCE DAILY – The oldest Neanderthal DNA of Central-Eastern Europe

A new study reports the oldest mitochondrial genome of a Neanderthal from Central-Eastern Europe. The mitochondrial genome of the tooth, discovered at the site of Stajnia Cave in Poland, is closer to a Neanderthal specimen from the Caucasus than to the contemporaneous Neanderthals of Western Europe. Stone tools found at the site are also analogous to the southern regions suggesting that Neanderthals living in the steppe/taiga environment had a broader foraging radius than previously envisaged.
https://www.sciencedaily.com/releases/2020/09/200908113328.htm

SCIENCE DAILY – Betrayal or cooperation? Analytical investigation of behavior drivers

At the macroscopic level, there are numerous examples of people cooperating to form groupings. Yet at the basic two-person level, people tend to betray each other, as found in games like the prisoner's dilemma, even though people would receive a better payoff if they cooperated among themselves. The topic of cooperation and how and when people start trusting one another has been studied numerically, and researchers investigate what drives cooperation analytically.
https://www.sciencedaily.com/releases/2020/09/200908113235.htm

SCIENCE DAILY – Ancient hunters stayed in frozen Northern Europe rather than migrate

Ancient hunters stayed in the coldest part of Northern Europe rather than migrating to escape freezing winter conditions, archaeologists have found.
https://www.sciencedaily.com/releases/2020/09/200908101601.htm

SCIENCE DAILY – Unconscious learning underlies belief in God, study suggests

Individuals who can unconsciously predict complex patterns, an ability called implicit pattern learning, are likely to hold stronger beliefs that there is a god who creates patterns of events in the universe, according to neuroscientists.
https://www.sciencedaily.com/releases/2020/09/200909085942.htm

SCIENCE DAILY – Colors evoke similar feelings around the world

People all over the world associate colors with emotions. In fact, people from different parts of the world often associate the same colors with the same emotions. This was the result of a detailed survey of 4,598 participants from 30 nations over six continents, carried out by an international research team.
https://www.sciencedaily.com/releases/2020/09/200910150247.htm

SCIENCE DAILY – Emotion vocabulary reflects state of well-being

The vast way in which you describe your emotions can reveal your lived experience and wellness status.
https://www.sciencedaily.com/releases/2020/09/200910130408.htm

SCIENCE DAILY – Children will wait to impress others -- another twist on the classic marshmallow test

When it comes to self-control, young children are better able to resist temptation and wait for greater rewards if they take into consideration the opinions of others.
https://www.sciencedaily.com/releases/2020/09/200910110826.htm

ACADEMIA.EDU – New perspective on the development and evolution of human language

Behavioral and Brain Sciences (2006) 29, 259–325

JOHN L. LOCKE & BARRY BOGIN – Language and life history: A new perspective on the development and evolution of human language

It has long been claimed that Homo sapiens is the only species that has language, but only recently has it been recognized that humans also have an unusual pattern of growth and development. Social mammals have two stages of pre-adult development: infancy and juvenility. Humans have two additional prolonged and pronounced life history stages: childhood, an interval of four years extending between infancy and the juvenile period that follows, and adolescence, a stage of about eight years that stretches from juvenility to adulthood. We begin by reviewing the primary biological and linguistic changes occurring in each of the four pre-adult ontogenetic stages in human life history. Then we attempt to trace the evolution of childhood and juvenility in our hominin ancestors. We propose that several different forms of selection applied in infancy and childhood; and that, in adolescence, elaborated vocal behaviors played a role in courtship and intrasexual competition, enhancing fitness and ultimately integrating performative and pragmatic skills with linguistic knowledge in a broad faculty of language. A theoretical consequence of our proposal is that fossil evidence of the uniquely human stages may be used, with other findings, to date the emergence of language. If important aspects of language cannot appear until sexual maturity, as we propose, then a second consequence is that the development of language requires the whole of modern human ontogeny. Our life history model thus offers new ways of investigating, and thinking about, the evolution, development, and ultimately the nature of human language.
https://www.academia.edu/28094346/Life_history_and_language_Selection_in_development?email_work_card=title

ACADEMIA.EDU – The skylore of the indigenous peoples of Eurasia

In C.L.N. Ruggles (ed.), The Handbook of Archaeoastronomy and Ethnoastronomy (pp. 1679-1686). Berlin: Springer Publishing Company (a pre-publication draft) (2014).

ROSLYN M. FRANK – The skylore of the indigenous peoples of Eurasia

This chapter examines the skylore of the indigenous peoples of northern Eurasia, paying particular attention to the commonalities found among them as well as the differences. Special attention is placed on the motif of the Cosmic Hunt and its diverse manifestations across the study area as well as on the oral nature of the celestial beliefs of these groups. The stars

of a variety of "Western" constellation figures are implicated in the narratives and in some cases are clearly utilized in social practice for celestial navigation. The role played by the underlying hunter-gatherer mode of subsistence in shaping their cultural conceptualizations, their skyscapes and the overarching cosmology of these peoples is also addressed.
https://www.academia.edu/40048296/The_skylore_of_the_indigenous_peoples_of_northern_Eurasia?email_work_card=view-paper

ACADEMIA.EDU – Neandertals and Early Homo sapiens in the Near East

In Elena Garcea (Ed.) South-Eastern Mediterranean Peoples Between 130,000-10,000 Years Ago. Oxford, UK: Oxbow Books. Pp.126-143 (2010).

JOHN J. SHEA – Neandertals and Early Homo sapiens in the Near East

The nature of Neanderthals' relationship to early Homo sapiens is one of the longest-running and controversial debates in palaeoanthropology. During the Middle Palaeolithic (MP) period in the East Mediterranean Levant, c. 250–45 ka BP, early representative of our species, Homo sapiens, first dispersed into western Eurasia, a region already occupied by Neanderthals (Homo neanderthalensis). Neanderthals were cold-adapted populations who evolved in western Eurasia before 200 ka BP (Hublin 1998). The oldest-known Homo sapiens fossils are found in African contexts dating to 200–150 ka BP (Trinkaus 2005). Neanderthals became extinct shortly after Homo sapiens populations expanded into Europe between 40–30 ka BP (Mellars 2006a). For much of the time that Neanderthals existed, the East Mediterranean Levant was a biogeographic corridor linking Africa to south-west Asia. The Levant is where Neanderthals and Homo sapiens are likely to have first encountered each other, and it is there that we must look for clues to these species' divergent evolutionary fates.(Note: This paper does not use the terms "modern human" or "modern human behaviour" because they are so imprecisely and variably defined that they no longer have descriptive value in human origins research.)
https://www.academia.edu/2639534/John_J_Shea_2010_Neandertals_and_Early_Homo_sapiens_in_the_Near_East_In_Elena_Garcea_Ed_South_Eastern_Mediterranean_Peoples_Between_130_000_10_000_Years_Ago_Oxford_UK_Oxbow_Books_Pp_126_143?email_work_card=view-paper

THE CONVERSATION – When did we become fully human? The evolution of modern intelligence

Artefacts suggest a 'great leap', a recent evolution of modern intelligence. Fossils and DNA argue that's an illusion.
https://theconversationuk.cmail20.com/t/r-l-jullklz-khhlilahh-c/

PUBLICATIONS

American Journal of Physical Anthropology

PAPERS

NICOLE TORRES-et al- Assessing thoraco-pelvic covariation in Homo sapiens and Pan troglodytes: A 3D geometric morphometric approach

Understanding thoraco-pelvic integration in Homo sapiens and their closest living relatives (genus Pan) is of great importance within the context of human body shape evolution. However, studies assessing thoraco-pelvic covariation across Hominoidea species are scarce, although recent research would suggest shared covariation patterns in humans and chimpanzees but also species-specific features, with sexual dimorphism and allometry influencing thoraco-pelvic covariation in these taxa differently.

This study suggests that humans and chimpanzees share common aspects of thoraco-pelvic covariation but might differ in others. In humans, torso integration is strongly influenced by sexual dimorphism and allometry, whilst in chimpanzees it may not be. This study also highlights the importance not only of torso widths but also of torso depths when describing patterns of thoraco-pelvic covariation in primates. Larger samples are necessary to support these interpretations.
https://onlinelibrary.wiley.com/doi/abs/10.1002/ajpa.24103?campaign=wolearlyview

Current Biology

PAPERS

ADAM BULLEY et al with THOMAS SUDDENDORF – Children Devise and Selectively Use Tools to Offload Cognition

From maps sketched in sand to supercomputing software, humans ubiquitously enhance cognitive performance by creating and using artifacts that bear mental load. This extension of information processing into the environment has taken center stage in debates about the nature of cognition in humans and other animals. How does the human mind acquire such strategies? In two experiments, we investigated the developmental origins of cognitive offloading in 150 children aged between 4 and 11 years. We created a memory task in which children were required to recall the location of hidden targets. In one experiment, participants were provided with a pre-specified cognitive offloading opportunity: an option to mark the target locations with tokens during the hiding period. Even 4-year-old children quickly adopted this external strategy and, in line with a metacognitive account, children across ages offloaded more often when the task was more difficult. In a second experiment, we provided children with the means to devise their own cognitive offloading strategy. Very few younger children spontaneously devised a solution, but by ages 10 and 11, nearly all did so. In a follow-up test phase, a simple prompt greatly increased the rate at which the younger children devised an offloading strategy. These findings suggest that

sensitivity to the difficulties of thinking arises early in development and improves throughout the early school years, with children learning to modify the world around them to compensate for their cognitive limits.
https://www.cell.com/current-biology/fulltext/S0960-9822(20)30851-4?dgcid=raven_jbs_etoc_email

HUGO ZEBERG et al with JANET KELSO & SVANTE PÄÄBO – A Neanderthal Sodium Channel Increases Pain Sensitivity in Present-Day Humans
The sodium channel Nav1.7 is crucial for impulse generation and conduction in peripheral pain pathways. In Neanderthals, the Nav1.7 protein carried three amino acid substitutions (M932L, V991L, and D1908G) relative to modern humans. We expressed Nav1.7 proteins carrying all combinations of these substitutions and studied their electrophysiological effects. Whereas the single amino acid substitutions do not affect the function of the ion channel, the full Neanderthal variant carrying all three substitutions, as well as the combination of V991L with D1908G, shows reduced inactivation, suggesting that peripheral nerves were more sensitive to painful stimuli in Neanderthals than in modern humans. We show that, due to gene flow from Neanderthals, the three Neanderthal substitutions are found in ~0.4% of present-day Britons, where they are associated with heightened pain sensitivity.
https://www.cell.com/current-biology/fulltext/S0960-9822(20)30861-7?dgcid=raven_jbs_etoc_email

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Frontiers in Communication

ARTICLES

STEPHEN M. CROUCHER – The Importance of Culture and Communication
It is my honor to be the inaugural section editor of Culture and Communication, a new section of Frontiers in Communication. I was uncertain about taking on this role when I was first approached by Frontiers. However, after discussing the opportunity with colleagues and family, and thinking about the potential for such a venture, I happily accepted this challenge and opportunity. Being the inaugural section editor of Culture and Communication, it was my responsibility to develop the scope for this section. In consultation with the Associate Editors, we developed the following Scope for the new section:
Culture and Communication aims to publish research that emphasizes the varied intersections of culture and human communication. The section is theoretically and methodologically interdisciplinary, welcoming social scientific, humanistic, critical/cultural, rhetorical, performative, and other approaches. Culture and Communication is an international platform that explores how "culture" in its myriad forms intersects with those of "human communication." This section broadly defines culture to include the ideas, customs, social behavior, and norms of societies. Communication is broadly defined as the exchange of information. All areas of research that discuss the relationship between culture and communication are encouraged, including (but not limited to):
• Intercultural communication
• Cross-cultural communication
• International communication
• Inter-ethnic communication
• Cultural studies
• Post-colonial studies
https://www.frontiersin.org/articles/10.3389/fcomm.2020.00061/full?utm_source=F-AAE&utm_medium=EMLF&utm_campaign=MRK_1427535_14_Commun_20200908_arts_A

Nature Human Behaviour

ARTICLES

KATHELIJNE KOOPS – Chimpanzee termite fishing etiquette
Human culture is unique. Or is it? A new study reveals unexpected cultural diversity in the fine-grained details of chimpanzee termite fishing behaviour. These novel findings shed light on the richness of chimpanzee cultural diversity and reveal a narrower gap between the cultures of humans and other apes.
https://www.nature.com/articles/s41562-020-0895-9

PAPERS

CHRISTOPHE BOESCH et mul with CRICKETTE SANZ – Chimpanzee ethnography reveals unexpected cultural diversity
Human ethnographic knowledge covers hundreds of societies, whereas chimpanzee ethnography encompasses at most 15 communities. Using termite fishing as a window into the richness of chimpanzee cultural diversity, we address a potential sampling bias with 39 additional communities across Africa. Previously, termite fishing was known from eight locations with two distinguishable techniques observed in only two communities. Here, we add nine termite-fishing communities not studied before, revealing 38 different technical elements, as well as community-specific combinations of three to seven elements. Thirty of those were not ecologically constrained, permitting the investigation of chimpanzee termite-fishing culture. The number and combination of elements shared among individuals were more similar within communities than between them, thus supporting community-majority conformity via social imitation. The variation in community-specific

combinations of elements parallels cultural diversity in human greeting norms or chopstick etiquette. We suggest that termite fishing in wild chimpanzees shows some elements of cumulative cultural diversity.
https://www.nature.com/articles/s41562-020-0890-1

Nature Scientific Reports

PAPERS

PAULINE BILLARD et al – Language is the missing link in action-perception coupling: an EEG study
The paper reports an electrophysiological (EEG) study investigating how language is involved in perception–action relations in musically trained and untrained participants. Using an original backward priming paradigm, participants were exposed to muted point-light videos of violinists performing piano or forte nuances followed by a congruent vs. incongruent word. After the video presentation, participants were asked to decide whether the musician was playing a piano or forte musical nuance. EEG results showed a greater P200 event-related potential for trained participants at the occipital site, and a greater N400 effect for untrained participants at the central site. Musically untrained participants were more accurate when the word was semantically congruent with the gesture than when it was incongruent. Overall, language seems to influence the performance of untrained participants, for which perception–action couplings are less automatized.
https://www.nature.com/articles/s41598-020-71575-w

ANDREA PICIN et al with JEAN-JACQUES HUBLIN – New perspectives on Neanderthal dispersal and turnover from Stajnia Cave (Poland)
The Micoquian is the broadest and longest enduring cultural facies of the Late Middle Palaeolithic that spread across the periglacial and boreal environments of Europe between Eastern France, Poland, and Northern Caucasus. Here, we present new data from the archaeological record of Stajnia Cave (Poland) and the paleogenetic analysis of a Neanderthal molar S5000, found in a Micoquian context. Our results demonstrate that the mtDNA genome of Stajnia S5000 dates to MIS 5a making the tooth the oldest Neanderthal specimen from Central-Eastern Europe. Furthermore, S5000 mtDNA has the fewest number of differences to mtDNA of Mezmaiskaya 1 Neanderthal from Northern Caucasus, and is more distant from almost contemporaneous Neanderthals of Scladina and Hohlenstein-Stadel. This observation and the technological affinity between Poland and the Northern Caucasus could be the result of increased mobility of Neanderthals that changed their subsistence strategy for coping with the new low biomass environments and the increased foraging radius of gregarious animals. The Prut and Dniester rivers were probably used as the main corridors of dispersal. The persistence of the Micoquian techno-complex in South-Eastern Europe infers that this axis of mobility was also used at the beginning of MIS 3 when a Neanderthal population turnover occurred in the Northern Caucasus.
https://www.nature.com/articles/s41598-020-71504-x

PLoS One

PAPERS

TAI-SEN HE & LILI QIN – On the developmental origin of intrinsic honesty
Contrary to the self-interestedness assumption, numerous economic studies have documented that people are intrinsically honest. However, little is known about this trait's developmental origin. This study examines whether and the extent to which children in early childhood incur the intrinsic lying cost. We modified the commonly used coin-flip task into a child-friendly ball-drawing task with 10 trials and conducted the experiment with 225 child participants aged three to eight years old. We found that—although young children, on average, told two lies in the task (an average winning rate of 71%)—they lied significantly less than the maximum level (i.e., lying 100% of the time). The pattern was largely similar across gender and the age range studied. Furthermore, our child subjects' propensity to lie dropped by approximately 9% when they were randomly assigned to the treatment condition with an increased "perceived" intrinsic cost of lying. Overall, our results align with the innate morality hypothesis: young children, as young as three years old, are willing to give up pecuniary rewards in order to remain honest.
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0238241

PNAS

PAPERS

OLUMIDE A. OLULADE et al with ELISSA L. NEWPORT – The neural basis of language development: Changes in lateralization over age
We have long known that language is lateralized to the left hemisphere (LH) in most neurologically healthy adults. In contrast, findings on lateralization of function during development are more complex. As in adults, anatomical, electrophysiological, and neuroimaging studies in infants and children indicate LH lateralization for language. However, in very young children, lesions to either hemisphere are equally likely to result in language deficits, suggesting that language is distributed symmetrically early in life. We address this apparent contradiction by examining patterns of functional MRI (fMRI) language activation in children (ages 4 through 13) and adults (ages 18 through 29). In contrast to previous studies, we focus not on lateralization per se but rather on patterns of left-hemisphere (LH) and right-hemisphere (RH) activation across individual participants over age. Our analyses show significant activation not only in the LH language network but also in their

RH homologs in all of the youngest children (ages 4 through 6). The proportion of participants showing significant RH activation decreases over age, with over 60% of adults lacking any significant RH activation. A whole-brain correlation analysis revealed an age-related decrease in language activation only in the RH homolog of Broca's area. This correlation was independent of task difficulty. We conclude that, while language is left-lateralized throughout life, the RH contribution to language processing is also strong early in life and decreases through childhood. Importantly, this early RH language activation may represent a developmental mechanism for recovery following early LH injury.
https://www.pnas.org/content/early/2020/09/01/1905590117.abstract?etoc

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Proceedings of the Royal Society B

PAPERS

RUTE MENDONÇA et al – Oxidative costs of cooperation in cooperatively breeding Damaraland mole-rats

Within cooperatively breeding societies, individuals adjust cooperative contributions to maximize indirect fitness and minimize direct fitness costs. Yet, little is known about the physiological costs of cooperation, which may be detrimental to direct fitness. Oxidative stress, the imbalance between reactive oxygen species (by-products of energy production) and antioxidant protection, may represent such a cost when cooperative behaviours are energetically demanding. Oxidative stress can lead to the accumulation of cellular damage, compromising survival and reproduction, thus mediating the trade-off between these competing life-history traits. Here, we experimentally increased energetically demanding cooperative contributions in captive Damaraland mole-rats (Fukomys damarensis). We quantified oxidative stress-related effects of increased cooperation on somatic and germline tissues, and the trade-off between them. Increased cooperative contributions induced oxidative stress in females and males, without increasing somatic damage. Males accumulated oxidative damage in their germline despite an increase in antioxidant defences. Finally, oxidative damage accumulation became biased towards the germline, while antioxidant protection remained biased towards the soma, suggesting that males favour the maintenance of somatic tissues (i.e. survival over reproduction). Our results show that heightened cooperative contributions can ultimately affect direct fitness through oxidative stress costs, which may represent a key selective pressure for the evolution of cooperation.
https://royalsocietypublishing.org/doi/abs/10.1098/rspb.2020.1023

EMILY J. LEVY et al – A comparison of dominance rank metrics reveals multiple competitive landscapes in an animal society

Across group-living animals, linear dominance hierarchies lead to disparities in access to resources, health outcomes and reproductive performance. Studies of how dominance rank predicts these traits typically employ one of several dominance rank metrics without examining the assumptions each metric makes about its underlying competitive processes. Here, we compare the ability of two dominance rank metrics—simple ordinal rank and proportional or 'standardized' rank—to predict 20 traits in a wild baboon population in Amboseli, Kenya. We propose that simple ordinal rank best predicts traits when competition is density-dependent, whereas proportional rank best predicts traits when competition is density-independent. We found that for 75% of traits (15/20), one rank metric performed better than the other. Strikingly, all male traits were best predicted by simple ordinal rank, whereas female traits were evenly split between proportional and simple ordinal rank. Hence, male and female traits are shaped by different competitive processes: males are largely driven by density-dependent resource access (e.g. access to oestrous females), whereas females are shaped by both density-independent (e.g. distributed food resources) and density-dependent resource access. This method of comparing how different rank metrics predict traits can be used to distinguish between different competitive processes operating in animal societies.
https://royalsocietypublishing.org/doi/abs/10.1098/rspb.2020.1013

MUHAMMAD A. SPOCTER et al – Reproducibility of leftward planum temporale asymmetries in two genetically isolated populations of chimpanzees (Pan troglodytes)

Once considered a hallmark of human uniqueness, brain asymmetry has emerged as a feature shared with several other species, including chimpanzees, one of our closest living relatives. Most notable has been the discovery of asymmetries in homologues of cortical language areas in apes, particularly in the planum temporale (PT), considered a central node of the human language network. Several lines of evidence indicate a role for genetic mechanisms in the emergence of PT asymmetry; however, the genetic determinants of cerebral asymmetries have remained elusive. Studies in humans suggest that there is heritability of brain asymmetries of the PT, but this has not been explored to any extent in chimpanzees. Furthermore, the potential influence of non-genetic factors has raised questions about the reproducibility of earlier observations of PT asymmetry reported in chimpanzees. As such, the present study was aimed at examining both the heritability of phenotypic asymmetries in PT morphology, as well as their reproducibility. Using magnetic resonance imaging, we evaluated morphological asymmetries of PT surface area (mm2) and mean depth (mm) in captive chimpanzees (n = 291) derived from two genetically isolated populations. Our results confirm that chimpanzees exhibit a significant population-level leftward asymmetry for PT surface area, as well as significant heritability in the surface area and mean depth of the PT. These results conclusively demonstrate the existence of a leftward bias in PT asymmetry in chimpanzees and suggest that genetic mechanisms play a key role in the emergence of anatomical asymmetry in this region.
https://royalsocietypublishing.org/doi/abs/10.1098/rspb.2020.1320

Trends in Cognitive Sciences

PAPERS

JAMES H. KRYKLYWY et al – From Architecture to Evolution: Multisensory Evidence of Decentralized Emotion

Emotional appraisal in humans is often considered a centrally mediated process by which sensory signals, void of emotional meaning, are assessed by integrative brain structures steps removed from raw sensation. We review emerging evidence that the emotional value of the environment is coded by nonvisual sensory systems as early as the sensory receptors and that these signals inform the emotional state of an organism independent of sensory cortical processes. We further present evidence for cross-species conservation of sensory projections to central emotion-processing brain regions. Based on this, we argue not only that emotional appraisal is a decentralized process, but that all human emotional experience may reflect the sensory experience of our ancestors.

https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(20)30210-2?dgcid=raven_jbs_aip_email

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