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Communications. By faithfully copying the most popular songs, swamp sparrows (Melospiza georgiana) create time-honored song traditions, study shows. Honored song traditions, study shows.}

Swamp sparrows have passed their songs down for more than 1500 years. The findings, published today in Nature Communications, suggest humans are not alone in keeping practices alive for long periods of time. Some people can trace their traditions back decades; the swamp sparrow has passed its songs down for more than 1500 years. The findings, published today in Nature Communications, suggest humans are not alone in keeping practices alive for long periods of time. The best insights into the neurology of our mysterious, extinct relatives came from analyzing the shape and volume of the spaces inside their fossilized skulls. Until now, researchers wanting to understand the Neanderthal brain and how it differed from our own had to study a void. The best insights into the neurology of our mysterious, extinct relatives came from analyzing the shape and volume of the spaces inside their fossilized skulls. Until now, researchers wanting to understand the Neanderthal brain and how it differed from our own had to study a void. If you do not want the newsletters any more, you need do nothing. You will continue to receive bulletins until late September, when I will remove anyone who hasn’t responded. If you do not want the newsletters any more, you need do nothing. You will continue to receive bulletins until late September, when I will remove anyone who hasn’t responded. Do dolphins feel grief? When an adult striped dolphin emerged from the Mediterranean Sea in 2016 pushing, nudging, and circling the carcass of its dead female companion for more than an hour, a nearby boat of scientists fell silent. Afterward, the students aboard said they were certain the dolphin was grieving. But was this grief or some other response? In a new study, researchers are attempting to get to the bottom of a mystery that has plagued behavioral biologists for 50 years. Do dolphins feel grief? When an adult striped dolphin emerged from the Mediterranean Sea in 2016 pushing, nudging, and circling the carcass of its dead female companion for more than an hour, a nearby boat of scientists fell silent. Afterward, the students aboard said they were certain the dolphin was grieving. But was this grief or some other response? In a new study, researchers are attempting to get to the bottom of a mystery that has plagued behavioral biologists for 50 years.
Individual speech sounds -- phonemes -- are statistically associated with negative or positive emotions in several languages, new research shows. These associations help us quickly avoid dangers, because the phoneme-emotion associations are strongest at the beginning of the word and the phonemes that are spoken fastest tend to have a negative association.

{So how does this work with HELP, WARNING, EMERGENCY, NOW, MENACE and THREAT? Normally I tell my students to avoid the thesaurus; in this case, it may have helped.}

https://www.sciencedaily.com/releases/2018/06/180619122952.htm

The researchers debunk the theories canonized in Dale Carnegie's How to Win Friends and Influence People that assuming you understand someone else's thoughts, feelings, attitude, or mental state is a correct approach to interpersonal insight.

https://www.sciencedaily.com/releases/2018/06/180621000339.htm

A scientist says the natural evolution of social organization into larger and more complex communities exhibiting distinct hierarchies can be predicted from the same law of physics that gives rise to tree branches and river deltas -- a concept called the constructal law.

https://www.sciencedaily.com/releases/2018/06/180621070954.htm

Using transcranial magnetic stimulation and network control theory, researchers have taken a novel approach to understanding how signals travel across the brain's highways and how stimulation can lead to better cognitive function.


Namibian hunter-gatherers deride those who stand out. What does this tell us about why, and how, we care about fairness?

https://sapiens.us11.list-manage.com/track/click?u=80f6cf678900daf984bf763b7&id=c7e6140632&e=dc0efff6180

For the past five years I've been doing research on the cognitive abilities of African Grey parrots (Psittacus erithacus), attempting to document not only their remarkable linguistic abilities but also examining the way that they interact with their human caretakers, specifically Greys who have been home-raised and hence exposed to a language-rich environment. Given that literally no work has been done on the linguistic abilities of Greys raised in home environments, the research I've carried out to date and which will be discussed in this chapter must be viewed as preliminary, although not necessarily ground-breaking for that term needs to be applied to the outstanding research that Dr. Irene Pepperberg has carried out in her laboratory where she demonstrated the remarkable cognitive abilities of her Greys, Alex, Griffin and Arthur.

However, Pepperberg’s work has been focused on experimentally proving the general level of intelligence of parrots housed and extensively trained in a laboratory setting (Pepperberg 1999, 2010b, 2011b). Her avian subjects were “being trained to communicate — to use labels referentially — rather than being exposed to an environment that allowed consequence-free acquisition without necessarily teaching meaning” (Pepperberg 1999: 214). In other words, she was not concerned specifically with exploring the linguistic abilities of the birds and the cultural world they inhabit and/or create for themselves in a home environment. Rather her goal and one that she certainly achieved was to produce statistically meaningful data concerning the ability of these birds to reason. Fitch described Pepperberg’s approach in this way, saying that “most of Pepperberg’s attention has been focused on cognition, with speech being a means to an end rather than the primary focus of research” (Fitch 2010: 169).

Pepperberg’s conclusion — which is accepted by animal behaviourists — is that the cognitive abilities of Greys allow them to be ranked as having reasoning skills equivalent to those of a 2- to 3-year-old human child and in some specific areas the tests showed that a Grey is capable of performing at the level of a 5-year old. Quite surprisingly, leaving aside the outstanding work of Pepperberg and her highly insightful commentaries on the speech production and verbal interactions that her Greys had with her and members of her laboratory staff (Pepperberg 2009), to my knowledge, there still has been no inquiry into how the proven cognitive abilities of these laboratory-trained birds relate to the way that home-raised Greys communicate verbally with humans. While there is a plethora of studies and speculations about how songbirds acquire their songs, no such similar work has been done on Greys in home settings. In any case, Pepperberg’s remarkable research results provide support for the following proposition: that there would be nothing inherently wrong with suggesting complex cognitive
interpretations of the verbal performance of home-raised Greys given that the species in question has already been proven to have high intelligence (Waal 2016: 41–42).

https://www.academia.edu/36879227/Expanding_the_Scope_of_Cultural_Linguistics_Taking_Parrots_Seriously

THE CONVERSATION – Why it's okay for bilingual children to mix languages
Being bilingual is not just about learning two languages, it’s about absorbing meaning, negotiating and being flexible when it comes to language.

https://theconversationuk.cmail19.com/t/r-l-jyjilhil-khhilalah-yh/

OTHER NEWS – BBC – Koko: Gorilla who mastered sign language dies in California
Koko the gorilla, who is said to have been able to communicate by using more than 1,000 hand signs, has died in California at the age of 46.

https://www.bbc.co.uk/news/world-us-canada-44559261

PUBLICATIONS

Current Biology
ARTICLES

MICHAEL GROSS – The Indo-European ancestors’ tale
Ancient DNA from populations linked to the common origin and subsequent spread of Indo-European languages offers the unique opportunity to match up a highly detailed linguistic phylogeny with substantial genetic data as well as with the archaeological record.

https://cwhib9vv.r.us-east-1.awstrack.me/L0/https%3A%2F%2Fwww.cell.com%2Fcurrent-biology%2Ffulltext%2FS0960-9822(18)30757-7%3Fdgcid=raven_jbs_toc_email/1%01000164136f250e-96c5362a-7c51-4802-9705-3fc7681cfc750000000000/fRDsIKFKKK-Dle6XnjeVDP9mo=62

W. TECUMSEH FITCH – Bio-Linguistics: Monkeys Break Through the Syntax Barrier
Macaque monkeys can be trained to produce complex spatial sequences beyond the simplest levels of grammar previously known from animal studies. This indicates cognitive capabilities in the spatial-motor domain that approach the computational complexity level of human syntax.

https://www.cell.com/current-biology/fulltext/S0960-9822(18)30559-1

WILLIAM A. ROBERTS – Animal Cognition: Chimps Use Human Knowledge When Reasoning Statistically
A recent study found that chimpanzees chose hidden rewards selected by humans from two populations containing different proportions of favoured and non-favoured items; their choice was based on statistical reasoning about random sampling, human preferences, and inferences about humans' knowledge of their own choices.

https://www.cell.com/current-biology/fulltext/S0960-9822(18)30620-1

Frontiers in Neuroscience
PAPERS

CATALIN V. BUHUSI, SORINEL A. OPRISAN & MONA BUHUSI – Biological and Cognitive Frameworks for a Mental Timeline
Historians like to order long-gone events in time. When events correlate with years—numbers—events seem to follow a clear time line, but when their order is unclear, historians order events using extra information from folklore, writings, artifacts, and cultural habits. Here we ask the following question: How does the brain, at a neuromechanistic level, order events on a mental time line? This question is relevant to many neuroscience paradigms such as rate calculation, planning, and decision making, processes that crucially depend on the order of events. For example, episodic memory incorporates order and duration of the events in the episode (Tulving and Donaldson, 1972; Eichenbaum, 2017). Events and their features (order, duration, content etc.) are stored in memory and recalled when needed. But how is the order of events assessed when events are recalled from memory to be placed on the timeline? To address this question, we discuss several classes of models of timing and time perception, and their capability of ordering events in time. Because the mental time includes all durations, our discussion will freely mix time scales: milliseconds, seconds, hours, days. Moreover, here we do not discuss in depth the scalar property—the increase in timing errors with the criterion time—because almost all models of timing can reproduce the scalar property, making it a weak criterion for selecting among these models.

Mind & Language

PAPERS

VALENTINE HACQUARD & JEFFREY LIDZ – Children's attitude problems: Bootstrapping verb meaning from syntax and pragmatics
How do children learn the meanings of propositional attitude verbs? We argue that children use information contained in both syntactic distribution and pragmatic function to zero in on the appropriate meanings. Specifically, we identify a potentially universal link between semantic subclasses of attitude verbs, their syntactic distribution and the kinds of indirect speech acts they can be used to perform. As a result, children can use the syntax as evidence about the meaning, which in turn constrains the kinds of pragmatic enrichments they do and do not make in understanding these verbs in conversation.

Nature Communications

PAPERS

ROBERT F. LACHLAN, OLIVER RATMANN & STEPHEN NOWICKI – Cultural conformity generates extremely stable traditions in bird song
Cultural traditions have been observed in a wide variety of animal species. It remains unclear, however, what is required for social learning to give rise to stable traditions: what level of precision and what learning strategies are required. We address these questions by fitting models of cultural evolution to learned bird song. We recorded 615 swamp sparrow (Melospiza georgiana) song repertoires, and compared syllable frequency distributions to the output of individual-based simulations. We find that syllables are learned with an estimated error rate of 1.85% and with a conformist bias in learning. This bias is consistent with a simple mechanism of overproduction and selective attrition. Finally, we estimate that syllable types could frequently persist for more than 500 years. Our results demonstrate conformist bias in natural animal behaviour and show that this, along with moderately precise learning, may support traditions whose stability rivals those of humans.
https://www.nature.com/articles/s41467-018-04775-8

TILL O. WEBER, ORI WEISEL & SIMON GÄCHTER – Dispositional free riders do not free ride on punishment
Strong reciprocity explains prosocial cooperation by the presence of individuals who incur costs to help those who helped them ('strong positive reciprocity') and to punish those who wronged them ('strong negative reciprocity'). Theories of social preferences predict that in contrast to 'strong reciprocators', self-regarding people cooperate and punish only if there are sufficient future benefits. Here, we test this prediction in a two-stage design. First, participants are classified according to their disposition towards strong positive reciprocity as either dispositional conditional cooperators (DCC) or dispositional free riders (DFR). Participants then play a one-shot public goods game, either with or without punishment. As expected, DFR cooperate only when punishment is possible, whereas DCC cooperate without punishment. Surprisingly, dispositions towards strong positive reciprocity are unrelated to strong negative reciprocity: punishment by DCC and DFR is practically identical. The 'burden of cooperation' is thus carried by a larger set of individuals than previously assumed.
https://www.nature.com/articles/s41467-018-04728-1

Nature Scientific Reports

PAPERS

KRISTINA KVERKOVÁ et al – Sociality does not drive the evolution of large brains in eusocial African mole-rats
The social brain hypothesis (SBH) posits that the demands imposed on individuals by living in cohesive social groups exert a selection pressure favouring the evolution of large brains and complex cognitive abilities. Using volumetry and the isotropic fractionator to determine the size of and numbers of neurons in specific brain regions, here we test this hypothesis in African mole-rats (Bathyergidae). These subterranean rodents exhibit a broad spectrum of social complexity, ranging from strictly solitary through to eusocial cooperative breeders, but feature similar ecologies and life history traits. We found no positive association between sociality and neuroanatomical correlates of information-processing capacity. Solitary species are larger, tend to have greater absolute brain size and have more neurons in the forebrain than social species. The neocortex ratio and neuronal counts correlate negatively with social group size. These results are clearly inconsistent with the SBH and show that the challenges coupled with sociality in this group of rodents do not require brain enlargement or fundamental reorganization. These findings suggest that group living or pair bonding per se does not select strongly for brain enlargement unless coupled with Machiavellian interactions affecting individual fitness.
https://www.nature.com/articles/s41598-018-26062-8

NATALIE D. MUNRO et al - The Emergence of Animal Management in the Southern Levant
Our compilation of zooarchaeological data from a series of important archaeological sites spanning the Epipaleolithic through Pre-Pottery Neolithic B periods in the Mediterranean Hills of the southern Levant contributes to major debates about the
beginnings of ungulate management in Southwest Asia. The data support an onset of ungulate management practices by the Early PPNB (10,500–10,000 cal. BP), more than 500 years earlier than previously thought for this region. There is a clear developmental connection between reduced hunting intensity and the uptake of ungulate management, confirming that this process began in response to local, density-dependent demographic factors. The early process of goat domestication in the southern Levant appears to have been overwhelmingly local. This may have been true for cattle and pigs as well. Nevertheless, the loose synchrony of animal management trends across Southwest Asia was undoubtedly enabled by large-scale social networks that transmitted knowledge. The results add to growing evidence that animal management processes followed multiple regional evolutionary pathways within the Fertile Crescent.

https://www.nature.com/articles/s41598-018-27647-z

PER SNAPRUD – The consciousness wager

What is being in love, feeling pain or seeing colour made of? How our brains make conscious experience has long been a riddle – but we’re uncovering clues.

http://click.e.newscientist.com/?qs=c62856f48a6f804adac5263f25f4cfee13b680ee8c6bd292622616b23d26cbbc9440d3e062a4ad0a1421b0a2558cb50e83c7973ece339d1f

URSULA WIERER – The Iceman’s lithic toolkit: Raw material, technology, typology and use

The Tyrolean Iceman, a 5,300-year-old glacier mummy recovered at the Tisenjoch (South Tyrol, Italy) together with his clothes and personal equipment, represents a unique opportunity for prehistoric research. The present work examines the Iceman’s tools which are made from chert or are related to chert working - dagger, two arrowheads, endscraper, borer, small flake and antler retoucher - and considers also the arrowhead still embedded in the shoulder of the mummy. The interdisciplinary results achieved by study of the lithic raw material, technology, use-wear analysis, CT analysis and typology all add new information to Ötzi’s individual history and his last days, and allow insights into the way of life of Alpine Copper Age communities. The chert raw material of the small assemblage originates from at least three different areas of provenance in the Southalpine region. One, or possibly two, sources derive from outcrops in the Trentino, specifically the Non Valley. Such variability suggests an extensive provisioning network, not at all limited to the Lessini mountains, which was able to reach the local communities. The Iceman’s toolkit displays typological characteristics of the Northern Italian tradition, but also comprises features typical of the Swiss Horgen culture, which will come as no surprise in the toolkit of a man who lived in a territory where transalpine contacts would have been of great importance. Ötzi was not a flintknapper, but he was able to resharpen his tools with a medium to good level of skill. Wear traces reveal that he was a right-hander. Most instruments in the toolkit had reached their final stage of usability, displaying extensive usage, mostly from plant working, resharpenings and breaks. Evidently Ötzi had not had any access to chert for quite some time, which must have been problematic during his last hectic days, preventing him from repairing and integrating his weapons, in particular his arrows. Freshly modified blade tools without any wear suggest planned work which he never carried out, possibly prevented by the events which made him return to the mountains where he was killed by a Southern Alpine archer.

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0198292

AARON J. FISHER, JOHN D. MEDAGLIA & BERTUS F. JERONIMUS – Lack of group-to-individual generalizability is a threat to human subjects research

The current study quantified the degree to which group data are able to describe individual participants. We utilized intensive repeated-measures data—data that have been collected many times, across many individuals—to compare the distributions of bivariate correlations calculated within subjects vs. those calculated between subjects. Because the vast majority of social and medical science research aggregates across subjects, we aimed to assess how closely such aggregations reflect their constituent individuals. We provide evidence that conclusions drawn from aggregated data may be worryingly imprecise. Specifically, the variance in individuals is up to four times larger than in groups. These data call for a focus on idiography and open science that may substantially alter best-practice guidelines in the medical and behavioral sciences.

http://www.pnas.org/content/early/2018/06/15/1711978115?etoc=

JULIA GALWAY-WITHAM & CHRIS STRINGER – How did Homo sapiens evolve?

Over the past 30 years, understanding of Homo sapiens evolution has advanced greatly. Most research has supported the theory that modern humans had originated in Africa by about 200,000 years ago, but the latest findings reveal more complexity than anticipated. They confirm interbreeding between H. sapiens and other hominin species, provide evidence for
H. sapiens in Morocco as early as 300,000 years ago, and reveal a seemingly incremental evolution of H. sapiens cranial shape. Although the cumulative evidence still suggests that all modern humans are descended from African H. sapiens populations that replaced local populations of archaic humans, models of modern human origins must now include substantial interactions with those populations before they went extinct. These recent findings illustrate why researchers must remain open to challenging the prevailing theories of modern human origins.

http://science.sciencemag.org/content/360/6395/1296

Trends in Cognitive Sciences
PAPERS
AMY KALIA SINGH, FLIP PHILLIPS, LOTFI B. MERABET & PAWAN SINHA – Why Does the Cortex Reorganize after Sensory Loss?
Neuroimaging studies have revealed that after loss of their primary sensory inputs, cortical areas often come to exhibit responses to inputs from other sensory modalities. These cortical changes are sometimes, but not always, accompanied by enhancements in behavioral abilities in the encroaching modalities, seemingly to compensate for the missing modality. We lack a comprehensive account of why cortical reorganization happens after sensory loss. Possibilities besides compensation include unmasking of dormant inputs, and mitigation of potentially harmful physiological changes in deafferented cortical tissue. A growing body of evidence demonstrates that the brain can reorganize dramatically following sensory loss. Although the existence of such neuroplastic crossmodal changes is not in doubt, the functional significance of these changes remains unclear. The dominant belief is that reorganization is compensatory. However, results thus far do not unequivocally indicate that sensory deprivation results in markedly enhanced abilities in other senses. Here, we consider alternative reasons besides sensory compensation that might drive the brain to reorganize after sensory loss. One such possibility is that the cortex reorganizes not to confer functional benefits, but to avoid undesirable physiological consequences of sensory deafferentation. Empirical assessment of the validity of this and other possibilities defines a rich program for future research.

https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(18)30095-0

Trends in Neurosciences
PAPERS
CHRIS D. FRITH & PATRICK HAGGARD – Volition and the Brain – Revisiting a Classic Experimental Study
In 1983 Libet et al. demonstrated that brain activity associated with a voluntary act precedes conscious experience of the intention to act by several hundred milliseconds. The implication that it is the brain, rather than ‘free will’, that initiates voluntary acts has been discussed ever since by philosophers and lawyers, as well as by scientists. We show here how Libet’s original study gave rise to an entire research field of experimental investigations of volition.

https://www.cell.com/trends/neurosciences/fulltext/S0166-2236(18)30112-7

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