

voice-sensitive region of the right hemisphere when the voice conveyed anger or happiness. Happy emotion also activated the right inferior frontal cortex — an effect that has been seen in adults. This sensitivity to voice and emotion is thought to be crucial for social communication.

METABOLISM

Fat from fructose

Pharmacol. Biochem. Behav. doi:10.1016/j.pbb.2010.02.012 (2010)

A widely used sweetener could be one culprit behind Americans' rapidly expanding waistlines.

High-fructose corn syrup has been proposed to account for as much as 7% of the daily caloric intake in the United States — a conservative estimate, say Bartley Hoebel and his team at Princeton University in New Jersey. They report that rats fed high-fructose corn syrup along with their regular chow for eight weeks gained more weight than those that munched on sucrose-supplemented chow, even when they consumed the same total number of calories.

The same was true when the rats were given high-fructose corn syrup over longer periods — up to seven months. This extended diet was also associated with signs of obesity, including increases in fat deposits, particularly around the abdomen, and higher levels of fats called triglycerides in the blood.

ECOLOGY

Mothers stress kids out

Ecology doi:10.1890/09-1108 (2010)

Snowshoe hares in the Canadian territory of Yukon undergo a 10-year cycle of population growth and collapse, closely followed by a similar trend in predator numbers. However,

there is a perplexingly slow rebound in the number of hares (*Lepus americanus*, pictured below with predator) after the decline has ended, even when predators have all but disappeared and food is abundant.

Michael Sheriff at the University of British Columbia in Vancouver, Canada, and his colleagues show that high levels of predation result in a sharp increase in levels of maternal stress hormones. These levels remain high in the offspring of these stressed animals and persist into adulthood, depressing reproduction. This suggests that the inheritance of stress levels results in a slow recovery of a population of wild mammals, supporting laboratory studies.



NANOTECHNOLOGY

Small salt superconducts

Nature Nanotechnol. doi:10.1038/nano.2010.41 (2010)

A tiny sample of an organic salt has shown superconductivity, the ability to pass electrical current with no resistance.

Crystals of the salt (BETS)₂GaCl₄, where BETS is bis(ethylenedithio)-tetraselenafulvalene, had already demonstrated superconductivity in bulk. Saw-Wai Hla of Ohio University in Athens,

Abdou Hassanien of the Nanotechnology Research Institute in Tsukuba, Japan, and their colleagues created an ultra-thin layer of the salt by depositing molecular chains of it on a silver substrate. They found that the chains, cooled to below 10 kelvin, exhibit superconductivity, even when just four molecules long — about 3.5 nanometres.

The observation opens up a new avenue for studying the local mechanism of superconductivity. Such materials could one day lead to smaller superconducting circuits.

NEUROPSYCHOLOGY

Morality of murder

Neuron 65, 845–851 (2010)

Previous work has shown that people with damage to a brain region called the ventromedial prefrontal cortex (VMPC) — which is involved in processing emotions — choose the 'utilitarian' option when presented with moral dilemmas. For example, they would opt to harm one person to save five. But what underlies their support of such actions?

Liane Young at the Massachusetts Institute of Technology in Cambridge and her co-workers asked nine patients with VMPC lesions to rate various scenarios on their moral permissibility. The scenarios portrayed a person committing an act with either a neutral or a harmful outcome, such as administering a possible poison, and specified whether the person intended harm.

The patients rated a failed attempt to harm as more permissible than an accidentally harmful act, showing that they neglect harmful intent, focusing more on outcome when making moral judgements. Their response contrasts with that of normal volunteers and people with damage to other brain regions, who had the opposite reaction.

J. McDONALD/GETTY

JOURNAL CLUB

Leonid Padyukov
Karolinska Institute,
Stockholm, Sweden

A human geneticist explores genetic diversity in Asia.

We often imagine that the heterogeneity of human populations is a reflection of thousands of years of human migration, but there is little evidence to support this. DNA may provide a source of such evidence, particularly that of the people of Asia, which has a

population of 3.9 billion and a diverse set of ethnic groups.

Previous studies of Asian migration history and genetic diversity included only a limited number of protein markers and relatively few individuals from each ethnic group. So it was no surprise that the HUGO Pan-Asian SNP Consortium launched an effort to scrutinize Asian genetic variation in more detail. The consortium, made up of dozens of researchers spread predominantly across Asia, analysed the genomes of nearly 2,000 people from 75 ethnic groups. What was

surprising was that most of the East Asian haplotypes — patterns of gene variants that co-occur on a single chromosome — were found in either South East Asia or South Central Asia. Moreover, half of these haplotypes were found in South East Asia alone (HUGO Pan-Asian SNP Consortium *Science* 326, 1541–1545; 2009).

This suggests that this area of the continent was the most probable source of migration to other parts of Asia early in human history. The haplotype diversity is strongly correlated with latitude, and the northward gradient of

haplotype distribution points to a possible direction of migration of ancient Asians.

Although the data do not disprove the direction of a second wave of migration that is presumed to have occurred from Africa to Asia, they do indicate substantial dominance of population migration from South East Asia towards other Asian territories. This is an exciting example of genetics providing solid evidence of migration paths, filling in the gaps of human history.

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