

Chemical Ecology in Jena, Germany, and his colleagues mutated *Escherichia coli* and *Acinetobacter baylyi* so that they could not produce certain essential amino acids. When grown in a medium lacking the amino acid it required, *E. coli* formed nanotubes up to 14 micrometres long to connect with and share the cytoplasm of nearby *A. baylyi*, which was producing the amino acid. In return, *E. coli* provided *A. baylyi* with the amino acid it needed. These bacteria function as interconnected entities rather than individuals, the authors suggest. *Nature Commun.* 6, 6283; 6238 (2015)

NEUROSCIENCE

Monkeys predict cooperation

Monkeys use a distinct set of neurons to predict whether a fellow primate is likely to cooperate for a common good.

Keren Haroush and Ziv Williams at Harvard Medical School in Boston, Massachusetts, inserted electrodes into the brains of four rhesus macaques (*Macaca mulatta*) to record activity in hundreds of individual neurons in a specific area of the frontal lobe.

They then trained different pairs of macaques to play a computer game displayed on a shared screen. Both animals were rewarded with juice if they cooperated by selecting orange shapes instead of blue ones. A large subset of the animals' neurons fired in a pattern that accurately predicted their partners' intended, as-yet unknown, selections. This subset was distinct from other subsets that fired in patterns reflecting their own personal selections or the expected reward.

Changes in these newly identified 'other-predictive' neurons may be relevant in



social behavioural disorders such as autism, the authors say.

Cell <http://doi.org/2gn> (2015)

STEM CELLS

Stem-cell hope for Parkinson's

Dopamine neurons derived from stem cells and inserted into a monkey's brain reduce Parkinson's-like symptoms over two years.

Ole Isacson at Harvard Medical School in Boston, Massachusetts, and his colleagues created dopamine-producing midbrain neurons using induced pluripotent stem cells derived from the skin of cynomolgus monkeys (*Macaca fascicularis*). These neurons were introduced into the brains of three monkeys that lacked dopamine neurons — a model for Parkinson's disease, in which monkeys have impaired motor skills and are less active than normal monkeys.

In the most successfully treated animal, the stem-cell-generated neurons survived and grew axons, and dopamine production was restored. This animal gradually improved during the two years after treatment and showed normal activity, suggesting that transplantation of stem-cell-derived neurons could one day treat Parkinson's disease.

Cell Stem Cell <http://doi.org/2gm> (2015)

AGRICULTURE

Beetles felled by potato RNA

Plants can be engineered to contain molecules that disrupt insect genes, fending off a superpest that is resistant to all major insecticides.

Ralph Bock of the Max Planck Institute for Plant Physiology in Potsdam, Germany, and his colleagues engineered tobacco and potato plants so that their chloroplasts

SOCIAL SELECTION

Popular articles on social media

Psychology journal bans P values

A controversial statistical test has met its end, at least in one journal. Earlier this month, the editors of *Basic and Applied Social Psychology* (BASP) announced that the journal would no longer publish papers containing *P* values, because the values were too often used to support lower-quality research.

Authors are still free to submit papers to BASP with *P* values and other statistical measures that form part of 'null hypothesis significance testing' (NHST), but the numbers will be removed before publication. "Basic and Applied Social Psychology just went science rogue and banned NHST from their journal. Awesome," tweeted Nerisa Dozo, a PhD student in psychology at the University of Queensland in Brisbane, Australia. But Jan de Ruiter, a cognitive scientist at Bielefeld University in Germany, tweeted: "NHST is really problematic", adding that banning all inferential statistics is "throwing away the baby with the p-value".

Basic Appl. Soc. Psych. 37, 1–2 (2015)



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(the cell's photosynthetic structures) expressed RNA molecules that target vital insect genes. Larvae of the superpest Colorado potato beetle (*Leptinotarsa decemlineata*; pictured) died after nibbling leaves from the transgenic potatoes. By contrast, potatoes expressing the RNAs outside chloroplasts were not protected — probably because the plant's internal defence mechanism stopped the RNAs from accumulating to sufficient levels.

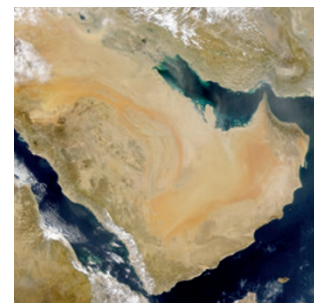
Science 347, 991–994 (2015)

PALAEOCLIMATOLOGY

A damp dispersal out of Africa

Early humans would have had several rainy opportunities to move out of Africa and into the normally arid and challenging Arabian peninsula (pictured).

Ash Parton of the University of Oxford, UK, and his colleagues discovered layers of sediments laid down by



ancient rivers in southeast Arabia, which flowed for several long periods during the past 160,000 years. Those wet spells could have enabled humans to push into the Arabian interior much earlier than some theories have suggested. Since at least 160,000 years ago, monsoon rains would have provided enough fresh water and plants to sustain human migration approximately every 23,000 years.

Geology <http://doi.org/2f8> (2015)

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