cognitive functions.

The results provide a foundation for future work to link functional brain connections with individual behaviours, the authors say.

Nature Neurosci. **http://dx.doi.org/10.1038/nn.4135 (2015)**

PALAEOANTHROPOLOGY

Early human with a familiar handshake

A recently discovered early human species probably walked upright and wielded tools, but also took to the trees.

Last month, researchers reported the discovery of fossil bones from at least 15 individuals of a species they named *Homo naledi*. A team led by Tracy Kivell at the University of Kent in Canterbury, UK, has analysed nearly 150 hand bones from the find, including a complete right hand (**pictured**, left). The hands resemble those of *Homo sapiens*, Neanderthals and other regular tool-users, although the long, curved fingers suggest that *H. naledi* was comfortable in trees.

In a separate study, William Harcourt Smith at the City University of New York and Jeremy DeSilva at Dartmouth College in Hanover, New Hampshire, looked at 107 foot bones, including a nearly complete right foot (pictured, right), and concluded that *H. naledi* strode upright. However, the feet still had some primitive features: certain toe bones were more curved than are those of modern humans.

Nature Commun. 6, **8431;** 6, **8432 (2015)**

BLUE BRAIN PROJECT

PETER SCHMID/ WILL HARCOURT-SMITH

CANCER

How elephants dodge cancer

Elephants have extra copies of a gene that fights tumour cells, which could explain why they rarely develop cancer.

Joshua Schiffman at the University of Utah in Salt Lake City and his colleagues studied elephant white blood cells and found that they have 20 copies of a tumour-suppressor gene called *TP53* in their genome — humans and other mammals have only one. The cells also underwent TP53-mediated apoptosis — programmed cell death — more frequently than human cells do when exposed to DNA-damaging radiation. This suggests that elephant cells kill themselves to avoid the risk of uncontrolled growth.

In a separate study, Vincent Lynch at the University of Chicago in Illinois and his co-workers report similar results. They also discovered more than a dozen *TP53* copies in two extinct species of mammoth, but just one copy in manatees and in small furry mammals called hyraxes — both close living relatives of elephants. The extra copies may have evolved as the animals in the elephant lineage expanded in size, says the team.

J. Am. Med. Assoc. **http://doi.org/772 (2015); Preprint at bioRxiv http://doi.org/773 (2015)**

CLIMATE-CHANGE BIOLOGY

Corals cope with pH-altered waters

Some corals seem to be resilient to ocean acidification.

As carbon dioxide emissions rise, ocean waters are absorbing more of the gas and becoming less alkaline, threatening the ability of corals and other marine organisms to make skeletons and shells. Lucy Georgiou at the University of Western Australia in Perth and her colleagues exposed colonies of *Porites cylindrica* coral on Australia's Great Barrier Reef to flumes of modified sea water. This lowered the ambient pH around the animals so that it was similar to conditions that are predicted for oceans at the end of the century. After six months, the researchers found no difference in the growth rate of the corals' skeletons between controls and those living in lower pH conditions.

The corals naturally produce a fluid that bathes the growing parts of their skeletons, and the team found that the fluid had a higher pH than the reef waters for all the corals in the experiment. This suggests that some corals can regulate their internal pH to tolerate a certain level of ocean acidification, the authors say.

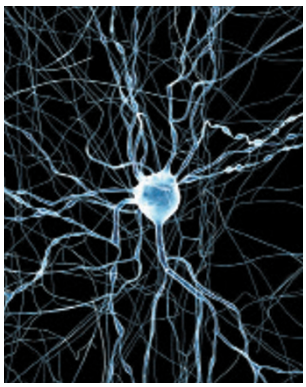
Proc. Natl Acad. Sci. USA **http://doi.org/77b (2015)**

NEUROSCIENCE

Computer model of rat-brain part

A supercomputer has simulated the activity of 31,000 virtual brain cells (**pictured**) in a section of rat brain the size of a grain of sand.

Henry Markram at the Swiss Federal Institute of Technology in Lausanne and his team built their model based on experimental measurements



of rat brain slices. The simulation represents roughly 37 million synapses, or neuronal connections, in the brain region that receives sensory information from the whiskers and other parts of the body. Using the model, the team simulated rat whisker movement and saw similar neuronal responses to those observed in rat experiments.

The model could be manipulated in ways that are difficult to do experimentally, providing insights into how individual cells contribute to the functions of neuronal networks, the authors say.

Cell 163, **456–492 (2015)**

NATURE.COM
For the latest research published by *Nature* visit:
www.nature.com/latestresearch

SOCIAL SELECTION

Popular topics on social media

Nobel prizes prompt surprise online

This year's Nobel prizewinners seemed to surprise many researchers, judging by their reactions on social media. The chemistry prize recognized discoveries in DNA repair, yet was not awarded to the scientists who won the prestigious Lasker prize earlier this year for research in a similar area. Many speculated that the physics prize would go to a woman for the first time in more than 50 years, but it went to two men for their work on neutrinos instead. One of the scientists who shared the Nobel Prize in Physiology or Medicine, Chinese pharmacologist Youyou Tu, discovered a malaria medicine called artemisinin after studying traditional Chinese medicine texts. As chemist Ashutosh Jogalekar wrote on his blog (go.nature.com/loeard): "The story of artemisinin clearly indicates that we need to pay much more attention to forgotten examples from traditional Asian medicine and subject them to scrutiny."

NATURE.COM
For more on popular papers:
go.nature.com/d2hnyf

CORRECTION

The print version of the Research Highlight 'Corals cope with acidified waters' (*Nature* **526,** 296–297; 2015) incorrectly stated that ocean water is being acidified when in fact it is becoming less alkaline; the online title was changed to reflect that. It also said coral-made fluid was less acidic than reef waters; in fact, the fluid had a higher pH. And it said that some corals can control the pH of surroundings, whereas they control their internal pH.

CORRECTED ONLINE 14 OCTOBER 2015