RESEARCH HIGHLIGHTS

ECOLOGY

A dusting of snow

Proc. Natl Acad. Sci. USA doi:10.1073/pnas.0900758106 (2009)

Dust deposited on mountain snow increases the amount of solar radiation absorbed, causing it to melt about a month earlier than clean white snow. Many ecologists have suspected that this leads to much earlier growth in previously snow-covered vegetation.

A team led by Heidi Steltzer at Colorado State University in Fort Collins set up 13 experimental plots in Colorado's San Juan Mountains, adding dust to some, scraping others clean, and covering some in dark fabric to control the timing of the thaw.

Contrary to expectation, the team found that after an early thaw — when temperatures were still freezing — vegetation didn't grow for more than two weeks. This delay, Steltzer says, might mean that nitrogen released in the melt could go to waste and may contribute to the elevated nitrogen levels seen in some alpine lakes.

EVOLUTION

Mary had a littler lamb

Science doi:10.1126/science.1173668 (2009)

Changes in a given species may be driven by evolution or by ecological changes. Discriminating between the two is fraught with difficulty.

Tim Coulson of Imperial College London and his colleagues say they have managed to tease out the different drivers for one such change. Soay sheep on the Scottish isle of Hirta, UK, have shrunk in size over the past 20 years, despite heavy sheep being more likely to survive when young.

In analysing the different contributions to this size decrease, the researchers found that climate and population density explained most of the change, with natural selection underlying a smaller portion.

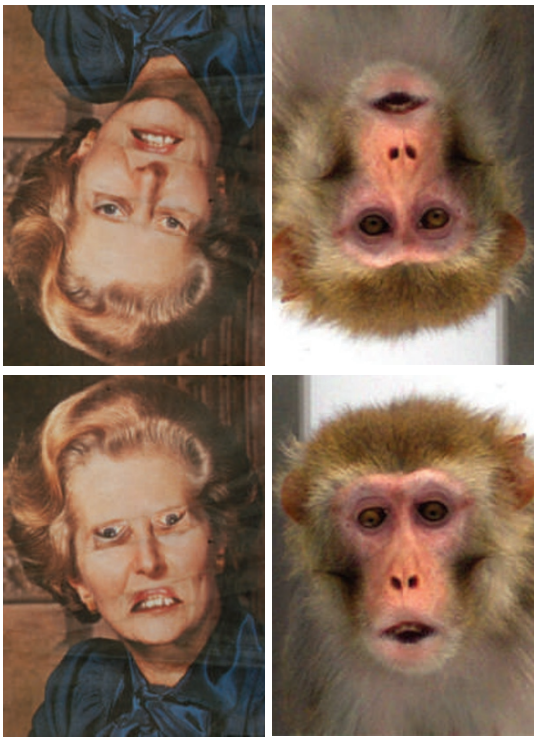
A. OZGUL/AAAS

Picture imperfect?

Curr. Biol. doi:10.1016/j.cub.2009.05.067 (2009)

The human talent for recognizing differences in faces relies on how facial features are configured. But flip an image of a face, and alterations as drastic as inverted mouths and eyes aren't as noticeable — a phenomenon known as the Thatcher effect. Robert Hampton of Emory University in Atlanta, Georgia, and his colleagues recently demonstrated that the effect is present in another primate.

They monitored the length of time rhesus monkeys (*Macaca mulatta*) looked at pictures of monkey faces. Over time, the animals became less interested in all images, but they spent significantly more time looking at the strange, upright altered (Thatcherized) photos than they did looking at the same images upside down.



LEFT: P. THOMPSON *PERCEPTION* **9**, 383–384 (1980)/PION, LONDON; RIGHT: B. BASILE/YERKES NATL PRIMATE RES. CENTER

CANCER BIOLOGY

At rest in the bones

Cancer Cell **16**, 67–78 (2009)

A cancer-promoting protein called Src helps breast-cancer cells to survive — sometimes for years — in the bone marrow.

Joan Massagué of the Memorial Sloan-Kettering Cancer Center in New York and his colleagues mined gene-expression data for 615 breast tumours. They found that cancers that relapsed five years or more after the initial cancer diagnosis bore a unique pattern of Src-regulated gene expression.

Reducing the amount of Src protein in human breast-cancer cells slows the outgrowth of these cells in bone in mouse models, but does not affect the growth of metastases in the lungs. Furthermore, Src-depleted cells are unable to suppress a cell-death pathway that is expressed in the bone marrow and so die off.

ASTRONOMY

A star is born

Astrophys. J. **699**, 1300–1306 (2009)

The birth of young stars is shrouded in mystery because they tend to form at the centre of giant clouds of dust and hydrogen gas. Only light in the millimetre- and infrared-wavelength range can pass through the clouds, and astronomers have historically lacked telescopes that are capable of clearly discerning those wavelengths.

Now, Jonathan Williams of the University of Hawaii and his colleagues have used the latest generation of telescopes to capture a high-resolution view of a nearby star-forming cluster. They found five objects in the cluster, including a bright protostar and a starless, collapsing core of gas. The observations show that a single cluster can give birth to a plethora of different protostellar types, and may help to give astronomers a better understanding of the birthing process.

GENOMICS

Closing in on cholesterol

Cell Metab. **10**, 63–75 (2009)

In an attempt to uncover genes that regulate cholesterol levels in cells, a team of researchers has used a bevy of screening approaches and identified transmembrane protein 97 (TMEM97) as a new candidate for cholesterol regulation.

The researchers, led by Rainer Pepperkok and Heiko Runz of the European Molecular Biology Laboratory in Heidelberg, Germany, and the medical faculty of the University of Heidelberg, depleted cholesterol from cells and looked at the response in gene