David Chavez and his colleagues at the Los Alamos National Laboratory in New Mexico. They write that their invention reacted to impacts, sparks and friction like another high explosive, PTEN, which melts at more than 100 °C and is typically moulded as a solid. They predict that the new compound will detonate with as much force as the high-performance explosive HMX.

GEOSCIENCES

The melting ocean

Nature Geosci. doi:10.1038/ngeo316 (2008)

After 1997, a glacier that drains 7% of Greenland's ice sheet switched from thickening slowly to thinning quickly, causing the glacier's velocity to double. Several theories have been put forward to explain the change, including increased lubrication of the bedrock beneath the glacier. David Holland of New York University and his team conclude that it was induced by a sudden rise in the subsurface ocean temperature along Greenland's west coast.

They studied data from laser-altimeter surveys carried out by aircraft along 120 kilometres of the Jakobshavn glacier, and oceanographic observations recorded around the nearby port of Ilulissat. The pulse of warm water that arrived in 1997 came from the Irminger Sea near Iceland, they report, entering the subpolar gyre off Greenland after the North Atlantic Oscillation weakened during the winter of 1995–96.

PHYLOGEOGRAPHY

Viking mice

Proc. R. Soc. B doi:10.1098/rspb.2008.0958; 10.1098/rspb.2008.0959 (2008)

Mus musculus, the house mouse, has been colonizing new lands for several thousand years by hitchhiking with the humans whose crumbs it has come to rely on. Jeremy Searle of the University of York, UK, and his colleagues have used mouse mitochondrial DNA to retrace human migration.

They write that mice on the northern and western peripheries of the British Isles, particularly on the Orkney Islands, share a genetic lineage with Norwegian mice. These mice probably arrived with the Vikings — unlike mice from elsewhere in Britain, which are genetically more similar to German mice and probably reflect Iron Age migrations.

House mice on New Zealand, however, come from a mixture of countries, mirroring the complex history of migration to the archipelago from the late eighteenth century onwards. Before that, New Zealand was mouse-free.

MICROBIOLOGY

Half life

Proc. Natl Acad. Sci. USA doi:10.1073/pnas.0807707105 (2008)

The exceedingly abundant phytoplankton, *Emiliania huxleyi*, has unusual population dynamics. It can evade viral infection in its haploid form, when it has only one copy of each of its chromosomes, but it is susceptible to the same source of infection during the diploid part of its life cycle, when its cells contain twice as much DNA.

Miguel Frada at the Station Biologique in Roscoff, France, and his colleagues subjected the phytoplankton to giant phycodnaviruses. Unlike the diploid cells, the haploid ones did not burst open — perhaps owing to their uncalcified membranes somehow preventing the virus from entering the cells.

W. BOLLMANN/PHOTOLIBRARY

ZOOLOGY

Dik dik trick

Behav. Ecol. doi:10.1093/beheco/arn064 (2008)

Of the animals that understand other species' vocalizations, almost all are social creatures with complex calls of their own. But ecologists have identified an eavesdropper that is neither social nor particularly vocal: the dik-dik.

Daniel Blumstein and his colleagues at the University of California, Los Angeles, suspected that Gunther's dik-dik (*Madoqua guentheri*; pictured above), a heavily predated miniature antelope, could benefit from eavesdropping. To find out whether it does, the researchers played alarm calls of the white-bellied go-away bird (*Corythaixoides leucogaster*) and non-alarmist calls from the slate-coloured boubou (*Laniarius funebris*) to a group of dik-diks at the Mpala Research Centre in Laikaipia, Kenya.

The dik-diks in the study decreased their foraging and increased their head-turning only in response to the alarm calls.

JOURNAL CLUB

Ben Scheres
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A plant scientist finds beauty in floral arrangements.

On the face of it, flower arranging is a fiddly affair, and its underlying rules are not immediately obvious to the beholder. But a plant's flowers are always arranged in one of three basic architectures, or 'inflorescences'. These take the form of panicles, loosely but highly branched clusters in which each flower has its own stalk (as in the foxglove); racemes, in which flowers are arranged individually along an unbranched, growing stem (the snapdragon); or cymes, typified by a cluster of branches at the end of a stem that each terminate with flower (the forget-me-not). Simple rules must lie behind this, and simple rules are the foodstuff of mathematical models.

That is the logic behind the work of Przemyslaw Prusinkiewicz at the University of Calgary in Alberta, Canada, and his colleagues. Last year, they published a model in which they imagined that meristems grow into shoots or flowers according to the value of a factor that they named '*veg*' (P. Prusinkiewicz *et al. Science* **316,** 1452–1456; 2007). When *veg* is high, a shoot springs forth; when it is low, a blossom flourishes. Thus, if over time veg decreases at the same rate in all of a plant's growing tips, the model grows a panicle. Other simple rules give rise to a raceme or cyme.

Prusinkiewicz *et al.* found that, in *Arabidopsis*, a gene called *LEAFY* influences the value of *veg*. But how does this concept apply to plants with different architectures? Recently, Erik Souer of Vrije University in Amsterdam and his collaborators showed that modification of *LEAFY* activity is crucial for floral architecture in petunia, a cyme, just as the model predicts (E. Souer *et al. Plant Cell* **20,** 2033–2048; 2008). They identify a protein that activates *LEAFY* only in developing flower buds and that is essential for their architecture. I find the tidy simplicity of these findings more beautiful than any bouquet.

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