

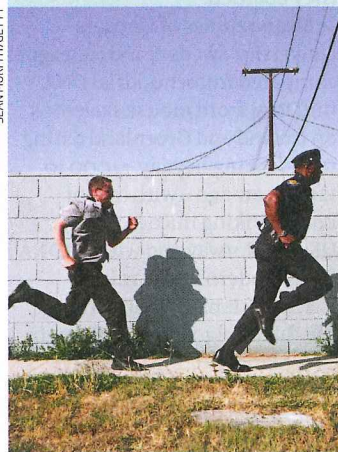
## Intense exercise blurs the mind

WITNESSES to a crime might recall events and faces less accurately if physically exhausted at the time of the incident. That's the conclusion from a study in which 52 police officers were asked to recall events and identify suspects from ID parades after reconstructed crime.

Lorraine Hope of the University of Portsmouth, UK, and colleagues gave all participants a briefing about a pretend burglary. Half of them then exercised for around a minute, to the point of exhaustion. A minute later, all the police officers were taken to a house where they were confronted by the prime suspect of the burglary.

Only 27 per cent of those who had exercised were later able to identify the suspect in an ID parade, compared with 54 per cent of those who had not. Those who had exercised also recalled just 56 per cent of the required details about the suspect compared with 84 per cent from the non-exercisers (*Psychological Science*, DOI: 10.1177/0956797611431463).

The team says that physical exertion drains attentional resources, forcing a person to focus on what is necessary for survival, often to the exclusion of details vital to the courts. "This issue does not appear to have received any particular attention within the legal system," says Hope.



SEAN MURPHY/GETT

## Universal body glue makes Elastoplasts redundant

SHOULD you rip off a Band-Aid quickly or peel it back inch-by-inch? A universal "body glue" that sticks cells together means you might not have to do either. The glue could also help to deliver drugs to the exact cells that need them, avoiding nasty side effects from less targeted treatments, such as chemotherapy.

All mammalian cells are surrounded by a membrane covered in polyvalent choline phosphate, or PC-groups, that repel aqueous particles, protecting the cell from the environment.

Donald Brooks and his colleagues at the University of British Columbia in Vancouver, Canada, rearranged the particles in PC-groups to reverse their polarisation. They then decorated large polymers with these new CP-groups.

When added to human blood, the CP molecules stuck to the PC-groups on blood cell membranes because of their opposite charges (*Nature Materials*, DOI: 10.1038/nmat3272).

Brooks says a piece of film covered in CP-decorated

molecules would stop bleeding by sticking the exposed blood cells together.

What's more, he says, the adhesive can be reversed by adding more PC-groups, displacing and freeing the cells, providing a "more biologically compatible association than is provided by normal adhesives".

The team also found that some tissues can absorb CP-molecules, suggesting that the molecules could be attached to drugs to deliver them into specific cells without affecting others.

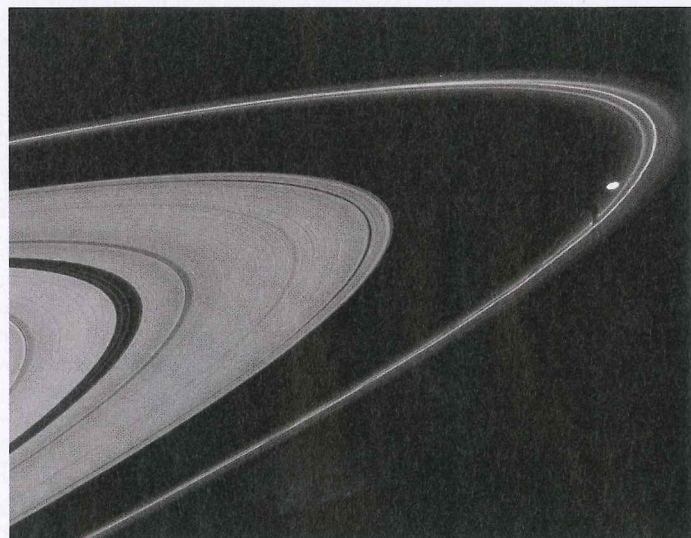
## Why failed Romeos turn to drink

JILTED male seeks solace in drink. Hardly big news – except that the male in question is a fruit fly. Its brain chemistry could hold the key to treating both alcoholism and depression.

Ulrike Heberlein and Galit Shohat-Ophir at the University of California, San Francisco, found that male flies were more likely to choose food laced with alcohol than a non-alcoholic alternative if they had recently been rejected. Post-mortems of flies revealed that levels of a reward chemical in the brain called neuropeptide F (NPF) rose by 20 to 30 per cent after sex, but fell by a similar level after rejection.

Alcohol raises levels of NPF, though, explaining its appeal for jilted males (*Science*, DOI: 10.1126/science.1215932). This suggests that depression and alcoholism could be treated using drugs that boost brain levels of NPY, the human equivalent of NPF. Trials to treat post-traumatic stress disorder and anxiety with drugs related to NPY are already under way. It's known that some people with PTSD self-medicate with alcohol.

"If these treatments are successful, they might also stop drinking," says Heberlein.



NASA/JPL/SPACE SCIENCE INSTITUTE

## Snowball glitter lights up Saturn's ring

ONE of Saturn's rings is flaring and fading in a very strange fashion, which may be due to giant snowballs bursting apart.

The odd behaviour was spotted by Robert French, a research assistant at the SETI Institute in Mountain View, California, and his colleagues, who compared old images of the thin F ring (*Icarus*, DOI: 10.1016/j.icarus.2012.02.020).

In 1980 the ring was faint, but sparkled with some bright spots. It was dimmer nine months later. By 2004 the spots were gone but the ring as a whole had grown twice as

bright. Then in December 2006, one very bright spot flared up when a moonlet called S/2004S6 smacked into the ring's core.

French's team blame the little moon Prometheus. They suggest that when the moon moves close to the F ring it breaks up loose clumps of ice, making the ring shine more brightly. Then as Prometheus swings away, particles begin to cluster together, forming snowball moonlets. Some of these are pulled off the edge of the ring by Prometheus, and finally they crash back into the ring's core and explode in a puff of glitter.