

In brief



Oops, he did it again, and again and again

SOME people have all the bad luck. Whether you call them accident-prone, or just unfortunate, there's a group of people who really do have more mishaps than others.

Everyone seems to know a comic or tragic figure who tends to get into scrapes, but until now it has been hard to show whether they are genuinely more accident-prone than others. To answer this question, Ellen Visser and colleagues at the University Medical Center Groningen in the Netherlands analysed the results of 79 studies which examined how prone people are to having accidents. In all,

the studies recorded the mishaps suffered by 147,000 people, drawn from the general population in 15 countries.

Strikingly, it appears that there is a discrete group of people who suffer the most accidents: 1 in 29 people have a 50 per cent higher chance of having an accident than the rest of the population (*Accident Analysis and Prevention*, DOI: 10.1016/j.aap.2006.09.012).

Visser says the study doesn't reveal which people in particular are most at risk, but it does show that a band of hapless people exists. Previous research suggests that children and people who work on oil rigs or as combat pilots, for instance, tend to have more accidents. But Visser suspects that the hapless have certain personality traits that predispose them to accidents.

Catching a gravity wave in a tangle

A QUANTUM "ruler" could reveal gravitational waves fainter than we can now hope to detect.

Gravitational waves are ripples in the fabric of space-time that physicists are trying to detect with interferometers – devices that split a beam of light into two and then recombine them to create interference fringes. A gravity wave passing through the device would change the distance

travelled by one beam relative to the other, and this effect would show up as a change in the interference fringes.

Current designs, though, have their limits. They can't measure a shift smaller than the size of the fringes; this in turn is limited by the wavelength of the light used.

This can be overcome using quantum entanglement, whereby the states of two or more particles

remain linked no matter how far apart they are. Shigeki Takeuchi at Hokkaido University in Japan and colleagues used a beam of four entangled photons. "Effectively we have four photons passing through our apparatus where otherwise we would have only one," Takeuchi says. This halves the spacing between the fringes, he says (*Science*, vol 316, p 726).

"It is essential to increase the number of entangled photons," says Takeuchi. "There is really no other way to improve precision."

Protein music

BEETHOVEN it's not. But it does sound mellow and jazzy, if a little disjointed. It's music made by translating into sound the sequences of amino acids that make up proteins. Rie Takahashi and Jeffrey Miller of the University of California, Los Angeles, say that their music is more listenable than previous attempts to "musicalise" proteins and DNA.

The pair assigned each of the 20 amino acids not to a single note but to a triad chord, a group of three notes which produce a pleasant harmony when played together. To smooth out the music, they limited its melodic span to just 13 notes.

Finally, the researchers introduced rhythm by assigning time values to each chord based on DNA codons (*Genome Biology*, vol 8, p 405). The music of the human protein thymidylate synthase A can be heard on Miller's website www.mimg.ucla.edu/faculty/miller_jh/genez2music/home.html.

A tantalising way to talk again

AN ALZHEIMER'S drug may help people who have had a stroke to speak again.

Donepezil boosts neurons' ability to communicate, so Marcelo Berthier at the Médico-Sanitarias Research Centre in Malaga, Spain, and colleagues wondered whether it might benefit people with aphasia, a condition characterised by an inability to pronounce or comprehend speech. Stroke is its most common cause.

Preliminary results show that of 26 people with aphasia, those taking 10 milligrams of donepezil per day were better able to express and comprehend language after 16 weeks than those given a placebo, Berthier told a meeting of the American Academy of Neurology in Boston.