

The science of justice

# I think it's time we broke for lunch...

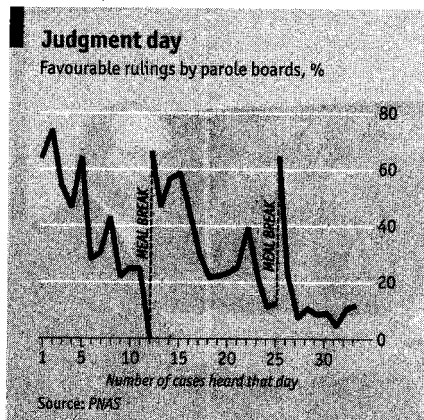
**Court rulings depend partly on when the judge last had a snack**

**A**ROUND the world, courthouses are adorned with a statue of a blindfolded woman holding a set of scales and a sword: Justice personified. Her sword stands for the power of the court, her scales for the competing claims of the petitioners. The blindfold (a 15th-century innovation) represents the principle that justice should be blind. The law should be applied without fear or favour, with only cold reason and the facts of the case determining what happens to the accused. Lawyers, though, have long suspected that such lofty ideals are not always achieved in practice, even in well run judicial systems free from political meddling. Justice, say the cynics, is what the judge had for breakfast. Now they have proof.

A paper in the *Proceedings of the National Academy of Sciences* describes how Shai Danziger of Ben-Gurion University of the Negev and his colleagues followed eight Israeli judges for ten months as they ruled on over 1,000 applications made by prisoners to parole boards. The plaintiffs were asking either to be allowed out on parole or to have the conditions of their incarceration changed. The team found that, at the start of the day, the judges granted around two-thirds of the applications before them. As the hours passed, that number fell sharply (see chart), eventually reaching zero. But clemency returned after each of two daily breaks, during which the judges retired for food. The approval rate shot back up to near its original value, before falling again as the day wore on.

To be sure, mealtimes were not the only thing that predicted the outcome of the rulings. Offenders who appeared prone to recidivism (in this case those with previous convictions) were more likely to be turned down, as were those who were not in a rehabilitation programme. Happily, neither the sex nor the ethnicity of the prisoners seemed to matter to the judges. Nor did the length of time the offenders had already spent in prison, nor even the severity of their crimes (as assessed by a separate panel of legal experts). But after controlling for recidivism and rehabilitation programmes, the meal-related pattern remained.

The researchers offer two hypotheses for this rise in grumpiness. One is that blood-sugar level is the crucial variable. This, though, predicts that the precise amount of time since the judge last ate will be what matters. In fact, it is the number of cases he has heard since his last break, not

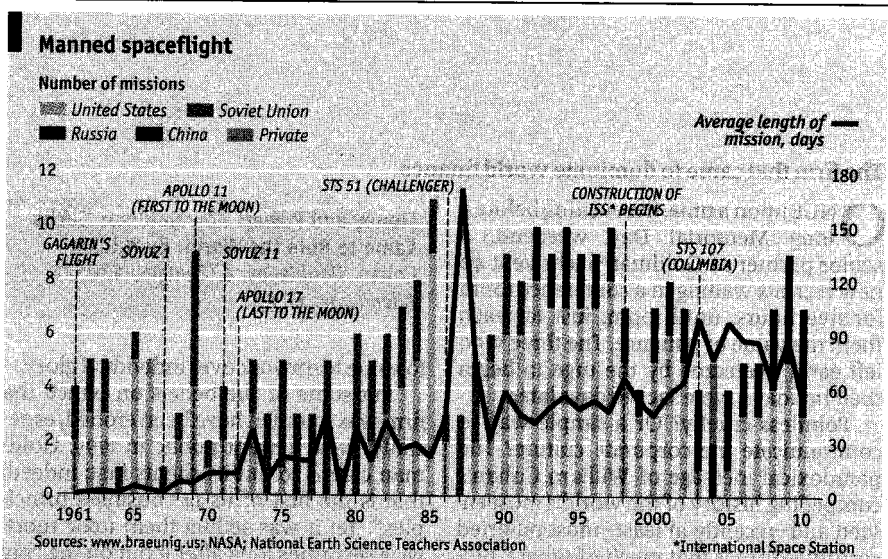


the number of hours he has been sitting, which best matches the data. That is consistent with a second theory, familiar from other studies, that decision making is mentally taxing and that, if forced to keep deciding things, people get tired and start looking for easy answers. In this case, the easy answer is to maintain the status quo by denying the prisoner's request.

Two further findings buttress the idea that it is the psychological load of decision

making which matters. First, the average unfavourable decision (unfavourable to the prisoner, that is) took less time to arrive at (5.2 minutes) than the average favourable one (7.4 minutes). Second, it also took more time to explain. Written verdicts in favourable rulings averaged 90 words, compared with just 47 for unfavourable ones.

In truth, these results, though disturbing, are unsurprising. Judges may be trained to confine themselves to the legally relevant facts before them. But they are also human, and thus subject to all sorts of cognitive biases which can muddy their judgment. Other fields are familiar with human imperfectibility, and take steps to ameliorate it. Pilots, for instance, are given checklists to follow, partly in order to combat the effects of fatigue. Lorry drivers in the European Union are not allowed to drive for more than four and a half hours without taking a break. Dr Danziger's co-author, Jonathan Levav of Columbia University in New York, wonders whether the law should consider similar arrangements. Some, of course, already do. English judges, legendary for their prandial proclivities, are way ahead of him. ■



## Human spaceflight

Fifty years have elapsed since a Soviet cosmonaut, Yuri Gagarin, lit the blue touchpaper on the era of manned spaceflight. Progress was rapid—only eight years separated Gagarin's flight from the infinitely more complicated mission that put Neil Armstrong and Buzz Aldrin on the surface of the moon. Although the moon landings handed a temporary victory to America, the Soviet Union dominated manned spaceflight for the next decade, including some pioneering missions to the *Salyut* space stations to test the effects of long periods aloft and several extended missions to *Salyut*'s successor *Mir*, in the late 1980s. Only with the rise of the Space Shuttle programme, beginning in 1981, and the dissolution of the Soviet Union a decade later, did America retake the crown.

Manned spaceflight is no longer a two-horse race. China entered it in 2003. A year later three privately financed suborbital missions were made in Mojave Aerospace's craft, *SpaceShipOne*. Rocketeering, though, has always been dangerous. Four missions have killed 18 astronauts between them. Two were Soviet (*Soyuz 1* and *Soyuz 11*) and two American (the shuttles *Challenger* and *Columbia*). Other astronauts have died in accidents on Earth. After the losses of *Challenger* and *Columbia*, America's shuttle fleet was grounded, which explains the big drop in missions following both accidents.