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The charitable capuchin

Humans (some of them, at least) get a warm fuzzy feeling inside when they do something nice for someone else. Altruism among animals has also been observed, but it is not known whether animals help each other out of pure kindness, or if they do so only if they stand to gain a tangible reward.

A study by Frans de Waal and colleagues at the Yerkes National Primate Research Center (Atlanta, Georgia) suggests that capuchin monkeys feel genuinely good about giving. The researchers placed two female monkeys in a room, separate but in full view of each other (*Proc. Natl. Acad. Sci. USA* published online 29 August 2008; doi:10.1073/pnas.0807060105). One of the monkeys (the 'subject') had access to two tokens. Selecting one token would result in a food reward for herself alone, whereas selecting the other would result in identical food rewards for both monkeys. Though subjects received the same reward either way, they consistently chose to reward their partners. Subjects were more likely to reward partners from the same colony than unfamiliar monkeys. Notably, monkeys were less likely to be generous when their partners received a better reward (the partner received a delicious grape whereas the subject received a boring apple).

How HIV sneaks past the blood–brain barrier

Many patients infected with human immunodeficiency virus (HIV) suffer from neurocognitive disorders such as HIV-associated dementia. Such diseases occur when HIV-infected monocytes in the bloodstream manage to cross the normally invulnerable blood–brain barrier (BBB) and wreak havoc on the brain. A study by Harris Goldstein and colleagues of the Albert Einstein College of Medicine (Bronx, NY) may begin to shed light on the BBB's weakness.

Most HIV patients have elevated concentrations of lipopolysaccharide (LPS), a component of the outer membrane of intestinal bacteria. This compound, which can leak out of the intestine when lymphocytes are depleted, is known to compromise the BBB.

The researchers had previously generated a mouse model that carried an HIV-1 provirus as a transgene. They injected HIV-infected monocytes from these transgenic mice into wild-type mice (*J. Virol.* **82**, 7591–7600; 2008). When wild-type mice were also injected with LPS, HIV-infected monocytes were able to cross the BBB and enter the brain. In transgenic mice with systemic HIV and elevated LPS concentrations, even more HIV-infected monocytes entered the brain. These findings suggest that the combined effect of HIV-infected monocytes in the bloodstream, elevated LPS and systemic HIV infection can increase the risk of BBB infiltration and associated neurocognitive disease.

How *Drosophila* dances away from danger

We have probably all witnessed an insect evading an imminent threat, such as a flyswatter or rolled-up newspaper. But how many of us have really thought about the details of entomological escape plans? A pair of researchers from the California Institute of Technology (Pasadena) has done so, applying high-speed video technology to find out exactly how a fly makes its getaway.

Gwyneth Card and Michael Dickinson found that fruit flies could use visual information to plan a jump to avoid potential danger. Their research showed that flies anticipated the direction of a threat and made a series of postural adjustments in preparation to take off in the opposite direction (*Curr. Biol.* published online 9 September 2008; doi:10.1016/j.cub.2008.07.094). The scientists slid a small disk toward flies and recorded their movements in response to the 'threat'. They noted that 100 ms before the flies' wings began to move, they rearranged their feet, shifting their center of mass to be above their two middle legs, which they use to jump.

This degree of motion planning was somewhat unexpected for a relatively simple organism like the fruit fly. Dickinson's future research will address how the fly's nervous system transforms visual information into its plan of action.