IN THE NEWS

Monkey talk

Claims that a pygmy chimp called Kanzi has developed the ability to talk hit the headlines around the world when they were published in the *New Scientist* (UK, 2 January 2003). Although the *BBC Online* maintained an air of quiet scepticism — "Ape 'learns to talk'" — others were more enthusiastic, with the *Times of India* (2 January 2003) proclaiming "Speaking chimpanzee leaves experts amazed".

The researchers working with Kanzi, Jared Taglialatela and Sue Savage-Rumbaugh of Georgia State University, claim that the chimp spontaneously started making four distinct sounds, corresponding to the words 'banana', 'grapes', 'juice' and 'yes'. Kanzi, like other primates, can communicate by pointing at symbols — but this is the first report of an ape making sounds that have distinct meanings across different situations. According to the *Straits Times* (Singapore, 3 January 2003), the claims "…challenge the long-held belief that apes have no language ability."

As the *New Zealand Herald* (4 January 2003) points out, scientists disagree over what constitutes 'language'. "Some linguists believe that even symbolic communication, which many chimps achieve, qualifies as language, but many now say some mastery of syntax is also required." In the *New Scientist*, Frans de Waal of Emory University spoke for the primatology community when he said, "Sometimes we feel it's a bit unfair that [linguists] move the goalposts as soon as we get near."

If the claims hold up, Kanzi will become as famous as Washoe, the chimp who first learned American Sign Language. Primatologist John Mitani of the University of Michigan commented, "There have to be evolutionary precursors to what we do. We are beginning to find them in the primate world." (*New Zealand Herald*).

Rachel Jones

VISUAL SYSTEM

Eyes wide shut

The unopened eyes of some newborn mammals might be more sensitive to light than was previously thought, according to a report by Akerman *et al.* in *Neuron*.

It was already known that very bright or high-contrast stimuli can elicit a response in the visual system before eye opening — for example, the eyes of a ferret can respond to light as early as postnatal day (P) 19, even though they do not open until around P32. However, the effects of natural levels of light on the unopened eye have not been explored until now.

Akerman *et al.* presented young ferrets (P20–P26) with movies that simulated the types of visual stimuli that they would be exposed to in their normal rearing environment. They measured the activity of neurons in the lateral geniculate nucleus (LGN), which relays visual information from the retina to the visual cortex. Surprisingly, instead of seeing random spontaneous activity, the authors found that the LGN neurons showed patterns of activity that were consistent with a specific response to the light stimulus. This indicated that the retinal ganglion cells (RGCs) that project to this nucleus were transmitting meaningful information.

This study also shed new light on activity-dependent processes during visual system development. The authors examined the development of projections to the LGN from two types of RGC — 'On' cells, which respond to increases in light intensity, and 'Off' cells, which respond to decreases in light intensity. Usually, during early postnatal development, the On and Off LGN afferents segregate, so that individual LGN neurons come to receive inputs from only one cell type. However, in

NEUROLOGICAL DISORDERS

Protein therapeutics

Using large molecules such as proteins for the treatment of neurological disorders is a relatively unexplored idea, owing in part to the problems associated with their delivery to the nervous system. Two recent papers significantly encourage the development of protein-based therapies by highlighting their potential in rodent models of ischaemia and Alzheimer's disease.

In the first paper, Asoh *et al.* report the construction of a powerful anti-apoptotic protein that can readily enter cells. They engineered the molecule by fusing the protein transduction domain (PTD) of the HIV/Tat protein with a mutant form of Bcl-x_L (FNK) that has a more powerful anti-apoptotic effect than the wild-type protein. The authors obtained evidence that this hybrid molecule could enter cultured neurons and protect them from apoptotic stimuli. More importantly, a prospective intraperitoneal injection of PTD-FNK to gerbils prevented neuronal death in the hippocampus after an episode of ischaemia. These results confirm and extend observations published by Cao *et al.* using wild-type Bcl-x_L. It will now be important to test whether a similar beneficial effect can be obtained if PTD-FNK is administered after the ischaemic insult.

In the second paper, Matsuoka *et al.* explored the possibility that a peripherally administered protein that binds to the β-amyloid peptide (Aβ) can decrease the brain amyloid burden. Inspired by previous observations by DeMattos *et al.*, which showed that the peripheral administration of an Aβ antibody reduces brain Aβ, Matsuoka *et al.* injected the Aβ-binding protein gelsolin to Aβ-producing mutant mice. They found that this treatment reduced the brain level of Aβ and its accumulation in plaques in young mice, and that the ganglioside GM1 (another large molecule that binds to Aβ) had a similar effect. As the