noses often depend on self-reporting, which can be unreliable.

But Dr Yamamoto's result is not merely of practical significance. It also raises an interesting question about the nature of depression itself. That is because, when he looked for similar power-law curves in other areas, the one which he thought most resembled that exhibited by the depressed turned out to be the pattern of electrical activity shown by nerve cells isolated in a Petri dish and unable to contact their neighbours.

It is both unnerving and intriguing that a mental disorder which isolates people from human society, and which must surely have its origins in some malfunction of the nerve cells, is reflected in the behaviour of cells that have themselves been isolated. Maybe this is just a coincidence—another example of Mark Twain's hammer. But maybe it is not. ■

Evolutionary psychology

More news from the savannah

People seem to have "animal-monitoring modules" in their brains—which is bad news for road safety

WHICH is more dangerous, an elephant or a minivan? For most readers of this newspaper, the answer is going to be a minivan. From childhood, people in motorised civilisations are warned about the dangers of running into the road, taught the appropriate highway code and—when old enough—permitted to get behind the wheel only after having undergone a rigorous programme of training that ends with a formal examination.

You might think, therefore, that such people would be more aware of the movements of vehicles than of animals. But if you did think that, you would be wrong. An experiment just published in the *Proceedings of the National Academy of Sciences* by Joshua New of Yale University shows that people pay more attention to the activities of animals than to those of vehicles. That applies even among urban Westerners who rarely see an animal from one year's end to the next.

Dr New was testing a theory of mind originally developed by Leda Cosmides and John Tooby of the University of California, Santa Barbara, with whom he collaborated on the experiment. Dr Cosmides and Dr Tooby were among the first to break from the idea that the brain has evolved as a general-purpose problem-solving machine. They suggested that some tasks are so important and so universal that you would expect to find specially evolved "modules" to handle them, just as the senses are handled by specialised areas of the brain's cortex.

Dr Tooby and Dr Cosmides have found evidence to support the existence of such modules in areas of human relations such as the perception of fairness. Now Dr New has provided some more evidence, in a completely different area. Building on the observations of other researchers that there seem to be natural mental categories of objects that are represented separately in the brain (animal, plant, person, tool and topography are reasonably well-established examples), he wondered if people would respond in systematically different ways to members of those categories.

His experiment worked by showing volunteers pairs of photographs containing one or more objects from the five mental categories in question. The photos in each pair were identical except that one object had changed its orientation or had been removed altogether, and the volunteers had to work out what had changed.

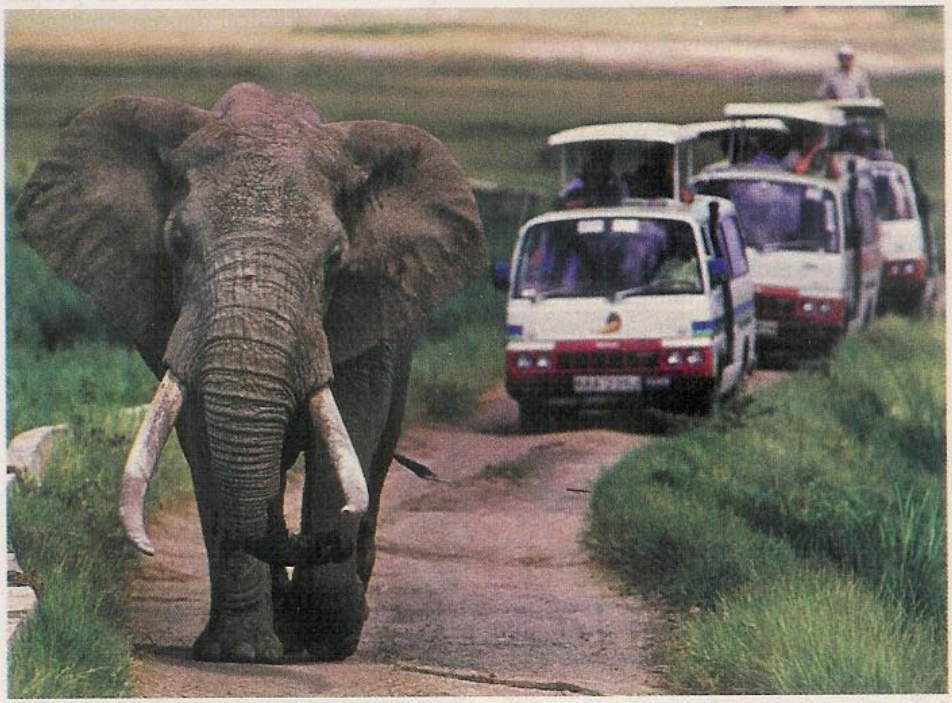
The first thing Dr New looked at was whether the brain pays more attention to the sort of change that might be expected, or to changes that are unexpected. On the face of it, either might have turned out to be the case. Paying attention to the expected is probably best for everyday existence. Noticing the unexpected, though, might save your life.

In this part of the experiment, the expected won out. The volunteers were better at detecting changes involving things that do routinely move—in other words, people and animals—than of those that would be expected to be static, such as plants and coffee mugs.

The question Dr New really wanted to address, though, was whether such expectations are learned or innate. For that, he included a class of object that his subjects would have learned, by experience, have a tendency to move, but which past evolution could have had no purchase on: motorised vehicles.

The answer was that changes concerning animals were significantly easier to detect than those concerning cars. In the most telling comparison, 100% of volunteers noticed the movement of an elephant in the African bush. Only 72% noticed the movement of a minivan in a similar piece of bush. And that was despite the fact that the image of the van was somewhat larger in the photograph than the image of the elephant, and that the minivan was red, not grey.

This highly honed ability to notice animal activity (it applies to small familiar animals, such as pigeons, as well as large unfamiliar ones, such as elephants) argues that an animal-monitoring module is innate in the brain. As, indeed, might be expected. Animals are important: small ones are supper; large ones are best avoided, lest they eat you or trample you to death. In other words, you can take the human out of the savannah. But you cannot take the savannah out of the human. ■



Spot the difference