

GPS leads us into... dementia

Reports suggest that using electronic navigation devices could lead to earlier dementia because we stop thinking.

In American, a woman sued Google for \$100,000 after being hit by a car while walking across a four-lane highway in the dark. She claimed the route had been suggested by the Google Maps on her Blackberry. In the UK, an insurance company survey discovered that 300,000 drivers have crashed or nearly crashed because of their GPS. Madness, indeed.

It does seem likely, however, that reliance on automated maps and route finding devices could alter the circuitry of our brains.

When rats were observed in the 1970s, certain neurons in the hippocampus of their brains only activated when the rat was in a specific place. As the animal followed a maze, the scientists could see a chain of neurons activate in a spacial pattern that exactly matched the rat's path. The same experiments haven't been tried on humans but it is known that the human hippocampus stores the same kind of information as the rat's.

Although our brains determine how we

navigate, our navigational efforts also shape our brains.

A study of London cab drivers showed that their brains have a bigger rear hippocampus. The longer they've been a cabbie in London, the bigger this part of their brain. The researchers who conducted this study fear that if the cabbies use satnav, they'll lose their own navigation skills.

Other studies have suggested that a shrinking hippocampus is a risk factor for Alzheimer's disease.

Users of GPS form less detailed and accurate cognitive maps of their routes than drivers who use paper routes.

Veronique Bohbot, of McGill University in Montreal, said: "Society is geared in many ways to shrinking the hippocampus. In the next 20 years I think we're going to see dementia occurring earlier and earlier."

Meanwhile, a Halfords survey commissioned to promote the use of satnavs shows that more than one in three Brits argues in the car about where they are going and how to get there, with 65% blaming their partner's poor navigational skills.

Sounds familiar?