

Your brain makes its decisions long before you know it

EVEN now, your brain may already have decided to turn the page. That's the upshot of a study which found that a person's decision to press a button can be detected up to 7 seconds before they are even aware of it.

"Our decisions are predetermined unconsciously a long time before our consciousness kicks in," says John-Dylan Haynes at the Bernstein Center for Computational Neuroscience in Berlin, Germany, who led the study. "I think it says there is no free will."

It's not the first time scientists have cast doubt on conscious free will. In the early 1980s, neuroscientist Benjamin Libet uncovered a spark of brain activity 300 milliseconds before subjects opted to raise a finger, in a brain region involved in planning body movement. However, this area may only perform the final calculations to move, not the initial decision to lift a finger, Haynes says.

His team asked 14 volunteers to tap one of two buttons at will, with a finger of their left

or right hand, and used an fMRI scanner to monitor their brains all the while. They saw part of the prefrontal cortex – vital for executive thought and consciousness – "light up" about 7 seconds before the volunteers pressed a button.

What's more, deciding to press the left or right buttons revealed slightly different brain patterns, enabling the team to predict 60 per cent of the time which button would be pressed (*Nature Neuroscience*, DOI: 10.1038/nn.2112).