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## Existence: Where did my consciousness come from?

25 July 2011 by [Anil Ananthaswamy](#)  
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THINK for a moment about a time before you were born. Where were you? Now think ahead to a time after your death. Where will you be? The brutal answer is: nowhere. Your life is a brief foray on Earth that started one day for no reason and will inevitably end.

But what a foray. Like the whole universe, your consciousness popped into existence out of nothingness and has evolved into a rich and complex entity full of wonder and mystery.

Contemplating this leads to a host of mind-boggling questions. What are the odds of my consciousness existing at all? How can such a thing emerge from nothingness? Is there any possibility of it surviving my death? And what is consciousness anyway?

Answering these questions is incredibly difficult. Philosopher Thomas Nagel once asked, "What is it like to be a bat?" Your response might be to imagine flying around in the dark, seeing the world in the echoes of high-frequency sounds. But that isn't the answer Nagel was looking for. He wanted to emphasise that there is no way of knowing what it is like for a bat to feel like a bat. That, in essence, is the conundrum of consciousness.

Neuroscientists and philosophers fall into two broad camps. One thinks that consciousness is an emergent property of the brain and that once we fully understand the intricate workings of neuronal activity, consciousness will be laid bare. The other doubts it will be that simple. They agree that consciousness emerges from the brain, but argue that Nagel's question will always remain unanswered: knowing every detail of a bat's brain cannot tell us what it is like to be a bat. This is often called the "hard problem" of consciousness, and seems scientifically intractable - for now.

Meanwhile, "there are way too many so-called easy problems to worry about", says Anil Seth of the University of Sussex in Brighton, UK.

One is to look for signatures of consciousness in brain activity, in the hope that this takes us closer to understanding what it is. Various brain areas have been found to be active when we are conscious of something and quiet when we are not. For example, Stanislas Dehaene of the French National Institute of Health and Medical Research in Gif sur Yvette and colleagues have identified such regions in our frontal and parietal lobes ([Nature Neuroscience](#), vol 8, p 1391).

### Consciousness explained

This is consistent with a theory of consciousness proposed by Bernard Baars of the Neuroscience Institute in San Diego, California. He posited that most non-conscious experiences are processed in specialised local regions of the brain such as the visual cortex. We only become conscious of this activity when the information is broadcast to a network of neurons called the global workspace - perhaps the regions pinpointed by Dehaene.



Conscious conundrum (Image: Rick Raymond/Getty)

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But others believe the theory is not telling the whole story. "Does global workspace theory really explain consciousness, or just the ability to report about consciousness?" asks Seth.

Even so, the idea that consciousness seems to be an emergent property of the brain can take us somewhere. For example, it makes the odds of your own consciousness existing the same as the odds of you being born at all, which is to say, very small. Just think of that next time you suffer angst about your impending return to nothingness.

As for whether individual consciousness can continue after death, "it is extremely unlikely that there would be any form of self-consciousness after the physical brain decays", says philosopher Thomas Metzinger of the Johannes Gutenberg University in Mainz, Germany.

Extremely unlikely, but not impossible. Giulio Tononi of the University of Wisconsin-Madison argues that consciousness is the outcome of how complex matter, including the brain, integrates information. "According to Tononi's theory, if one could build a device or a system that integrated information exactly the same way as a living brain, it would generate the same conscious experiences," says Seth. Such a machine might allow your consciousness to survive death. But it would still not know what it is like to be a bat.

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