

called Markuelia, were early ancestors of today's arthropods – a group that includes trilobites, lobsters and insects – and nematodes, parasitic worms that live in our guts and all around us.

The embryos are less than half a millimetre in length, though they would measure 3mm if uncurled. Based on comparative studies, the scientists concluded that they would have developed directly into live adults, without passing through the larval stage, just as their most direct descendants do today.

The find itself is remarkable because embryos are rarely preserved as they are composed of soft tissues that decay very quickly. The scientists, who reported their work in the journal *Nature*, had to sift through 6,000kg of rock to find 100 embryos. Finding a needle in a haystack would be a doddle compared with that feat.

THE BIG QUESTION

Why do journeys always seem shorter on the way back?

The neurobiology of the subjective experience of time is controversial, and there are different theories about how we are able to keep track of time. One is that there are many oscillating circuits in the brain's cerebral cortex, each firing at its own distinct frequency.

When the brain starts timing, it sends a signal that acts like a starting gun, and all relevant oscillators fire simultaneously before returning to their various firing rates. At any moment some oscillators are firing and some are not, and the pattern represented by a given set of oscillators firing is like a musical chord, or unique "time stamp". The brain can recognise each time stamp.

One consistent research finding is that distractions cause people to underestimate elapsed time. Stimulants such as cocaine or stress hormones also increase the rates at which the oscillators fire – the brain clock goes fast, which makes your wall clock look slow. This explains Albert Einstein's famous dictum, "When a man sits with a pretty girl for an hour, it seems like a minute. But let him sit on a hot stove for a minute – and it's longer than any hour. That's relativity."

It is probable that mood and distractions can similarly influence the oscillators' rate. So outward journeys are invariably more stressful than return journeys, which often include more thinking or day dreaming. Less stress and more distractions make the return trip seem faster.

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