The Open University

**Sixty Second Adventures in Astronomy**

*Dark Energy*

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60 Second Adventures in Astronomy. Number nine, Dark Energy.

Why is the Universe expanding?

Albert Einstein was absolutely certain the universe was stable but he couldn't work out why his snazzy new relativity equations suggested that it was contracting.

So, Einstein figured space must have an in-built tendency to fling itself apart – which would balance out the pull from gravity. This flingy-out-ness got called the 'Cosmological Constant' – and meant the Universe could be kept static.

Which was great – until it was proved by Edwin Hubble that the Universe is in fact expanding! - and that cosmological constant became what Einstein described as "the biggest blunder of my career".

Then, in 1998, scientists discovered that the Universe was not only expanding, but that expansion was actually getting faster.

So either space does have a tendency to fling itself apart, or there must be some other hidden weird stuff in the Universe causing it.

Referred to as 'Dark Energy'. Astronomers are looking for it right now by measuring tiny kinks in space.

And in its simplest form, this Dark Energy is pretty much a Cosmological Constant - so Einstein was right all along.  Apart from the time he said he'd blundered. The big thicko.