## Cosmological Conundrums

Challenging the brain is recommended – especially for people of my era – I admit to having watched Monty reviewing his troops in 1944 on the sports field opposite my home.

With this good advice in mind, one morning recently, I sampled an article in the Economist headed "*Dark Side of the Universe*"

Herewith a few extracts:

- when it was just 380,000 years old [not 400,000 mind, or 390,000] studies showed that the universe, then & now, was "flat" but.....
- the power of Albert Einstein's theory of general relativity lies in its interpretation of gravity in terms of <u>curved</u> space
- The rate at which stars and galaxies are moving away from Earth can be worked out *from their redshift.*
- What the Supernova Cosmology Project & the High-z [that's High-zee not hazy, like your state of mind; do pay attention] Supernova Search both found is that distant exploding stars are dimmer, & so farther away, than their redshift implies they should be, if the universe has been expanding at a steady clip throughout. The expansion must therefore have sped up recently some 5 billion years ago.
- The cosmic-expansion conundrum presents scientists with an existential quandary. Some researchers may begin to feel time would be better spent on other scientific pursuits.

Surely not !

• Dark energy – or whatever else is causing the universe to speed up – is probably too big a conundrum for one generation to crack.

That could indeed be so

Surely a flat (or curved) universe expanding ever faster from the moment of the "big bang" presupposes something <u>before</u> it & something <u>beyond</u> it.

Will someone please explain ?

The Astronomer Royal ? The Archbishop of Canterbury ? .....or even Richard Dawkins ?

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