

'Bell's Inequality – an argument for the existence of multiple universes?'

Simon Johnson's Talk to Farnham Humanists October 2010

Simon explained how John Bell, a physicist from Northern Ireland, who was very troubled by the weird concepts behind quantum theory, came up with a rigorous logical argument that he thought could be used to test possibly the strangest aspect of quantum theory.

His argument was to do with a pair of photons of light travelling in opposite directions, each photon towards its own polarised filter which it may or may not pass through. Bell showed logically in 1964 that at least 1/3 of the photon pairs must give different results with a 30° difference between filters. But in the 1930s quantum physics had predicted that 1/4 of the photon pairs must give different results in this situation.

In 1998 the experiment was finally carried out and has been repeated many times since – Quantum Theory's prediction was found to be exactly right and Bell's inequality was wrong.

Simon explained that this meant that **either**

- (i) **it is possible to travel faster than the speed of light,**
- (ii) **the universe isn't real, it's imaginary,**
- (ii) **multiple universes exist**
- or**
- (iv) **God exists.**

Simon included in his evidence for favouring the multiple universe explanation: the quantum computer, the anthropic principle and the **experiment which has been done showing that you can blow up a bomb in another universe** without blowing it up in our universe and therefore check that the bomb works before you use it!