

Pub Science

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You know how when you're out with your mates, there comes a time in the evening when the conversation gets all deep and philosophical - well, since I got married I do most of my thinking in the bath, or under the stars when I take the dog for a walk, but that doesn't stop me from pondering the great mysteries of life.

I'm not sure where I originally got this idea from, but I think I heard a similar proposal from Stephen Hawkins although it wasn't explained to any practical conclusion.

Essentially, this theory explains how the universe could exist at a single point at the moment of creation, infinite densities, instant teleportation, and how God and everything else is omnipresent. Oh, and a bit about quantum uncertainty for good measure.

Now, before anyone reaches for their physics degrees, slide rule and pedant's handbook, this is just for a bit of fun; I'm sure there are glaring mistakes here to those who really understand this kind of thing - but it all fits nicely in my head and I can sleep well knowing that the universe is all in order (also, if it turns out to be true, remember you heard it first from me!)

Ok, so let's begin with the simple concepts:

- [1] All matter exists simultaneously at all points in the universe.
- [2] All particles are merely probability waves, not 'solid' therefore their precise position in space is only a probability not a certainty. This supports [1] and the recognized theory of quantum uncertainty supports [2].

Let me quickly run the concept of Quantum Uncertainty by you...as I understand it: Traditionally, we think of particles (electrons, protons and the quarks that make them up) as solid little ping-pong balls. This, apparently is not the case. When you look close enough at a particle, you find that it's hard to pinpoint exactly where the little bugger actually is - in fact it appears to be in more than one place at once; it's actual position is kind of 'blurred'.

So, imagine a universe filled with blurry particles who's boundaries may as well extend out forever. I say forever because if a particle has only a probability of being at one point then it might also be at any other position in the whole of the universe. Of course at the level that you and I exist, everything looks nice and sharp, but even if the probability of a particle that forms part of your hand existing across the other side of the galaxy is one-to-one with a trillion zeros after it, the probability is still not actually zero. So your hand exists to some extent EVERYWHERE.

If this were true, then at the moment of creation, the position of everything had a probability of exactly ONE - the whole universe sitting happily in one place with infinite density (remember, as you can plot the same point on a graph many

times, so can you plot the position of a particle at the same place - everything is made from INFORMATION, not rock). The big bang is where the universe becomes more and more chaotic. Uncertainty explodes and suddenly things appear to move apart.

If the position of an object simply relies of the probability that it is in a particular place, then altering those parameters should cause the object to move. Change them enough, and you've moved it half way to the moon.

Greg Bear talks about meddling with the information stored about particles in his book "Anvil of stars" where matter can be created, destroyed and manipulated on a massive scale (you should read it!)

Of course the nice thing about this kind of teleportation is that you don't get the old dilemma of what happens to the 'original' person at the transmitter when the 'copy' is made at the other end! This is all natural and 'perfectly safe'

I hope I haven't warped your brain TOO much, you could always go lie down in a darkened room if it's too much - but be comforted by the fact that wherever you are, we're all actually snuggled together... at a quantum level at least.

(Cosy huh?)