Are There Coincidences?

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Two or more perfectly timed events

Serendipity, fortuitousness, happenstance, good fortune, happy coincidence, synchronicity. These diverse expressions describe the simultaneous occurrence of two or more desirable events that were not arranged beforehand. They seemed to happen on their own, by accident. Yet they were so appropriate and well-timed as to appear to be pre-arranged. We term this happy confluence a coincidence: co: meaning together; incidence: happening, i.e., a conjunction of two or more apparently unrelated events that was not planned, but perfect when they happened together.

Where philosophy meets science

Superstitions Randomness and correlation Bohm EPR Bell's theorem Implicate Order Quantum entanglement

Are there coincidences? Haven't we all had experiences of thinking about someone we have not seen for a long time, when suddenly the doorbell rings and there is that person standing at the door? Or perhaps he or she sent you a letter? Or better still sent you an email or spoke to you by VoIP or Instant Messaging on your PC? How do these unplanned incidents take place? Are they really the outcome of vanishingly small joint probabilities? Or are they an uncanny result of some deeper force at work in our lives and in the larger universe?

This was the sort of philosophical conundrum that grated on Einstein's deeper-than-scientific sensibilities when he pondered the probabilistic and utilitarian interpretation given to the Quantum Theory by Niels Bohr and his disciples. Einstein famously said that he did not believe that God played dice with the world. To which the other retorted, "Stop telling God what to do".

So it was that Einstein postulated an exceedingly interesting experiment called the EPR (Einstein Podolsky Rosen) experiment. In that thought experiment, two photons that have been born together from the annihilation (mutual dematerialization) of a positron (positively charged electron) and an electron go their merry ways. Because they are twins, though, their destinies should be linked (or correlated) according to the Quantum Theory. This means that if you take the electron that has gone in one direction and tweak its ear so to speak, the other electron will yell "Ouch", again in a manner of speaking. What is more, this will happen *instantaneously*. Not at the speed of light, but at once. However, according to Einstein, nothing can travel faster than light. So, he said that the Quantum Theory must be wrong.

But you know what? The outcome Einstein predicted actually happens. Over the last twenty years or so, teams or experimental physicists have proved that this sort of effect does indeed happen: it is a form of "quantum spookiness". The technical label for this is "entanglement". It is a consequence of the Quantum Theory. A physicist called Bell proved this mathematically about twenty five years after the EPR experiment was first suggested. The results of his paper was stated simply as "Reality is non-local". What exactly does this mean?

Well it only apples to elementary particles that have been twinned. But this quantum spookiness means that such particles are interconnected regardless of how far, how long, and where they go. As usual, laboratories are now outdoing each other in trying to apply this effect to encode messages, etc. If you want to know more, read Amir Aczel's eminently accessible book "Entanglement" http://tinyurl.com/oqgd4

But ponder the deeper philosophical implications of this experiment. What does it mean on a larger scale or deeper level? It raises the possibility that there may be a "something" that interconnects twinned particles. Can that something also connect each and every one of us? Who knows? Reality seems stranger than the imagination.

So what does this imply for coincidences? It may very well mean that there are no coincidences. The law of karma and its inevitability may one day be a consequence of one of the strangest results thrown up by science. That interconnecting something may hold the key to some of the great mysteries of life.

Bell's theorem Nobel Prize for Physics 2022: citation and YT David Bohm what he predicted but not the way he predicted

Acknowledgements

Feedback

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