

Philosophy

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Physics was originally called natural philosophy. Towards the end of the 19th century, scientists and philosophers thought that we lived in a well ordered universe in which everything obeyed the natural laws of physics. They believed that mathematics could be used to determine the outcome of any situation. This was the philosophy of "Newtonian Determinism". Even the church had acquiesced by labelling God as the great clock maker who had designed and built this wonderful universe, then set it running determining its own path according to the laws He had set in place.

The discovery of radioactivity introduced a random element throwing Newtonian Determinism into disarray.

The absolute opposite of Newtonian Determinism is Existentialism. This is a philosophy based on the idea that anyone seeking absolute proof would be unable to prove anything beyond the fact that they were thinking. For all they knew, the universe and everything in it might simply be a figment of their imagination. While this is obviously nonsense, it is never the less a very powerful idea capable of influencing the minds of the intellectually less robust. They start to question whether or not the tree they are looking at will vanish when they stop thinking about it.

We may laugh at such stupidity, but after much argument, a conference of the worlds great physicists concluded that reality lay in the observation. Let us suppose that we have a tiny speck of radioactive material. So tiny that it only emits a few radioactive particles every hour. A detector is set up to register any radioactive particle which comes its way. According to the "Copenhagen Interpretation" nothing actually happens until a human observer looks at the detector to see whether or not it has registered an event. At that moment, nature, so it is claimed, starts working back through time carrying out probability calculations until it possibly decides that at a particular instance, a particle was emitted in the right direction to be detected.

This was such obvious nonsense, that to further ridicule its proponents, the hypothetical apparatus was placed in a box and a cat was added to the experiment with the detector set in their imaginations to trigger a lethal injection. The wise men came to the conclusion that once the lid was shut, the cat remained neither dead nor alive until an observer opened the box and looked in. Only then did nature decide if and when the cat had died. Just as Einstein's followers had done with the twins paradox, the disciples of Bohr named the cat after Schrödinger and used it as the prime example to teach their theories.

Back in the real world of atoms, electrons and nuclei, the electron which once orbited the nucleus obeying the laws of Newton and Coulomb, lost its reality and turned into a probability distribution. It probably followed the path set by Einstein when he tried to unite the forces of electricity and magnetism by declaring that a magnetic field results from trying to observe an electric field while in relative motion to it.

The fact of the matter is that both Relativity and Quantum Theory are contaminated by existentialist thinking and try to explain nature on the basis that reality lies in the observation.

Our unified theory is based firmly on Newtonian Determinism. The laws of Newton and Maxwell prevail, all be it slightly modified by more recent discoveries. We now know that making an observation can disturb that which we measure. We also understand that complex systems can exhibit pseudo random behaviour. We know that travelling at near light speed causes the Lorentz contraction resulting in an increase in mass and slowing of time dependent processes. We understand how gravitational potential affects matter, electric and magnetic field. We now know that electric charge and magnetic flux are quantised.

At any instant in time, every single elementary charged particle in the universe has a definite position and velocity and its acceleration can be determined using the laws of physics. Laws which operate in each infinitesimal interval of time, over and over again an infinite number of times, such that an infinitesimal difference in initial conditions can effect a different outcome in a universe which is both ordered and chaotic.