Schroedinger's cats

Schroedinger's cat

The Schroedinger equation is, relative to time, a first order differential equation and as such, if it admits two solutions, it is also satisfied by their linear combination. It can describe the temporal development of a single elementary particle or systems of particles, as large as desired, and in this case, their components are said to be in a state of entanglement.
A group of physicists, forming the "Copenhagen School", interpreted the sum of the solutions, satisfying the equation, as a superposition of physical states, each of which would only appear as a result of a measurement. Combined with entanglement, this interpretation leads to the funny conclusion of the ideal Schroedinger's cat experiment.
It should be noted that it has been experimentally revealed that, in a unpredictable time, a certain atom X decays into another atom Y, emitting radiation, that can be detected with a Geiger counter. The Copenhagen school accepts the phenomenon, but not its interpretation: according to it, the X atom and the Y atom coexist with the radiation and the decay manifests itself only as a result of observation. Without observation the atom remains in the superposition of decayed atom and non-decayed atom.
Schroedinger imagines a box with an atom There is also a cat in the box. After any amount of time, an hour to fix ideas, the box is opened: the cat can be dead or alive depending on whether the atom has decayed or not. If we think as the Copenhagen school wants, the state of the atom is of decayed atom and non-decayed atom, until the box is opened, therefore the cat in the hour in which it was closed in the box with the atom, it was both alive and dead (!) because it was entangled with the atom.

Schroedinger's cats

I would propose an extension of the reasoning, with a relevant number of cats, let's say 100 cats, in 100 distinct boxes and I would use carbon 14 as the decaying atom, distributing one atom in each box. This atom has a half-life of 5730 years, this means that after this period, (approximately) 50 atoms will have decayed and another 50 will not. Consequently, opening the boxes, after 5730 years, I would find myself with 50 dead cats and also 50 live cats (!).
These arguments show that reasoning in this way leads to absurd results.
Schroedinger's equation is a great scientific advance but it is an approximate and not exhaustive description of an unknown world, its conclusions are not unexpectedly true but must be examined.

A little note

In my opinion, quantum mechanics is unable to show the falsity of these reasonings. There is a large literature on this which revolves around the relationship between microsystems and macrosystems and also quantum decoherence. Despite having read these works, since my twenties, I have turned my attention to the brain and its limits which manifest themselves in cosmology and atomic physics and prevent understanding.