

Erwin Schrödinger wrote:

“One can even set up quite ridiculous cases. A cat is penned up in a steel chamber, along with the following device (which must be secured against direct interference by the cat): in a Geiger counter, there is a tiny bit of radioactive substance, so small, that perhaps in the course of the hour one of the atoms decays, but also, with equal probability, perhaps none; if it happens, the counter tube discharges and through a relay releases a hammer that shatters a small flask of hydrocyanic acid. If one has left this entire system to itself for an hour, one would say that the cat still lives if meanwhile no atom has decayed. The first atomic decay would have poisoned it. The psi function of the entire system would express this by having in it the living and dead cat (pardon the expression) mixed or smeared out in equal parts.

It is typical of these cases that an indeterminacy originally restricted to the atomic domain becomes transformed into macroscopic indeterminacy, which can then be resolved by direct observation. That prevents us from so naively accepting as valid a "blurred model" for representing reality. In itself, it would not embody anything unclear or contradictory. There is a difference between a shaky or out-of-focus photograph and a snapshot of clouds and fog banks.”

The quantum description prior to measurement or observation is a consequence of having to impose relations with the thing under investigation, mental and or physical to provide a singular relative state or value. The observer being unable to give a definite state or value otherwise. The description of the quantum state as a superposition of outcome states or values, has use for predictive purposes. Using a sequential unidirectional view of time the outcomes, the limited states that will be considered, have not been isolated prior to application of the limiting protocol or viewpoint that produces them as singular states or values. So an ensemble of outcome states does not really represent what there is. That is to say the superposition is an impoverished mental attribution rather than expression of the actual condition in space. The limiting viewpoint or protocol is a selection of what will be considered from all possible considerations of the unseen as it is in space.

The ERP argument and general confusion about what is happening is due to an underlying notion that the outcome singular fixed states or values exist already, like the colour or pattern of socks, being discovered rather than coming into 'being' when the viewpoint or limiting procedure is applied.

## The elephant

The elephant and blind men analogy is rather overused but nevertheless: singular limited state trunk/hose only exists in isolation when a singular limited 'viewpoint' (I.e. relative to this man") is applied. Same for singular state leg/pillar, singular state ear/fan and singular state tail/rope. Prior to those measurements the elephant unseen has the potential to be measured as any of those states. Yet isn't any of those isolated 'measurement outcome' states. Elephant source un-felt is indefinite as far as the would observers are concerned. There are of course many other potential 'feel-points' that could be taken. So by mentally limiting the number of observers to the traditional ones the possible outcome states have already been mentally reduced.

The QM results suggest that something has to give, and that something is that the results have prior existence in the space-time continuum. IE that kind of realism needs to go, rather than acceptance of faster than light communication. Entanglement correlation is due to imposing the same measurement conditions on the separate particles produced as opposites. The imposition of relative perspective or limiting procedure together with the condition or behavior of the observed produces the result.

It is not discovering the one and only state or value there could have been, It has no effect on the other particle distant from the one observed. This is possible with sequential uni-temporal time and an entirely open future, rather than the already existing future in space-time. Which incidentally is also necessary for true agency.

Singular measurements of attributes are relative. That is, they come from the relation with the entity under consideration rather than being sole property of the entity independently. The multi-state/ multi-value variable profile that relates to all relations with the entity has some similarity to the idea of superposition of states in quantum physics prior to a singular measurement outcome being obtained. The variable profiles change; the individual values varying, as the object/phenomenon under consideration moves through, and is affected by, the environment provided by the apparatus/method.

The 'superposition' from this perspective is, the aggregate of the states and or values of the relations of the system formed by the entity under consideration and environment provided by the apparatus/method. It is the aggregate of values or states of the relations prior to selection of one viewpoint. Rather than just superposition of those outcome possibilities that the measurement

apparatus and or protocol allow. In the quantum experiment there has already been mental reduction of the variable profile to the states that are the quantum bits.

For analogy: A coin toss would be described as a superposition of heads and tails (outcomes) rather than a superposition of all the values or states pertaining to all relations to the object as it falls and orientations vary. The multi state 'superposition' evolution.

The multi-state/ multi-value variable profile arises from realization that singular attribute measurements are relative. That is, comes from the relation with the entity under consideration rather than being sole property of the entity independently. In that way the picture constructed comes closer to the truth than the impoverished single viewpoint, singular value and states that are the product of singular observers 'saying what is there'.

Measurables being relational rather than sole properties of the entity of interest is important for understanding QM, providing a 'picture of superposition of the unseen/unmeasured', 'picture of evolution of a variable profile over time and reduction to a limited fixed state outcome when a limiting viewpoint or protocol is applied. Providing a 'what's going on' at what physicists call 'wavefunction collapse' or 'decoherence'. It discounts Many worlds post outcome in favour of many alternative possible measurements prior to the limiting mental consideration and physical treatment of the entity of interest.

### The red herring

#### The difference between a measurable attribute and an intrinsic state of being

Measurables such as orientation of rotation, velocity, energy, momentum are relational. What the state or value is found to be depends upon the relation with the observed or measured entity by which a singular outcome is obtained. (Or at the macroscopic scale, when vision or hearing is involved the relation to the potential sensory stimuli, signals received and processed into what is seen.) Whereas an intrinsic state of being is not relational but independent.

A decayed and non decayed particle are different from each other because the decayed particle has lost something and is therefore not an identical system to the un-decayed. It might be regarded as a different object because that change has happened. A shattered flask of poison is not the same as an intact flask of poison. The shards of glass are different objects from the intact flask object. It is not a

matter of relative perspective. Likewise dead and alive cat. The live cat has functioning metabolism, the dead does not. Which is not a matter of relative perspective but intrinsic difference in state of being.

Therefore the Schrödinger's cat thought experiment does not provide an analogy of what is going on in quantum experiments because decayed and un-decayed can not coexist and nor can broken and unbroken, or dead and alive. The measurables in the thought experiment are not singular, limited fixed states merely representing individual viewpoint of the same object or singular, limited fixed states represent individual measurements of the same behaviour.

While a cat can not be in a superposition of dead and alive, a cat in a box could be in a 'superposition' of striped and spotted. The singular striped state or singular spotted state happening when the position of the cat and the viewpoint of the observer provide a particular perspective, upon opening the box and the observer forming the visual product of the singular limited fixed state, from the EM signals received. No EM signal is received from the opposite side and so it, the opposite state is not a part of the observer's reality. (But could have been if circumstances were different.)

## References

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Trimmer, J., D. (1980). "The Present Situation in Quantum Mechanics: A Translation of Schrödinger's "Cat Paradox" Paper". *Proceedings of the American Philosophical Society*. 124 (5): 323–338.

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