

Universe in Absence of Consciousness

by Sven Nilsen, 2020

There is a great tradition of ideas within philosophy and religions to explain what happens to a person who dies. This puzzle is majorly constructed using an argument as following:

- We observe the person's body disintegrate and the brain's functions stop working
- We wonder how that experience looks like from the view of the person
- We speculate about the experiences that the person might have afterwards

However, when studying observer selection effects, there is a different side of this puzzle that is interesting, since it affects the probabilities assigned under different reference classes:

What happens to the universe from the person's view?

To explain what I mean, one must take a look at quantum mechanics and Einstein relativity. Both these theories have analogues of how reality appear different depending on view. For two observers starting in similar state, evolving over time into states where our everyday intuition about it breaks down.

In quantum mechanics, there is the Schrödinger's Cat experiment. A cat is put in a box which is isolated from the environment. A quantum measurement inside the box triggers a mechanism that kills the cat. For an outside observer, the cat is in a super-position of life/death until the lid of the box is opened.

In Einstein relativity, there is a stationary observer A watching another moving observer B falling into a black hole. When B reaches the event horizon, A sees B vanishing from sight. However, for B there is nothing unusual that happens at the event horizon. Yet, due to time dilation, it makes no sense for A to talk about what B experiences in A's reference frame. The only reference frame that makes sense is B's.

Although these cases are topics for fruitful debates, they yield predictions that are well-defined. The two experiments are manifestations of more general features of the theories. It is the general features that are interesting, not just the experiments in particular.

As far as we know, in the absence of consciousness, there is no way to define what it means that the deceased person interacts with the environment or is located at a specific position. Such views make only sense from the outside. Therefore, the Schrödinger's Cat experiment and event horizons of black holes no longer make sense from the inside. This might look like a silly problem, until one realizes that the general features of the theories no longer make sense, at least without making any assumptions.

With other words, *the state of the universe* is put into question in the absence of consciousness.

One might ask: Does it matter? Since the person is dead anyway, does it really matter what happens to the universe? At a pragmatic personal level, perhaps no, but the luxury of this choice does not hold for observer selection effects. The probability of existing somewhere in the universe depends on how the state of the universe is interpreted, just as the state of the observer is interpreted. As a result, the specific details of the general features of quantum mechanics and Einstein relativity matters.