

A Gedanken Experiment on the Flow of Time

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Abstract

In this note, the authors propose a thought experiment which may suggest that time is not actually flowing.

Consider a universe with only N quantum black holes. Let them start in a cat state. The universe applies unitary evolution U to this state. Finally, the state is measured in some basis. Thus, the N holes collapse to a basis state with some probability and persist in this final state. Since a view of the whole universe is possible only in what is documented as cosmic consciousness in the world literature (see, for example Bucke's book) and this note is a thought experiment, in what follows we will conflate the quantum universe above defined with cosmic consciousness.

So, when cosmic consciousness is viewed, it collapses to one of the possibilities. The viewer believes his result to be the final and eternal state of cosmic consciousness.

However, if cosmic consciousness is re-prepared and measured, in the vein of modern day quantum laboratory experiments, a different outcome may result. So, each time one would get a different view, not because the spatial location of the experiment has changed, but merely because it is a quantum universe. There is a close connection between the quantum nature of measure objects and spacetime since measurements can only be repeated in time.

Even if one is operating from a timeless state of consciousness to measure cosmic consciousness, one would get different results for different measurements and this could be used to proclaim the flow of time. So time may not actually be flowing, rather it may only be proclaimed by "men" to be so doing.