Review of: "Quantum Gravity Consciousness Could Cause Brain Controlled Atemporal Evolution of Space-Time"

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The paper addresses significant topics. However, the clarity and precision of its formulations are often lacking, leading to confusion or potential misinterpretation. This may stem from the absence of established terminology and the complexity of the underlying ideas. Below are some examples of imprecise wording.

"However, this determinism would be relative, as it would only be effective if the values of extra dimensions don't vary."

What are the values of the dimensions? Perhaps the author means the size of compact extra dimensions.

The same with:

"As we now understand that the values of extra dimensions or the vibrations of space-time could occur out of time in order to change our timelines – which is somewhat equivalent to a slip from one universe to another."

How can vibrations of spacetime occur out of time? By "the slip from one universe to the other," I would understand within a braneworld scenario as a passage from one spacetime 4D surface, embedded in a higher-dimensional space, to another 4D surface.

Regarding the concept of a "second time," the paper's formulations are mathematically imprecise. In the literature, theories with several time dimensions were considered by many authors. Besides important two-time physics by I. Bars, there are proposals for three time-like dimensions that enable, on one side, a formulation of superluminal transformations without imaginary coordinates [1,2], and, on the other side, they provide an arena in which there are many possible one-dimensional time-like trajectories [1,3,4], each one associated with the subjective experience of time flow by a 3D observer. In such a theory, there is a 6D "block universe" in which an observer's timeline intersects only a subset of the events. For such an observer, the future is not given in advance [1,2,3,4].

Within this context, I am finding very confusing the author's discussion of the concepts of changing the future:

"The fundamental difference between our usual concept of time and the second one we are proposing here is that while time passes, bringing us nearer a precise date in our future, not only does this future already exist, but above all, it continues constantly to evolve, to the point that the new future that we will eventually reach might be completely different from that which existed a year earlier."

In my book "The Landscape of Theoretical Physics: A Global View" [4], I explore these ideas within a coherent framework.

Our world is conceptualized as a 4D brane within a higher-dimensional space. One can envisage that besides our brane, there are other branes. Alternative branes represent alternative worlds. Quantum mechanically, there is no definite brane, but a wave packet of branes. The wave function is associated with consciousness, and for a stream of consciousness, there is no definite future. A wave packet embraces many possible worlds, but it is localized so that the average of all those alternative worlds is an effective spacetime <V_4>. Additionally, the wave packet can be more sharply localized within a space-like region, P. With the evolution of the wave packet, the region P moves along <V_4>. Such a wave packet describes an observer who does not experience the entire spacetime in all its details at once but experiences it step by step, moment by moment, within a sharply localized region. Such a wave packet thus describes both the block universe of relativity and the "becoming" subjectively experienced by an observer. This is just a brief, incomplete, and superficial description of what is discussed in my book.

I am finding some of the author's formulations as incoherent and confused repetitions of what has already been discussed in my works and the works of others. Concerning the role of consciousness and "creation of space," I would like to mention reference [5], where this and many other topics were considered, some of them similar to those in the paper of this review. There is also an interpretation of Libet's experiment within the framework of the many-world interpretation that is consistent with free will.

The paper, despite its shortcomings, makes a valuable attempt to bring advanced topics in physics, and beyond, to a broader audience. With appropriate revisions and acknowledgment of prior work, it could contribute meaningfully to the field.

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[2] M Pavsic, J.Phys.A 14 (1981) 3217-3228.

[3] M. Pavsic, "On the Quantization of Gravity by Embedding Space-time in a Higher Dimensional Space", Class.Quant.Grav. 2 (1985) 869 e-Print: 1403.6316 [gr-qc].

[4] M. Pavsic, "The Landscape of Theoretical Physics: A Global View. From Point Particles to the Brane World and Beyond, in Search of a Unifying Principle" (Kluwer Academic, 2000) e-Print: gr-qc/0610061 [gr-qc].

[5] Robert Lanza and Matej Pavsic, "The Grand Biocentric Design" (Ben Bella, 2020).