

Review of: "Holographic Quantum Theory of Consciousness"

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Potential competing interests: No potential competing interests to declare.

The paper proposes a HQTOC (Holographic Quantum Theory of Consciousness) and states that "Because consciousness is involved in all quantum measurements from designing, receiving data, to reviewing and understanding the results, this suggests that consciousness could be the driving force in manifesting and determining observed physical phenomena." As such, the paper is generally addressed to the metaphysical/spiritual/religious concept that consciousness determines physical reality, as opposed to the concept that physical reality determines consciousness, what the paper refers to as "physicalist." As I am a "physicalist," I will limit my comments to the physicalist/scientific aspects of the paper and not the metaphysical/spiritual/religious aspects, although it is noted that the paper tries to combine the two disciplines.

The paper proposes that there are two "elementary duality consciousnesses" - the consciousness of changing or unchanging and the consciousness of inclusion or exclusion – and that all human consciousness is a combination of these two types of elementary duality consciousness. However, this creates a circular definition because the term to be defined (i.e., "consciousness") is used as part of the definition (i.e., "the consciousness of changing or unchanging" and "the consciousness of inclusion or exclusion"). This is not scientific because it is indefinite.

The paper then states that the elementary consciousness of change and/or unchanged is related to time consciousness and space consciousness, adding further ambiguity by using the term that is being defined as part of the definition of the terms in the definition.

The paper then states that all human consciousness and measurement are based on these two basic duality pairs: space-time consciousness and inclusive-exclusive consciousness, which conflicts with the earlier statement that all human consciousness is a combination of the consciousness of changing or unchanging and the consciousness of inclusion or exclusion. It would seem that all human consciousness is a combination of at least 3 things, then - the consciousness of changing or unchanging, the consciousness of inclusion or exclusion, and space-time consciousness. As such, the attempt to define consciousness is indefinite and not scientific.

To try to shed some light on these ideas, the paper provides an example of measuring mass with a mass scale by putting the object to be measured on one side of the scale and the weights with known mass on the other side. The paper asserts that conscious space and time are used to make sure that the two arms of the scale are equal and still, and that inclusion and exclusion consciousness are applied when one adds weights to the scale. However, this example is not scientific because someone would be conscious of the scale if they found it when it was already loaded and stable, and if they did not add the weights to the scale, but according to the example, they would presumably not be conscious of it. It also does not address what the result would be if two different observations were made, such as if one observer believes that the

scale is balanced and the other believes it is not.

The paper derives various mathematical equations based on these circular and ambiguous definitions and concludes with an assertion that a “holographic function $\Psi_h(T, L)$ ” corresponds to the wave function in quantum physics. However, that statement is not scientific because the wave function in quantum physics is used to describe the physical states of a fundamental particle, whereas the holographic function of the paper is supposed to create “all the possible information, energy, and matter that can be manifested by the human consciousness.” These two concepts are fundamentally at odds – quantum mechanics is scientific and based on the observation that discrete fundamental particles behave in accordance with a wave function, whereas a single function that creates all the possible information, energy, and matter that can be manifested by the human consciousness is metaphysical/spiritual/religious and would instead define the behavior of all possible information, matter, and energy using “the holographic action and function that describes the hologram created by human consciousness.” Thus, the use of the term quantum is misleading and inappropriate, as the concepts in the paper are unrelated to quantum mechanics. It is also noted that a hologram is generally understood to relate to a recording of an image in a medium, so the use of “holographic” in the paper is not scientific because it is used in reference to “the holographic action and function that describes the hologram created by human consciousness” instead of a recording of an image. The use of a different term would be advisable to avoid confusion.

The paper next proposes that the HQTOC makes six predictions. Some of these are scientific, such as a grand unified theory (which is really closer to a scientific hypothesis than a scientific theory), the direction of time (which is the second law of thermodynamics), and the use of mathematics to describe physical phenomena, which is an output of the scientific process. Others are metaphysical/spiritual/religious, such as the prediction of a hologram from which all observed physical phenomena emerge, space and time invariance (which seems to contradict the law of special relativity), and an ability to transcend natural laws (which is metaphysical/spiritual/religious by definition). No attempt is made to tie these six predictions to the holographic function derived in section 2.

The following suggestions are provided to help improve the paper, but to the extent that the authors are trying to convince physicalists/scientists that metaphysics/spiritual/religious principles are superior to/control scientific principles, I suspect that will not be possible.

- 1) Provide a clear definition of all terms that does not include the terms themselves.
- 2) Provide a clear definition of what the holographic function is (and use a different term). A description of what it is supposed to do is provided (“It describes the possible vibrations, energy, information, and matter in a system. It gives the possible vibrational fields, information, energy, and matter that can be manifested by human consciousness”), but human consciousness does not create energy or matter. There are billions of discrete occurrences of human consciousness, but they agree on many aspects of reality, such as matter (the earth, the moon, the oceans, air, etc.), energy (lightning, the sun, nuclear explosions, etc.), information, etc. If the thesis was correct, it would seem that one human consciousness could conjure matter (e.g., a dragon), energy (e.g., lightning), or information (e.g., a book describing all of the extraterrestrial creatures in the universe) out of nothing, which is magic and not science. As this is a major thesis of the paper, it should be explained in great detail.

3) There are already a number of references that address holographic/holonomic consciousness theories, as well as criticisms of those ideas. A few of those are listed below, but there are many more:

- Wade, Jenny. *Changes of mind: A holonomic theory of the evolution of consciousness*. Suny Press, 1996.
- Anderson, Robert M. "A holographic model of transpersonal consciousness." *Journal of Transpersonal Psychology* 9.2 (1977): 119-128.
- Di Biase, Francisco. "Quantum-holographic informational consciousness." *NeuroQuantology* 7.4 (2009).
- Pribram, Karl H. *Brain and perception: Holonomy and structure in figural processing*. Psychology Press, 2013.
- Willshaw, D. J., H. C. Longuet-Higgins, and O. P. Buneman. "Models for the brain." *Nature* 225.5228 (1970): 178-178.

Those or their equivalents should be specifically addressed and discussed and distinguished from the concepts in the paper.