

The One Mind Model of Consciousness and Quantum Reality: A Brief Note and Update

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There is an interesting article by Li and Zhang (arXiv:0806.0109v1 [physics.bio-ph] 31 May 2008, "The holographic principle and language of genes, Dirson Jian Li and Shengli Zhang) that estimates the information capacity of the observed universe, according to the holographic principle, to be 10 to the 122 bits, quite a bit higher than the number you mentioned. This information is much lower than the degrees of freedom in living things, meaning that there must be a deeper theory involving a universal language, which the authors suggest are Boolean networks. Davies has made similar estimates and conclusions regarding the constraints of the holographic principle on the complexity of life. By applying a language, which is universal, the excess number of degrees of freedom in living systems as compared to the holographic boundary can be rectified. The authors say, for example "human language can be viewed as a transformation of cell language." This would imply a universality of cell language, such that "different subjects have a common ultimate theory of all the information in the universe." The universe of information must be used over and over again, in reiterative or sequential fashion. For this to occur, the language of information and mathematics must be universal, and, as a language implies a mind, there must be a Universal Mind.

Regarding relativity, it requires us to look at the multiverse in a virtually infinite number of possibilities where for all space-time. We could propose that each possible universe has its own holographic boundary, but that is really extending the theory in an unphysical fashion. We would have to have an immense multiplication of information of the universal holographic boundary, as each universe that carries life would need to exist.

Euan Squires (1994, *The Mystery of the Quantum World*, Second Edition, Institute of Physics Publishing: Bristol and Philadelphia; 1996, arXiv:quant-ph/96022006v1 9 Feb 1996) addressed the whole problem of quantum reality in his "One Mind Interpretation" of quantum physics. His ideas have been sadly neglected. When I make an observation of a quantum event, say the position of a photon, it strikes my eye and decoheres into a number of pointer states, which, in my brain, create a state space in which there is self-organizing criticality such that to adjacent positions may diverge and create two possible

brain macrostates, each composed of some number of observationally equivalent microstates. As the theory goes, all possible positions of the photon create a distinct universe. The other alternative is that a particular position is observed and then becomes the same for all observers, as, for example, if we make the observation of the click of a Geiger Counter, registering a probabilistic alpha particle, then that observation must be the same as that of a distant observer who later hears the same click. I have argued that the brain process of the second observer would then be different than that of the first observer. I designed an experimental protocol using event-related potentials (ERPs), but did not have the equipment to generate an ERP using a frankly quantum stimulus, so I used a random auditory stimulus generated by a computer and dependent of the timing of the beginning of the stimulus sequence on the initiation of a series averaging 26 stimuli by the first observer, in another room, who observed the status of the stimulus one second before the second observer whose brain waves were being recorded and averaged over about 200 stimuli in the pre-observed and unobserved conditions. I did this with auditory stimuli of relatively low pitch substituted at random intervals of one second averaging one in four frequent stimuli by either a lower pitched noise or the absence of any noise. The brain responds by generating a series of wave forms to the infrequent stimulus, or the absence of the infrequent stimulus, and the computer records each brain wave response to the infrequent event with $t = 0$ being the time of presentation of the stimulus. The results of the first set of experiments showed that, using time after stimulus or absence as an independent variable and polarization as a dependent variable, the unobserved condition differed from the pre-observed absence of a stimulus, with a probability that they were statistically indistinguishable of about 10^{-23} , measuring voltage at 3 ms intervals from zero to 750 ms. I posted this on the quantum mind archives, which sadly seem to have disappeared from the internet. Henry Stapp, at first, said that there might be such an effect, then reversed himself and said the two conditions should have equivalent brain responses, but also opined that the altered paradigm I used could be valid in the sense of generating stimuli or absences that possess quantum uncertainty. Stan Klein said that there may have been autocorrelation of the data and suggested that I move the data points to 15 ms apart. I did so and the results were still highly significant. Stan Klein said that such results, if validated, would violate QM and I would win the Nobel Prize. Another physicist supported the Nobel Prize assertion.

The experimental paradigm and its relation to the One Mind Model were posted on Dynamical Psychology in 1998. The experiment itself was designed in 1990 in my role, at the time, with Ervin Laszlo, of "Director of Field Research" in the Club of Budapest. A grant proposal was submitted but could not be funded, and I had to wait until I had access to the right equipment to conduct a variation of the paradigm. I presented the results of the second set of experiments, which employed a high pitched sound rather than an absence, under the banner of the One Mind Model, at the QM 2003 conference in Tucson. Dick Bierman used essentially the same paradigm, but had an undeniably quantum stimulus, at the same conference. Although he admitted getting the paradigm from me, he said that, as my work had only been published, at the time, on the Internet, it could not be cited. He rejected the One Mind Model and instead used the experiment to test the Stapp model. He used many subjects who were volunteers and were not meaningfully connected. His adaptation of the paradigm was flawed in that

the second observer had knowledge of the stimulus at the same time as the first observer. There were significant differences in Bierman's data, and he published it in paper around the same time as I published mine, without any reference or acknowledgment of my work and the fact that I originated the ERP paradigm. I have now published my studies on the Internet (2000, Journal of Non-Locality and Remote Mental Interactions, v. 1, n. 3, Dynamical Psychology, 2003 <http://www.goertzel.org/dynapsyc/2003/onemind.htm>) and in a refereed journal (Germine, 2004).

The conditions of the experiments involved a single observer, who was meaningfully connected to the pre-observer. One could say that, upon pre-observation, there is a bifurcation of both observers into a parallel universe, which would seem to imply the existence of a kind of ESP between observers. The paradigm was clearly designed to test the One Mind Model. It would be very simple to test certain, "classical" stimuli against "quantum" stimuli, but I do not have the means to do so. Furthermore, some problems exist in the experimental conditions. Firstly, about 2000 responses to the infrequent stimulus or absence must be measured and averaged to create a truly stable and accurate ERP. Secondly, subjects have different ERPs, and they can also vary with time in the same individual, so that a large number of recordings with the same individual must be performed in an optimal time frame. Thirdly, the individual recorded may be important, as well as meaningful connection with the pre-observer.

Peter Ryser (2009, Creative Choice: How the Mind could Causally Affect the Brain. Journal of Consciousness Studies 16, no. 2-3, 6-29) picked up on the One Mind Interpretation, bringing it up to date with consideration of environmental decoherence and pointer states. He mentions Squires only once, and does not go into any details regarding Squires origination and formulation of the idea. I only recently learned of Squires work. Squires interpretation has, in fact, remained obscure. There is no mention of my work. The paper has many merits, but the mind/brain dualism is, to me, not necessary. There may be a kind of polarity of matter and meaning that is physically fundamental, as in Bohm's neglected paper on Soma-Significance, or one could adopt Wheeler's informational monism, or the pan-experientialism of Whitehead.

In my most recent paper on the subject (in press) I consider decoherence and how it would apply to all levels up to the Universe, saying that the Universe has no environment which, I think, are identical to the words of Ryser. This is just a coincidence. I wrote a highly visible paper in 1993 "Information and Psychopathology" which was also in a highly visible and well reputed journal, and for which I won the annual American Psychological Foundation Award for Understanding of the Human Mind in 1995, and which went into the whole argument of Ryser that the brain actuates macrostates which are comprised of many microstates. I state in this paper that relatively unlikely mental states require more metabolic energy, while he suggests a ghostly "mental influence." One must also take into account the fact that the brain fluctuates between chaotic and phase-locked states, and is critically dependent on initial conditions (self-organizing criticality). It is only the phase-locked, ordered state that seems to enter our awareness, so that retrocausation of even very small changes in initial conditions would change the

phase-locked state. Pointer states diverge in the conditions of self-organizing criticality. There must, however, be some entity, call it Self or the One Mind or Universal Mind, effecting this change in a directed manner that appears to be retrocausal.

I presented my ERP paradigm in a Seminar at the Center for Process Studies in Claremont, CA, under the title "Can the Existence of God be Proven Experimentally," on October 30, 1997. I have avoided, in my subsequent work, the notion of God and its relation of the One Mind Model, because it could be perceived as unscientific. It may be that the theological implications of the One Mind Model are unsatisfactory, even if they are unspoken, and this has caused the neglect of Squires original work. I recall one review of Squires "Mystery of the Quantum World" that denigrated Squires references to universal consciousness as "New Age."

I revisited the philosophical, theological, and spiritual implications in a paper presented in a presentation at the 7th International Whitehead Conference, entitled "Process, Religion and Society" in January of 2009, in Bangalore, India, and prepared a paper, which will be published in the volume on papers from the conference. Although the paper has some Whiteheadian terms that may not be familiar to the general reader, with my discovery of the work of Euan Squires and Peter Ryser, I now feel that the One Mind Model, or, as Squires called it, the One Mind Interpretation, has gained adequate support for a wider discourse. I present it in the following paper in order to reach a wider audience and stimulate further discourse.

Germine, Mark. "Vitual Brain States and Non-locality of the ERP." *Medical Hypotheses* 62 (2004): 629-634.