

Review of: "On the Bell Experiment and Quantum Foundation"

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This is an interesting article which presents a view of the Bell experiments founded on convivial solipsism. The view is predicated on the mental model of observers, in particular what variables are accessible, or not, in a given mental model.

The author states that "Quantum theory is not directly a theory about the world, but a theory about an actor's knowledge of the world", which seems very similar to the interpretation of quantum theory called QBism, developed by Chris Fuchs and others. It would be helpful if the author could contrast his perspective with that of QBism.

Also, I couldn't tell how whether the inaccessibility of the variables in a mental model relates to cognitive incompatibility. For example, Corollary 1 states that Charlie can't keep all four variables A, A', B, B' . A and A' are incompatible for physical reasons, so does the author then assume that for this reason that Charlie can't keep A and A' in his mind?

The preceding also relates to indeterminacy. For example, Griffiths argues for a spin $\frac{1}{2}$ particle, that the proposition " $S_x = \frac{1}{2}$ and $S_z = \frac{1}{2}$ " argues that the statement is meaningless because you can't "measure that which does not exist". Such cases have been used to argue that quantum systems can be indeterminate, i.e., the uncertainty is ontological (there is no underlying fact of the matter) rather than epistemic. How does such indeterminacy affect the accessibility of variables in the mental model?

Finally, it would be useful to explain the reason why function f must be non-invertible (Section 3).

In short, the article is thought provoking but I feel many will not be open to it due to the controversial nature of solipsism.

Griffiths, R. B. (2014). The new quantum logic. *Foundations of Physics*, 44, 610-640.