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

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Thanks to the author Inge Svein Helland for another interpretation of both the Bell experiment and the attempt to connect it with the quantum foundation.

1. The author reports that: "Quantum theory should be considered as a mathematical model, a model related to the consciousness of an observer or the collective consciousness of a common group of observers." The question arises about the "common consciousness of the group of observers". Is there a concept of "common consciousness" and the concept of "group of observers" in quantum theory? The answer to the non-rhetorical question obviously, in my opinion, leads us away from, for example, the Copenhagen interpretation. In the latter, only the Observer (in the singular) is proposed. If the honorable Inge Svein Helland introduces the concept of "group of observers", he must understand that the consciousness of a single observer (eg John) is not equal to the consciousness of a group of observers (eg Bob, Alice and David). In the last three, a conglomerate called "shared consciousness" already appears, the characteristics of which allow it (consciousness) to have three times the number of interpretations regarding the physical state of Schrödinger's cat. In addition, it should be taken into account that the increased number of options of thoughts in a synergistic plan can give a much more effective result in comparison with the consciousness of one observer. Based on the above, we state the conclusion: a different interpretation (not Copenhagen) is needed for a group of observers with their common consciousness.

2. Dear Inge Svein Helland considers Bell's situation. To quote a part of the article: “For an observer Charlie, who receives data from both Alice and Bob, there are two available conceptual variables: the component of rotation as perceived by Alice and the component of rotation as perceived by Bob. Alice and Bob do not communicate. Alice has free will to choose the direction in which she wants to measure the spin component, and so does Bob. Then they reach their answers. Quantum theory is related to these imaginary reactions. Bell's inequality is related to the hypothetical reality behind these measurements, and it is, in my view, a reality that we cannot seem to fully capture in any man-made model.”
If Bob and Alice, who are not communicating with each other, freely choose the "directions in which they want to measure the spin component", and provided that their separate decisions, known to Charlie, will indeed go their separate ways, there will be more options for conclusions. If both happen to choose the same option, it will be easier for Charlie to make a decision. It is NOT a fact that such a decision will satisfy Alice and Bob. In this case, there is a new need for a new interpretation of the Copenhagen version of the quantum theory. And such an interpretation will no longer meet the conditions of Bell's experiment. Further analysis should be based on a new interpretation that neither Alice, nor Bob, nor Charlie has yet proposed.

3. Now I will express my opinion about consequence 2, which the author presented in the following interpretation: "For any person who communicates, there may be situations when he is not able to keep in his mind all the variables to which he is exposed." I want to remind the author that the abstract Alice, Bob and Charlie cannot have the same measurement parameters that they must keep in mind. This is obvious if you follow the Copenhagen interpretation. First, Alice, Bob, and Charlie may or may not hold all the variables in their minds. If they don't hold all the variables, there's no point in measuring at all: it's impossible. If all three will keep in mind all the variables, the results of their measurements will be different, which will not give the right to assert the constancy of the conclusions. Therefore, in both probable cases, there is no need to talk about the possibility of formulating consequence 2, since they are only probable, which means that they are "unreal" (in the quantum-physical sense of the word "realism").

4. I support the author in his statements regarding general descriptions, which (I quote further) "may seem relevant for certain political and social situations." I tried to apply the basic principles of quantum mechanics in the Copenhagen interpretation in the theory of journalism (see https://new.comteka.com.ua/index.php/journal/article/view/107/92). If you, dear Mr. Inge Svein Helland, are interested, please take a look.

I thank the author for the opportunity to once again return to quantum theory and hope that its physical (mechanical) principles can be applied to social and behavioral sciences.