



Determination Need for the Quantum Entanglement Occurrence Physiological Mechanism in the Human Body to Explain Carl G. Jung's Synchronicity

Igor V. Limar*

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Letter to the Editor

The significance of synchronicity studies is confirmed by the attention of some reputed researchers, in particular, such a famous theoretical physicist as John Stewart Bell (Bell, 1988), noted in papers. (Stewart, 1983) is one of the first papers in which non-local quantum theories are mentioned in connection with Jung's synchronicity. Later, the idea of connecting quantum non-locality with Jung's synchronicity can be found, for example, in (Amoroso, 1997; Davies, 1989; Germiné, 1997; Peat, 1997; Reuter, Kurthen and Linke, 1990) and in (Amoroso, 1999; Atmanspacher, 2003; Burke, 2007; Germiné, 2007; Guindon and Hanna, 2002). Subsequent interpretations of this concept and references to it are presented in (Caramel and Stagnaro, 2010; Gernert, 2008; Raff, 2009; Wheeler and Hyland, 2008) and, to some extent, in (Brizhik, Giudice, Tedeschi and Voeikov, 2011; Duane, 2005; Matschuck, 2011; Summhammer, 2011). Lists of other papers in which the synchronicity phenomenon is interpreted on the basis of quantum non-locality can be found in (Limar, 2011, Limar, 2012). In addition to the hypothesis suggesting the possibility of explaining synchronicity based on quantum nonlocality, hypotheses which try to explain synchronicity phenomenon based on other physical mechanisms are also proposed. For example, this is a paper in which a hypothesis

based on the wormhole theory (Gammon, 1973) is described, a paper in which synchronicity is linked with Everett's concept (Mensky, 2012), as well as a paper outlining a possible synchronicity mechanism based on the provisions of special theory of relativity (Nelson, 2011a; Nelson, 2011b). However, in our mind, in none of those above-mentioned papers, in which quantum nonlocality is positioned as a physical principle of synchronicity implementation, a specific physiological mechanism at the level of the human body that ensures synchronicity phenomenon existence was not described. The description of such a mechanism is necessary for the following reason. The fact is that one can speak about the concept of quantum nonlocality in relation to synchronicity phenomena only with the involvement of the concept of quantum entanglement – a phenomenon when the physical values of two or more microworld objects correlate even in a situation when these objects are at an arbitrary distance from each other. However, quantum entanglement does not necessarily have to exist between the above-mentioned objects of microworld and does not always exist. This is an extremely important and key circumstance. Objects of microworld in the human body can only become linked by quantum entanglement if a certain physical interaction has happened between them once. Moreover, these objects should interact directly

Corresponding author: Igor V. Limar

Address: Engineering and Technology Institute "Biotechnica" National Academy of Agrarian Sciences of Ukraine

e-mail ✉ quantum.biology@outlook.com

Tel: +38 067-301-41-88

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upon approaching and contacting each other. Until such an interaction, they are not linked by quantum entanglement. If such a physical interaction did not happen once, we have no reason to insist that quantum entanglement occurs. But if such interaction of microworld objects that are in close proximity to each other happened, then subsequently these microworld objects will be connected by quantum entanglement even if they are further separated from each other. Therefore, if a physiological mechanism for which quantum entanglement arose between these molecules due to a certain physical interaction of the molecules of different people's organisms is not described, we have no reason to argue about the possibility of the existence of synchronicity phenomenon on the basis of quantum entanglement. Quantum entanglement between molecules of the human body without the physical interaction that has happened once between these molecules does not occur and cannot exist in itself.

The main content of the hypothesis offered in (Limar, 2011) is, in particular, the description of a possible physiological mechanism due to which quantum entanglement can occur between the molecules of neurons of the brain of one person and the same molecules of neurons of the brain of another person. The most important circumstance in the offered hypothesis is that the mediators in the formation of quantum entanglement between the molecules of the neurons of the brain of different people are, in turn, biological molecules that are directly involved in meiosis.

We hope that in due course, experiments will confirm our assumption which is set forth in (Limar, 2011).

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