



The Consciousness Experiment

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Abstract

Since John Von Neumann's proposition in 1932 of a relationship between quantum mechanics and the brain, different perspectives and proposals have evolved (Tarlaci, 2010). Hu & Wu (2006) point out that the seat of consciousness would be the spin within the membranes of neurons and proteins in the brain. Sieb (2016) applied the theory of relativity to spatiotemporal consciousness and found correlations with aspects of brain functioning. Another suggestion is that consciousness emerges because of the Orchestrated Objective Reduction in microtubules (Hameroff & Penrose, 2003). However, few studies about the psychological implications of the relationship between quantum mechanics and the brain and its application to individual psychology exist.

Key Words: Quantum Mechanics, Consciousness, Psychology.

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Introduction

Karl Jaspers (1913) defined consciousness as the momentary whole, that is, everything that occurs in the experience of a given moment, as the background against which psychic life takes place. This psychic experience in the consciousness has the same reality as the explorable (objectifiable) exterior. According to such definition, a model of consciousness is elaborated that relates aspects of people's lives to the direct experience using a hypothetical consciousness experiment. The aim of this paper is to describe the theory of the states of consciousness as a new understanding to explain the consciousness experience.

The Consciousness Experiment

By using an analogy of our consciousness with an statistical experiment, the States of Consciousness (SC) is defined as all the possibilities of consciousness at a given moment; hence, the experiment is to know which possibilities express in the consciousness at a given moment. To know which of them is most likely to occur, one can apply a stochastic view and think as one would reason when calculating a probability of an event in any

experiment, in this case, it would be the probability that one of the possibilities for a consciousness occurs at a given moment (Ψ). Thus, the SC (state of consciousness) would have a solution for the present moment. The purpose is to determine the probability of a consciousness possibility. Using the logic of a statistical experiment, we define the sample space of a SC, given that the SC is determined by two large sets of variables or realities of being. On the one hand, the possibilities to which an individual consciousness has access are delimited by its frame of reference (ω), everything that the person knows and can express in words. The reference framework refers explicitly to the definition of the world that a person makes in terms of a particular cultural knowledge expressed with its nuances.

On the other hand, the state of consciousness is delimited by the person's position in the world (α). It begins in the body and explicitly the place our physical body occupies in space and time. No one in the world can occupy the same space and time that one body, and no matter how close another person may be at any given time, it can never occupy the same space and time as others.

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The above means that no two SCs are the same or comparable, and therefore, it is not possible from any point of view to categorise these states to establish groupings that facilitate the work of diagnosis and therapeutic intervention. Similarly, it includes the whole body through its sensations, biology, chemistry, mathematics, and bioenergy. Second, the position in the world involves the roles that the person has concerning others so that we can be children, parents, siblings, friends, partners, merchants, artists, engineers, or others. Our definition of ourselves regarding what we do concerning others includes our position in the world. This helps configure the search for the probability of the emergence of a possibility of consciousness in each SC ($P(\Psi)$). The latter is represented in the following formula:

$$P(\Psi_i) = \frac{\Psi_i}{\alpha * \omega}$$

And the SC definition is as follows:

$$SC = \frac{\Psi_1 + \Psi_2 + \dots + \Psi_n}{\alpha * \omega}$$

According to the current level of knowledge in society, it is not possible to find $P(\Psi_i)$ aprioristically. However, following the logic above, any expression that takes the present experience of an individual for a given moment possesses the highest probability of occurrence concerning its sample space. Thus, the multiple possible interactions between a position in the world and the subject's referential frame.

This definition of a SC is exclusively applicable to a given time of the momentary whole of an individual's life experience. However, life itself takes place in present times that inexorably perpetually follow one after the other until life ceases with death. In this way, this formula is extended to a moment 1, moment 2, ..., moment n .

$$SC(\Psi_{m=1 \text{ to } n}) = \frac{\Psi_{m1}}{\alpha * \omega}, \frac{\Psi_{m2}}{\alpha * \omega}, \dots, \frac{\Psi_{mn}}{\alpha * \omega}$$

An extensive form of the definition of SC is then expressed, which involves the temporal evolution of SC. Under psychologically and psychiatrically normal conditions, later SCs are part of the development of an earlier SC. In other words, a later SC is already contained in an earlier SC. Thus, the SC allows for the experience of continuity of consciousness, even though it is, in fact, discontinuous, as the model indicates. Since, in general, both our frame of reference and our position in the world remain stable, there is stability in the solution of the consciousness experiment, i.e., in the subject's experience. However, drastic changes of a state of consciousness, i.e., an abrupt

alteration of both the position in the world and the frame of reference, can trigger a radical change in the access to possibilities of consciousness.

Consequently, one might say that a traumatic experience is characterised and explained by such consciousness changes. For example, if someone who believes that ET life is possible and that such civilisations visit us happens to meet an ET in the middle of the street one day, such an experience will be less traumatic than for a person who does not believe in ET life. This prediction bases on the model of states of consciousness mentioned. Believing or not in something can be considered a solution in a consciousness experiment, that is Ψ . At some point, the person came to the idea that ET life is real and visited the planet.

On the other hand, the other person came to the opposite conclusion. Let us call the believer person A and the non-believer, person Z. For A to meet an ET in the street, although unexpected, is a possibility given its beliefs. For Z, meeting an ET in the street is not possible. The reason A and Z sustain their beliefs is the definition of their sample spaces of consciousness: their position in the world and interaction with their reference frame. Therefore, if both meet an ET in the street, Z will suffer more severe psychiatric consequences than A. It does not mean that A cannot suffer psychiatric consequences, but the intensity of these consequences should be less. It is always in the hypothetical exercise where both A and Z have the same experience with this ET, which is certainly unlikely.

Up to this point, the only focus has been one model of consciousness and its evolution for an individual, but it would be interesting analysing the example of two people who share a moment. Assume that two persons interact. Whatever the situation, the SC of both changes as the other is sensed through the person's senses (sight, touch, hearing, smell, taste). That immediately alters that person's SC by transforming (α). The position in the world is transformed because the senses perceive the other person, that is, the body, and this alters the sample space where the possible possibilities of consciousness reside for a given moment. Thus, being alone implies a state of consciousness that is very different from being accompanied. Perhaps that is why mystics of all ages and approaches recommend spending time alone in spiritual practices daily.

In the example, from this theory of consciousness, one might say that a joint state of consciousness can be defined between the two persons. Let us call



subject one and subject two both persons in the example. Once they interact, the joint state of consciousness can be defined as:

$$SC_{1,2} = \frac{\Psi_1 \dots \Psi_n}{\alpha_1 * \omega_1} \cap \frac{\Psi_1 \dots \Psi_y}{\alpha_2 * \omega_2}$$

That means is that the most likely events for the solution of the joint consciousness experiment are those where the possible possibilities of consciousness are shared. In other words, two people interacting spontaneously in a non-structured way do it based on what they share of their perception of the present situation they are both experiencing and the elements of their frame of reference and their position in the world shared by both states of consciousness. This interaction pattern is observed frequently. It is most easily distinguishable when observing the interaction of two strangers because they do not know each other's world configuration; the interactions are often based on the present situation. For example, if two people are standing in line at a bank waiting and interacting based on the slowness of attention or something else. This same exercise can be extended to any number of people so that this theory allows for comparative analysis of states of consciousness between societies or even different civilisations. The latter would express as:

$$SC_{group} = \frac{\Psi_1 \dots \Psi_n}{\alpha_1 * \omega_1} \cap \frac{\Psi_1 \dots \Psi_y}{\alpha_2 * \omega_2} \cap \dots \cap \frac{\Psi_1 \dots \Psi_x}{\alpha_n * \omega_m}$$

There is also a historical level of analysis about the evolution of the states of consciousness of human groups. Thus, one might compare the state of consciousness of prehistoric humans with current humans. A simple example will suffice to show that this is possible. While prehistoric society did not know about automobiles, they are an integral part of everyday life today. What was the probability of occurrence of the automobile idea in the consciousness of prehistoric society? The answer is zero because it was not part of the frame of reference at the time since it had not been invented. If we were to transport a prehistoric person to New York Times Square during a hectic day, we could predict that its reaction would be traumatic because its world would abruptly be shattered by an unfamiliar sensory experience (Position in the world), triggering a response in consciousness for which his biology is unprepared. The formulas herein give deductive support to the principle of coherence of mind.

Discussion

On the one hand, mathematical language is used to describe a particular understanding of consciousness. Its expression is nothing other than applying the probability theory to an understanding of consciousness as a momentary whole. Nevertheless, it is essential to clarify that this definition of probability can be replaced by any probability distribution that works adequately with the distribution of the contents emerging empirically in the consciousness of individuals. On the other hand, the proposal does not state the nature of the variables presented. Although clearly, it is referring to the contents that emerge in an individual's consciousness, it is not clear how these contents take the form or are represented in quantitative variables. In this respect, the author proposes that the variables should be conceptualised as discrete variables but with a distribution that goes from the least infinite to the most infinite and whose values only become relevant as univocal identifiers of psychic contents on an individual level. From one individual to another, these values cannot be used again. The development or application of such variables to the presented model is part of the suggested future lines of research.

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Finally, the model could be compared with empirical research if each variable of the consciousness model is conceptualised as a set of latent or observed variables that represent the phenomenon described as the position in the world and frame of reference. It could then be correlated with the research participants' internal experience in terms of a phenomenological report of the experience. Furthermore, the model's determination of conscious experience has application in the clinical setting by structuring individual differences. Therefore, it would be possible to explain a stable personality theory and different disorders in the clinical domain, just as the model is consistent with a processual conceptualisation of the self.

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