**What are the ramifications from a hypothetical mind-body theory?**

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Running head: Hypothetical mind-body theory

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**Abstract**

For a long time philosophers and researchers attempted without success to develop a theory of mind-body (Tmb), which is based on a connection between consciousness and activity of the neurophysiological processes in the brain. This situation raised the following question, which is the main concern of the present paper: how can one explain the very fact that yet Tmb has not been developed? As an answer, McGinn (1989) has proposed that human’s cognitive system is not fitted to solve that problem. The paper suggests another answer: if a hypothetical Tmb had been discovered, a number of “unintuitive-consequences” would have emerged from it. These consequences would interfere with the actual developing of Tmb. The paper discusses these ideas and arguments and finally suggests that it would be beneficial to conceive of consciousness as an explanatory concept, which yet has not been explained.

Key words: mind-body theory, consciousness, scientific methodology

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**Introduction**

Philosophers and researchers made continues attempts to develop a theory of mind-body (Tmb), which is based on a connection between consciousness and activity of the neurophysiological processes in the brain, attempts that yet have not been successful (for reviews see Rakover, 2018, 2021a). Rakover (2018, pp. 126-127) have listed several philosophers and researchers who proposed that the mind-body problem have not yet been solved, and that the question how could the brain give rise to consciousness has not been successfully theorized. It should be noted here that when one talks about Tmb, s/he is not talking about a correlation between two variables, conscious experiences and activity of neurophysiological process in the brain, but on a particular mechanism that bring about consciousness or that some of the mechanism’s attributes are consciousness. One reason for the methodological claim that a correlation between two variables (in the present case, consciousness and brain activity) cannot function as an appropriate explanation for consciousness is that a correlation itself is no more than a phenomenon that needs a theoretical explication – it is an empirical observation to be explained. Such an explanation, for example, may be based on a mechanism that describes how one variable (brain activity) gives rise to, causally affects the other variable (consciousness) (e.g., Neal & Liebert, 1986; Rakover, 1990).

The modern starting point of the mind-body problem (known also as the consciousness-brain problem) is in the seventeen century and it has been raised by the French philosopher Rene Descartes (see Hatfield, 2018). Because about 370 years have passed since Descartes' days without the body-mind problem being solved, the following “annoying-question” begins to capture attention: how can one explain the very fact that despite the great efforts in developing Tmb, success yet has not been reached? This issue is the paper’s main concern. Several answers may be proposed. I will start with McGinn’s (1989) proposal and then suggests other three.

McGinn first suggested that “We have been trying for a long time to solve the mind-body problem. It has stubbornly resisted our best efforts. The mystery persists. I think the time has come to admit candidly that we cannot resolve the mystery.” (p. 349). And then he attempted to answer the annoying-question by arguing that a human’s cognitive system is not fitted to solve the mind-body problem, to develop the Tmb. In a way similar to the fact that one cannot perceive the whole range of the electromagnetic spectrum, it is possible to suggest that human cognitive capacity is innately limited and cannot grasp the complex relation between the neurophysiological activity of the brain and consciousness. McGinn (1989) writes: “It is just that, in the case of the mind-body problem, the bit of reality that systematically eludes our cognitive grasp is an aspect of our nature.” (p. 366). He continues and writes: “I have argued that we cannot know which property of the brain accounts for consciousness, and so we find the mind-brain link unintelligible.” (p. 359). Observations about the brain will not lead one to reveal consciousness, and introspecting conscious experiences will not bring one closer to the relevant brain activity. Physical phenomena are explained by purely physical explanations without any involvement of conscious states such as will, belief, intention and emotion.

McGinn’s approach, which has been called “mysterianism”, was subjected to criticisms that I will not discuss here (see e.g., Flanagan, 1922; Rowlands, 2007).

 As mentioned above, the paper’s main concern is in the attempt to answer the annoying-question (why Tmb has not been discovered yet). In addition to McGinn’s proposal, which is based on the suggestion that human mind is simply not equipped to solve the mind-body problem, I will propose three additional possible answers, and will concentrate mainly on the last one.

*The first additional possible answer*: one may propose that Tmb has not been developed not because of the limitation of human cognitive capacity as McGinn (1989) suggested, but because of the limitation of the scientific methodology. Why? Because this methodology has been developed for research in physical and biological phenomena (the sciences) it may be proposed that this methodology is not appropriate for investigation of the phenomena of consciousness. It should be noted that this argument is not new, as the doubt about the misfit of the natural science’s methodology to research human’s mentality has a long history. For example, at the end of the nineteenth century, German philosophers and researchers (such as Wilhelm Dilthey, Max Weber) posited a distinction between (a) the explanation (erklaren) of the natural world, research in the natural sciences, and (b) the meaningful understanding (verstehen) of the human world, research in the humanities and social sciences (see discussions in Grimm, 2016, 2019; Rakover, 1990, 2018, 2021b). Although this distinction is no longer accepted, most scholars consider that applying directly the research methodologies developed in the natural sciences to human research is difficult to do. This difficulty stems from the fundamental concept of consciousness (see, for example, Grimm, 2016; Rakover, 2018).

*The second additional possible answer*: one may propose that Tmb has not been developed not because of McGinn’s (1989) suggestion, but because there is certain hypothetical undiscovered Hidden Energy, which constitutes consciousness, and which has certain interactive processes with the brain activity. The main justifications for this speculation are two: the very fact that so far Tmb has not been discovered, and the analogy to the invention of two hypothetical terms in astrophysics, which were created in order to account for certain incomprehensible cosmological observations. The first hypothetical term is the unobservable Dark Matter that handles the phenomenon of missing mass: there is a big discrepancy between certain theoretical gravitational computation and the total visible mass in space; the second hypothetical term is the unobservable Dark Energy that handles the big discrepancy between the theoretical computation of the cosmos expansion and the observations that the universe’s expansion is accelerating. In a way similar to these two hypothetical concepts, which were designed to close the gap between theory and observation, the Hidden Energy hypothetical concept is planned to close the gap between brain activity and consciousness.

**The third additional possible answer: ramifications from a hypothetical mind-body theory**

One may propose that Tmb has not been developed not because of McGinn’s (1989) suggestion, but because of the following hypothetical situation: if a Hypothetical Tmb (HTmb) will be discovered, several unreasonable and strange ramifications, which I call “unintuitive-consequences”, will emerge. These unintuitive-consequences are, in one way or another, obstacles placed in the route for developing of a real Tmb. This possible answer will be elaborated as follows: I will first handle the methodological framework of developing HTmb and then discuss the unintuitive-consequences.

*Developing HTmb*: Let us assume that within the accepted methodology of psychology (which was largely imported from the sciences, e.g., Rakover, 1990) it is possible to develop a theory of a human consciousness, a theory that connects consciousness to brain activity. Such a hypothetical mind-body theory (HTmb) may be expressed by the following general schematic equation:

*HTmb: Consciousness (C) = f(Brain’s Neurophysiological Activity (BNA)).*

Given this equation two questions arise: what f represents? and how one measures its variables? As for the former question, the answer is that f represents a certain hypothetical function that connects C to BNA. As for the later question, one has to deal with the measurement of two variables: the BNA can be measured by the conventional units that are used in the sciences, such as differences in the voltage, intensity of the electric current, or certain chemical reactions in the brain. For the sake of simplicity, I will refer to the units of these measurements by the general term “Conventional Units” (CU).

As for the measurement of consciousness, the answer is complex. It seems that till now it is unknown how to measure directly conscious experiences of a human being. While there is no problem in measuring one’s response (motor, verbal) to a given stimulus, no one knows how to measure objectively conscious experiences. For example, Rakover (2020) argued that it makes completely no sense to say that Jacob loved Rachel 7.5 MUlove more than he loved Leah (MUlove means observable measurement units of love). However, since we assume hypothetically that C = f(BNA), one may propose that consciousness is measured by CU.

Since (a) currently, there is no method for measuring consciousness in a way similar to measurements curried out in physics and chemistry, (b) the methodological framework, within which the above equation, HTmb,­has been hypothetically discovered, was developed in the sciences, and (c) the equation C = f(BNA) has to fulfill the requirement for “unit-equivalency” (see below), then one may infer that consciousness is measured by using the CU. Put this in other words, given C = f(BNA), consciousness has to be expressed through employing the CU.

Note that (c) the requirement for unit-equivalency is based on the well-known dimensional analysis. According to this requirement, the combination of measurement units on one side of any equation expressing a law or a theory must be the same as the combination of measurement units on the other side of the equation (see Rakover 2002, 2018). This means that the units of measurement of consciousness are CU, since these are the units of measurement of BNA. For example, if BNA is measured by milli-amp (the measure of electrical current intensity), then consciousness has to be expressed also by milli-amp. (Given the methodological framework of the sciences, even if consciousness is measured by another CU (not by milli-amp), it has to be multiplied by a certain constant so that the multiplication will result in milli-amp – a result that fulfills the unit-equivalency requirement.)

In view of the above, one may conclude that consciousness is measured as in the natural sciences, by observable, objective and conventional units of measurement (CU)! This will include also meaning and understanding, since consciousness is considered a necessary condition for these two mental properties: there are no understanding and meaning without the person being in a state of consciousness (e.g., Rakover, 2018, 2021b). Furthermore, given the above, it is reasonably to propose that a whole technology based on HTmb will be developed, which will result in an “overt-situation”, wherein the inner-world (sensations, feelings, thoughts intentions etc.) of any person will be wide open to everyone.

The HTmb and the overt-situation lead to several unintuitive-consequences, which I shall now briefly discuss.

(a) *Loss of individuality*: one may propose that in the overt-situation, the privacy, individuality and subjectivity of each person are lost. This condition may lead to one of the following two extreme possibilities. First, the horrifying possibility refers to the fear of one’s own thoughts and intentions, since all his/her beneficial or malicious secret thoughts are publically exposed. This may result in avoidance of thinking and planning – a destructive condition for cultural progress.

Second, the process of adaptation may reduce the fear of the overt-situation and loss of individuality, and as a result people will somewhat adjust to it. This may decrease the importance of the inner-world, simply because it transforms into the external-world – it becomes the domain of the public and not of the individual. As a consequence, there will be a reduction in the tendency to rely on the inner-world (publically wide open) for generating new creative ideas and inventions.

It seems that in both cases there will be a big reduction in cultural development because the loss of individuality will increase the avoidance from the inner-world and the decrease in its importance. Thus, one may propose that a hidden private inner-world is a necessary condition for the development of a prosperous culture. And since the inner-world disappears cultural progress will decline.

(b) *Universal objective meaning*: The approach prior to the development of HTmb was that humans ascribe meaning to an indifferent world (e.g., see Rakover, 2021a). The HTmb raises the possibility that everything in the world would have an objective meaning measured by CU, which is attributed through the system of transformational laws. Does this indicate that the meaning of any phenomenon in the universe is objective and independent of human assessment? According to HTmb and its theoretical and technological developments the answer is affirmative: a wonderful world filled with meanings as any other natural and objective features.

(c) *Loss of dimensionality*: the above condition may lead to the tendency to mixing things that belong to different dimensions, to different categories. It is possible that the meaning of things with completely different qualities will be attributed the same level of importance since they have the same CU. Accordingly, for example, one may suggest that since Smith’s love to his wife Anna is 20CU and his decision to buy a second hand car is 20CU, his love to Anna equals his Love to the used car.

(d) *Tmb falsification*: suppose that in Mrs. Anderson loves Renaissance art and her admiration to the painting by Leonardo’s, the Mona Lisa, is 57.13CU. Since these units are standard, they can be translated by using a series of well-known transformational formulas, and be compared to the measurements of other physical objects. It so happened that in a certain artist-village near Beijing there is a modern sculpture that its value is 57.13CU. This situation raises one crucial problem: will indeed Mrs. Anderson’s admiration to the modern sculpture be 57.13CU? To answer, we flied Mrs. Anderson to China and showed her the modern sculpture, she wrinkled her nose and say, “This is really ugly!” Thus, the prediction that arise from HTmb that Mrs. Anderson would like the modern sculpture 57.13CU is not confirmed byobservation! While this theory predicts that Mrs. Solomon will *like* the modern sculpture strongly, the observation reveals that she *dislikes* it strongly. Thus, HTmb is refuted.

(e) *A conscious robot*: Suppose that one constructs a robot, Roby the robot, in such a way that Roby has public experiences similar to those of Mrs. Anderson: Roby the robot’s admiration of the painting of Leonardo’s Mona Lisa painting is 57.13CU and as Mrs. Anderson it/he dislikes strongly the modern sculpture in the artist-village. Since the inner-world is measured by CU, one may argue that Roby’s inner-world is similar to that of Mrs. Anderson. That is, if she has consciousness (measured by CU) then Roby the robot also has this attribute (measured by CU).

It is interesting to note here that a similar conclusion has been reached by the creators of the Integrated Information Theory (IIT) of consciousness (e.g., Tononi, 2015; Tononi, Boly, Massimini & Koch, 2016; for review see Fallon 2019). Since according to IIT consciousness is founded on the neurophysiology of the brain, one may propose that consciousness can be measured by means of standard scientific units and also propose that it is possible to construct a mechanical system that meets all the requirements of the IIT – a device that has consciousness. This possibility negates intuition and common sense. However, the response of Tononi, Boly, Massimini, and Koch (2016) to that proposal is very interesting: they are willing to accept that possibility: “Intriguingly, IIT allows for certain simple systems, such as grid-like architectures, similar to topographically organized areas in the human posterior cortex, to be highly conscious even when not engaging in any intelligent behavior. (p. 460).

(f) *A malicious use*: Given the technology developed on the basis of HTmb, it is not hard to imagine, for example, the following malicious scenario: a dictator will order to develop certain pills that will increase or decrease consciousness, meaning, and understanding. This dictator could force his citizen to take one pill each day to increase his importance in their eyes, and a second pill to enhance their stupidity so that their understanding of his intentions will decrease (although they are wide open). Furthermore, with similar pills, it would be possible to develop a small number of geniuses specifically designed to fulfill the dictator’s goals, while the majority of his/her subjects would be required to do all the hard work for disgracefully low wages.

**Discussion**

What I have described above is sufficient to raise the conjecture that the HTmb raises a host of problems that interferes with realizing the aim of the scientific research to discover Tmb [the equation C = f(BPA)], i.e., a theory of the consciousness-brain connection. How can we respond to these unintuitive-consequences that emerge from HTmb? Here are some options.

 First, researchers may tend to look for flaws in the logic of the unintuitive-consequences presented here. If such flaws are found, the goal of developing HTmb will be encouraged.

Second, if no flaws are found to discount these strange consequences, scholars may respond by suggesting that these ramifications are essentially empirical and therefore are not compelling as logical proofs. That is, these unintuitive-consequences arerelated to the observational world, which are hard to predict and contain endless fascinating surprises. Thus, it can be argued that the status of these consequences are not equivalent to mathematical or geometrical proofs, such as in Euclidean geometry, whereby the sum of the angles in a triangle has to be equal to 180 degrees. It would be baffling for a researcher to make a supreme effort to show empiricallythat there is in the Euclidean geometry a particular triangle that its sum of angles is less than 180 degrees (of course, in non-Euclidean geometry, such a triangle exists). That is, HTmb is not similar to a law in the Euclidean geometry. Therefore, the following strategy can be proposed: it would make sense to devote a great effort to discover the mechanism that links the neurophysiology of the brain with consciousness. Given a success, we may later worry about the unintuitive-consequences that were raised above, and any others that may emerge.

Third, researchers may suggest that research on the relationship between the neurophysiology of the brain and consciousness has reached a dead end, and that it is time to look for entirely differentways to explain consciousness – perhaps through discovering the Hidden Energy suggested above.

In view of these, I propose that it may be useful to methodologically conceive of consciousness as a basic explanatory factor of behavior. This approach stands in contradiction to Kim’s (2002) view who suggests that conscious experience is epiphenomenon. I propose a reverse-epiphenomenalism approach, namely that consciousness has an effect on behavior and it should be regarded as an explanatory concept, precisely because a satisfactory explanation for it yet has not been found. That is, yet Tmb has not been discovered – no theory that explains consciousness on the basis of the neurophysiology of the brain has yet been developed.

Given the above the following suggestion is warranted: Let us consider consciousness as an essential theoretical explanatory concept that cannot be explained by more basic concepts. This proposal requires the following clarifications. First, I do not suggest here (unlike the previous suggestion about the Hidden Energy) that because there has been no explanation for the problem of consciousness it is reasonable to assume that consciousness may be considered an entirely novel force in nature. Such an assumption would create enormous confusion in the conventional infrastructure of mechanistic explanations (e.g., conservation laws probably will have to be changed) (for similar arguments see Carroll 2016).

Second, I do not claim that consciousness is completely independent of physical brain processes. Rather, I emphasize that no theory has yet been found that explains the relationship between these two. I only propose that consciousness is an explanatory but unexplained concept. That is, it is an important explanatory theoretical concept.

In view of these, I suggest that the fundamental qualities of consciousness are as follows:

1. Consciousness exists, to varying degrees, in every individual;

2. Only the individual himself/herself is consciously aware of the

content of the various representations appearing in his or her own mind;

3. Without consciousness, humans would function purely on a

physiological level and would be considered to be in a state similar

to that of a plant, or a sort of philosophical zombie (an imaginary

creature who acts as a human being but is devoid of all

consciousness);

4. Consciousness affects one’s behavioral functioning;

5. Consciousness is influenced by physical events, for

example, sensory stimuli such as light and sound elicit in the

individual conscious feelings typically related to these stimuli

(sight and hearing);

6. Consciousness is dependent on the normal functioning of the

brain;

7. Consciousness is a necessary condition for meaning and

understanding.

 **References**

Hatfield, G. (2018). René Descartes. In E. N. Zalta (ed.),  The Stanford

Encyclopedia of Philosophy, URL = <https://plato.stanford.edu/archives/sum2018/entries/descartes/>.

Neale, J. M. & M. Liebert, R. M. (1986). *Science and behavior: an*

*introduction to methods of research.* Englewood Cliffs, N.J. : Prentice-

Fallon, F. (2019). Integrated Information Theory of Consciousness. *The*

*Internet Encyclopedia of Philosophy.* http://iep.utm.edu

Tononi, G. (2015). Integrated Information Theory. *Scholarpedia*, 10 (1):

4164.

Tononi, G., Boly, M., Massimini, M. and Koch, C. 2016. Integrated

Information Theory: From Consciousness to its Physical Substrate. *Nature Reviews Neuroscience*, 17, 450–461.

Rakover, Sam S. (2002). Scientific rules of the game and the mind/body:

A critique based on the theory of measurement. *Journal of Consciousness Studies*, 9, 52-58.

Rakover, Sam S. (2018). *How to explain behavior: A critical review and*

*new approach*. Lanham: Lexington Books.

Rakover, S. S. (2021a). *Understanding human conduct: The innate and*

*acquired meaning of life.* Lanham: Lexington Books.

Rakover, S. S. (1990). *Metapsychology: Missing links in behavior, mind*

*and science*. New York: Paragon/Solomon.

McGinn, C. (1989). Can we solve the mind-body problem? *Mind*, 98,

349-366.

Flanagan, O. (1992). *Consciousness reconsidered*. Cambridge, MA: The

MIT press.

Rowlands, M. (2007). Mysterianism. In Velmans, M. & Schnieder, S.

(Eds.) *The Blackwell Companion to Consciousness.* (Pp. 335-345). Malden, MA.: Blackwell Publishing.

Grimm, S. R. (2016). How understanding people differs from

understanding the natural world. *Philosophical Issues*, 26(1), 209-25.

Grimm, S. R. (2019). Understanding as an intellectual virtue. In Battaly,

H. (Ed.) *Routledge companion to virtue epistemology*. New York: Routledge.

 Rakover, S. S. (2020). Why has the field of psychology not developed

like the natural sciences? *The Journal of Mind and Behavior*, 41, 247-266.

Rakover, S. S. (2021b). The two factor theory of understanding (TFTU):

Consciousness and procedures. *The Journal of Mind and Behavior*, 42, 347-370.

Kim, J. (2002). Precis of mind in a physical world. *Philosophy and*

 *Phenomenological Research*, 65, 640-643.

Carroll, S. M. (2016). *The big picture: on the origins of life, meaning,*

*and the universe itself*. London: Oneworld Publications.