Article
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Is There an I_3?
A Search Focusing Question for Consciousness Exploration and Research

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ABSTRACT

A voyage of exploration requires a question to focus the search. Such a question is proposed for consciousness exploration and research. Is there an I_3? The author's notation for subscripting pronouns by reality type is first explained and then used to diagnose the situation in which contemporary consciousness research finds itself and to pose the search-focusing question for Consciousness Exploration and Research as a means for moving on from here.

Key Words: consciousness, exploration, question

1. The Search-Focusing Question[1]

A voyage of exploration and discovery can begin with a simple search-focusing question. Is there a shorter way to China? What's beyond that ridge? What am I?

As a search-focusing question for the next generation of researchers and explorers, I propose:

Is There an I_3?

To make the case for adopting this search-focusing question, I will first clarify the rationale for subscripting the first person singular pronoun, I. Then I will present the case for revisioning the science of consciousness so that it may genuinely engage the question, is there an I_3.

2. Why Subscripted Pronouns?

The rationale for subscripting the first person singular pronoun, I, is simply that 'consciousness' – the very term that defines this field of inquiry – is a hopelessly ambiguous term.

2.1 Consciousness is What I Am

There are those who assume that consciousness (used as a synonym for 'mind') is just the brain. Others assume that consciousness (used as a synonym for 'phenomenal awareness') while not identical to the brain, is just an experience somehow produced by the brain – merely phenomenology. Still others view consciousness (used as a synonym for an immaterial mind, self or soul) as a thing-like entity that is more than just a phenomenon – more than just the experience of awareness.[2]

It would seem that, while most would agree that consciousness is real *in some sense*, there is persistent disagreement as to its *reality type*.

What do I mean by 'reality type'? simply this: if what is is real (in some sense); then, a reality *type* is a name for the *way* that some thing (allegedly) is. For convenience, I name three reality types and number them as follows.

1. existential (anything physical – mass/energy and/or spacetime, an existent);
2. phenomenological (experiential); and
3. ontological (anything that is non-physical but not merely phenomenological, a being)

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[2] There is also the use of 'conscious' in phrases like 'conscious experience' or 'conscious awareness' to mean a particular *state* of awareness, either reflexive awareness (e.g. awareness of seeing ... whatever) or reflexive self-awareness (e.g. awareness of that which is seeing ... whatever). Consciousness could then be defined as an instance of phenomenal awareness in such a state of awareness.

For each reality type there is a use of 'consciousness' that assumes a referent of that reality type; but, while we could subscript 'consciousness' to indicate the reality type of its referent (as used by a given speaker); but, that would only tell us how the word is used. It wouldn't tell us which definition is correct.

Translating from the third-person to a first-person perspective clarifies the problem enough to transform it.

Let us define pronouns I_1, I_2 and I_3 to function syntactically as does the type-ambiguous 'I' of vernacular English while also conveying the user's self-asserted reality type.

Which of these pronouns could plausibly be used to claim that its referent is a consciousness?

Could a group of neurons assert, "I_1 am an instance of consciousness"? It seems unlikely – even if those neurons were known to be the neural correlates of consciousness. Similarly, I really can't imagine a quantum microtubular computation having the capacity to use self-referential pronouns – even if that computation *is* the NCC.

Could some immaterial entity such as a soul assert, "I_3 am an instance of consciousness"? It is hard to answer this question. We don't yet know that there are any such entities; and, we don't know what their powers would be, if there were any.

Could an instance of phenomenal awareness assert, "I_2 am an instance of consciousness"? Posed this way, the question answers itself in the affirmative. Indeed, given the use of 'consciousness' as that which is consciously aware, the claim "I_2 am an instance of consciousness" is performatively self-verifying.

A general discussion of performative arguments is beyond the scope of this paper; and, the reader is referred to Bardon (2005) and Hintikka (1968).

In any case, the conclusion just reached is (but for the subscripts, of course) identical to that reached by Deikman (1996): "Thus, if we proceed phenomenologically, we find that the 'I' is identical to awareness: 'I' = awareness".

2.2 The Problem Transformed

Given that I_2 experience, it is necessarily true that I_2 am. Upon further reflection, I_2 will claim that I_2 am *this* experiencing I_2; but, I_2 must admit still not knowing the *origin* of experiencing *as* an experiencing I_2.

From the perspective in which properties are attributed to *meta-phenomenal* objects[3] to explain phenomena, the problem is that I_2 know that I_2 am without knowing whether I_2 am a phenomenon that is generated by:

1. an I_1 alone;
2. an I_3 alone; or,
3. an I_1 and an I_3 working together.

How do I learn w*hich* meta-phenomenal entity or entities are responsible for generating the phenomenon of experiencing as an experiencing I_2?

Descartes tried to answer that question by purely rational means; but, he quickly lapsed into an intractable circularity beginning with the Third Meditation. He relied on the natural light to validate the deduction that there is a God; but, the veracity of the natural light in turn depended on God.

Clearly, we have no alternative but to proceed by scientific means.

3. The Science of Consciousness

Given that I_2 have elected to proceed scientifically, I_2 am faced with a problem: two of the three types of explanations listed in the previous section assume the possibility that there is an I_3 involved in the generation of the experiencing I_2 – a possibility denied by contemporary neuroscience on a priori grounds.

Consequently, I_2 will briefly critique the a priori rejection of the possibility of an I_3 by the currently dominant physicalist paradigm of research into consciousness. I_2 will then present the case for revisioning the science of consciousness so that it may genuinely engage the question, is there an I_3.

[3] An entity of reality type 1 or reality type 3 is called meta-phenomenal; meaning, that such entities are real independently of an individual's experience of them.

3.1 The Critique of Physicalism

It is said that there are two types of problems in consciousness research: the easy problems, *the* so-called hard problem.

The hard problem is explaining how experience happens. Given that there is experiencing as an experiencing I_2, identifying the neural correlate of a particular quale of experience is an easy problem.

For example, given that there is subjective experience, an experience of an afterimage is easily explained. A retina that is 'fatigued' (by staring at the stimulus object) sends inaccurate signals to the brain which then produces (in some unknown way) the color quale that corresponds to the signal rather than to the actual object being perceived.

This tells us where it happens but not how it happens that experience is generated.

Given the a priori assumption that there is only one type of meta-phenomenal object, physical objects; and, given the perspective alluded to earlier, in which properties are attributed to meta-phenomenal objects in order to explain phenomena; it follows that measurable neural phenomena cause the experienceable phenomena with which they are correlated.

This conversion of correlation into causation might not do significant harm to consciousness research provided that we're only talking about experiences as simple as afterimages. It is extremely difficult to believe the claim that a brain pronounced dead by skilled physicians somehow causes the Near-Death Experiences so frequently reported.

It gets worse once one turns the attention to the hard problem. Now the assumption that the neural correlate *causes* its phenomenal correlate provides illusory creates the a priori assumption that there is no I_3 involved in generating experience itself.

In any case the claim that a neural event causes a particular experience creates a logical paradox for monistic physicalism. A cause can not be identical to its own effect; otherwise, nothing would ever happen. To put it another way, if a neural event causes an experienceable phenomenon; then, the neural event has a property the experience doesn't have (being about to cause that experience). Consequently, by the Law of Indiscernibility of Identicals, the measurable, neural phenomenon can not be identical to the experienceable phenomenon.

Hence, the logical paradox at the heart of physicalism is that one must either suppress awareness of subjective experience; or, one must admit to some form of dualism. Is it enough to admit to recognizing two types of phenomena, measurable and experienceable?

No. Even in the relatively simple case of an afterimage it is apparent that there are two sets of properties that physical objects can have. They can have the property of creating only measurable phenomena; or, they can have the property of causing experienceable phenomena (either in addition to or instead of causing measurable phenomena).

That's property dualism.

And there is still no explanation for how experience actually happens – only where it happens.

Perhaps, it is time to consider the possibility that there is an I_3 involved in the generation of experiencing as an experiencing I_2.

Arguably, our situation is similar to that faced by Bouvard, the French astronomer who postulated the existence of a then unknown planet to explain irregularities in the orbit of Uranus. (O'Connor and Robertson, 1996)

The willingness to consider this possibility may invite allegations of substance dualism; so, let us face up to the hard solution to the hard problem of consciousness research: the physicalist account of consciousness can't possibly be true unless von Neumann is wrong about quantum mechanics.

3.2 von Neumann on QM

In 1932, John von Neumann published *Mathematical Foundations of Quantum Mechanics* in which he axomized the mathematical formalism of QM. He took the time to reject one of the 'features' of the Copenhagen Interpretation advocated by Bohr, the ad hoc division of physical reality into a quantum world and a classical world.

von Neumann showed that this division was unnecessary; one could have "a unified way of looking at the physical world on a quantum mechanical basis" (Foundations. p. 352). It was an all-quantum theory.

There was, however, a price to be paid for eliminating Bohr's ad hoc dualism. If the entire body and brain of the experimenter was subject to the Schrodinger equation, something else, something "outside the calculation" was needed to explain the collapse of the wave function. von Neumann postulated that this was the experimenter's abstraktes 'Ich' – the abstract 'I'.

In discussions of the relation between QM and consciousness, the phrase 'abstract I' is usually replaced by the word 'consciousness'. Obviously, we can't now review the linguistic history of the word 'consciousness' and then draw a valid conclusion as to what the math means; so, let us assume that we must try to understand von Neumann before evaluating arguments for or against the von Neumann Interpretation of QM.

Is the abstract 'I' an I_1, an I_2 or an I_3?

We can rule out the I_1 right away. The point of von Neumann's analysis of the measurement problem is that something non-physical is required to collapse the wave function from a superposition of all possible values of the property being measured to the single definite value actually observed.

Could the abstract 'I' be an I_2? Well, is the I_2 causally effective in interactions with physical realities? I've not done a systematic survey; but, it seems to me that physicalists deny that the I_2 (e.g. phenomenal awareness and similar constructs) is causally effective in any way. The basis for this conclusion is that the alternative would violate the so-called 'causal closure' of the physical; precisely would be required to have a physical effect – collapsing the wave function.

Can anyone imagine how the self, Dennett's narrative center of gravity, could be anything other than epiphenomenal? I can't.

Thus, it seems likely that 'abstract I' as intended by von Neumann is an entity of reality type 3, an I_3.

This conclusion is supported by evidence that physicists who have chosen to commented on the von Neumann Interpretation of QM or who have developed their own versions of the von Neumann Interpretation seem to have come to the same conclusion.

Nick Herbert (1993 p. 172) is the most direct:

"In the von Neumann interpretation of quantum theory ... consciousness is a process lying outside the laws that govern the material world. It is just this immunity from the quantum rules that allows mind to turn possibility into actuality. Because quantum-based minds are inevitably different in substance from the matter they control, theories of such minds are bound to be dualistic."

Henry P Stapp is more circumspect than Herbert. In his *Mindful Universe* (2007. p81) he writes:

"Contemporary physical theory allows, and its orthodox von Neumann form entails, an interactive dualism that is fully in accord with all the laws of physics."

Stapp also reports on various email-list discussions concerning his theory, including one in which the present author asked whether quantum interactive dualism was a Cartesian-style (substance) dualism or a Chalmers-style (property) dualism. Stapp declined to link his views to traditional philosophical terminology; leaving that for the reader.

Nevertheless, Stapp's emphasis on the causal efficacy of conscious choices strongly suggests that, for him, consciousness is not an I_2 and that his dualism is not property dualism; particularly, since Chalmers (1996. p. 150 et. seq.) himself indicates that property dualism tends toward epiphenomenalism.

3.3 The Evidence for the I_3

What is needed now is empirical evidence to support the essential idea within the von Neumann Interpretation of QM: that there is a subjective reduction of the wave packet.

Researchers have begun to look for a subjective reduction signal ("SRS"), some signal evident within a subject experience that occurs at a time when quantum theory indicates that a collapse of the wave function should be taking place. At this point, the results have been mixed.

Nunn et al. (1994) took EEG readings of subjects who were asked to perform simple tasks. They reasoned that taking an EEG would count as a measurement and would collapse the

wave function of a quantum state in the subject's brain. This, the researchers theorized, to improve the subject's performance on observation related tasks.

Nunn and co-researchers report that subjects made fewer mistakes while the EEG was recording that when it was not, a result which could not be explained by any non-quantum theory known to them.

Bierman (2003) compared the Auditory Evoked Potential of subjects who were observing a previously observed and those who were observing a previously unobserved (and, hence, presumably uncollapsed) quantum state. Significant differences were found. However, Bierman and Whitmarsh (2006) reported failing to replicate the earlier results with an improved apparatus.

It would seem that, if there is a signal indicating that a subjective reduction has occurred, we don't yet know how to reliably elicit it. Nevertheless, the results to date indicate that further research is clearly warranted.

5. Conclusion

A genuine science of consciousness must investigate the possibility that there is an I_3 somehow associated with or a part of the human individual. Such a science is only now being constructed by researchers and explorers.

Let's see what's out there.

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