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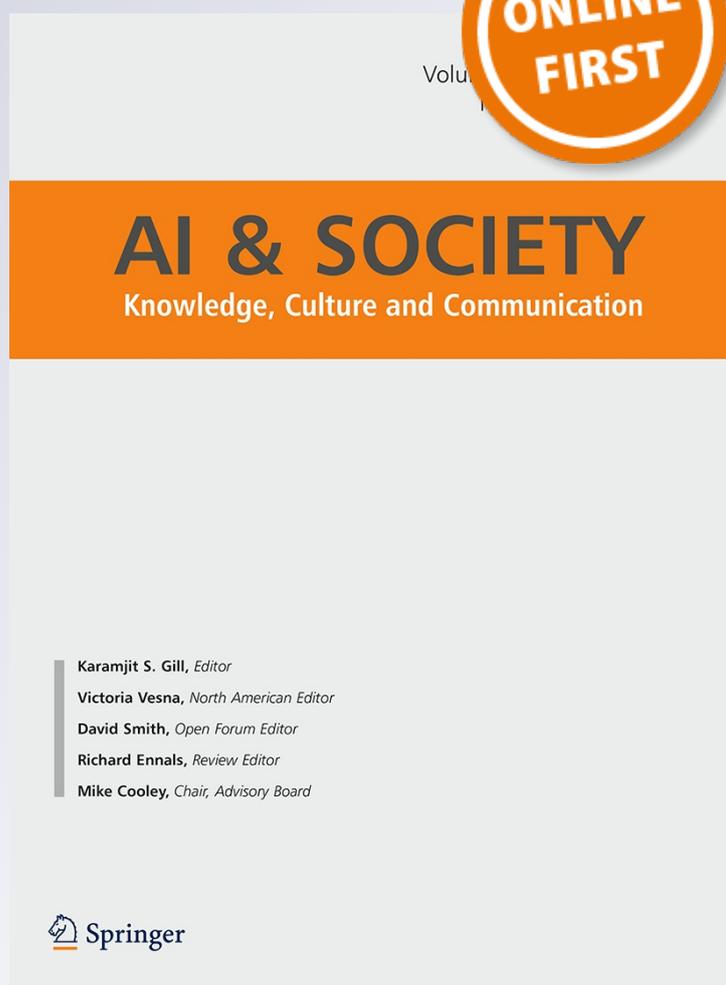
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Revisiting the self: a *sine qua non* for understanding embodiment

V. Hari Narayanan

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Abstract A major stumbling block in understanding the full significance of embodiment is the reflexive self-conception characterised by free-floating nature. The paper, in the initial sections, looks into the sensory motor approach to phenomenal consciousness and the approach to the study of vision where the world is treated as an external memory. Subsequently, the paper argues that the difficulty in exploring the sensory motor approach to phenomenal consciousness stems from the free-floating self-conception humans is endowed with. The assumption that experiences are internal can make us closed to the role external factors play in constituting experience. Accordingly, a revision in the self-conception carries the possibility of conceptualising experience in a different manner.

Keywords Embodiment · Consciousness · Sensory motor approach · Self · Mindfulness

1 Introduction

Though embodiment has become a serious topic in cognitive science for more than a decade, efforts are due to unravel its full implications that can give rise to a comprehensive understanding of the terms like mind and self. The primary difficulty in moving in this direction stems from the fact that the word embodiment is used in many senses (Wilson 2002). But a common theme can be delineated among these different usages which centre around the interpretation given by Wilson and Golonka (2013). According to them, embodiment primarily means

that brain is not the sole cognitive resource we have to solve our problems. That is to say, various non-neural and non-bodily factors play a significant role in carrying out the cognitive task at hand. Though it is possible to distinguish embodied cognition from embedded cognition and extended cognition, the present paper uses the word ‘embodied cognition’ to cover relevant aspects of embeddedness as well as situatedness. As Robbins and Aydede (2009) observe, situated cognition can be understood as the genus, whereas embodiment and embeddedness are the species. Hence, a general claim made about situatedness can be applied, *mutatis mutandis*, to embodiment as well.

And what is meant by situatedness is the following: cognition is a property of extended systems, that is, systems that go beyond the boundaries of the skin and the skull. That is to say, extra organismic factors have to be treated as mereological parts of cognitive systems. Cognitive extension is the hallmark of the situated cognition thesis, and this is a substantive point rather than a verbal one. This is because, it challenges what is called methodological solipsism—the claim that the world outside the individual can be bracketted off in characterising and individuating cognitive states (Fodor 1983). This is called the sandwich model of cognition (Hurley 1998) where cognition proper is treated as sandwiched between input and output.

Though the structure of real life online cognitive activity in the world abundantly exhibits cognitive extension (Wilson and Clark *ibid*), this claim appears intuitively implausible. This can be understood as constituting the Orwell’s Problem in Cognitive Science (Narayanan 2013). The arbitrariness of the skin or the skull in fixing the boundaries of cognitive systems (Wilson and Clark 2009) stems from folk psychological self-conception, wherein ‘I am doing’ is the basis on which things are understood. This is the central contention of this paper.

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The extended mind hypothesis is well known for raising interesting issues concerning the ontology of the mind and the self (Clark and Chalmers 1998). Until recently, the domain of consciousness was not generally seen as tractable within the domain of embodied cognitive science, but some studies have opened up this direction too with far reaching consequences. This paper looks into sensory motor approach to explain phenomenal consciousness and argues that the difficulty in accepting the possibility of such an explanation stems from the reflexive self-conception humans are endowed with.

2 Phenomenal consciousness

The problem of consciousness, long recognised as the holy grail of the cognitive sciences, is chiefly concerned with how experience can arise out of physical processes (Chalmers 1996). That is to say, there is a significant difference between what neuroimaging shows as brain activity and the way brain processes appear to the person in terms of experience. This gap is known as the explanatory gap and this gives rise to the hard problem of consciousness. The hard problem, in contrast with the soft problem of consciousness, deals with what it is like to be in a particular state of experience (Nagel 1974). The hardness lies in the fact that to know what it is to experience something, there is no way but to be in that state. That is to say, no amount of external data on the brain states or any other physical state of that person can ever tantamount to knowing what it is to be in that state by being in that state.

There have been two major strands in the scientific attempts to explain consciousness which may be called the biological and the quantum mechanical. First one is primarily in terms of neuroscience. This kind of explanation proceeds in the direction of finding out the minimal neural correlates of consciousness (Koch 2012). The assumption here is that there is a set of neuronal activity the activation of which is necessary and sufficient for consciousness to occur. For instance, one suggestion is that the neuronal basis of phenomenal consciousness lies in the lower layers of the primary sensory areas. Another suggestion is look into the synchrony in oscillations as the biological basis of consciousness. The quantum mechanical approach, on the other hand, proceeds with the assumption that neuronal level is not appropriate for explaining consciousness. One major research trend in this approach is to find out the basis of consciousness in brain microtubules (Hameroff and Penrose 1996).

It is difficult, at this period, to tell anything definite about the viability of any these research programmes. But the possibility that such inquiries may reach a dead end if the initial assumptions are wrong cannot be ignored. This

makes it pertinent to examine an approach radically different in its starting point.

3 Sensory motor explanation of consciousness

If situatedness is accepted as the framework to study cognition, then there are ample reasons to include consciousness too in its ken. Even if pure consciousness, bereft of any cognitive activity, is a logical possibility, as far as day-to-day life is concerned, cognition and consciousness are to be understood as closely linked. This gives the initial justification for extending situated approach to the explanation of consciousness.

As far as the study of consciousness is concerned, there are mainly two phenomena that can be treated as paradigmatic cases of consciousness. First is visual consciousness and the other is dreaming. As far as situated approach to consciousness is concerned, the target is obviously visual consciousness.

Let us consider O'Regan's (2011) attempt to explain visual consciousness in terms of sensory motor activity.

That the human visual apparatus suffers from many defects is widely acknowledged. First of all, the photo-sensitive layer does not directly face the incoming light. Secondly, the presence of blind spot, poor peripheral colour vision, etc., add to the poor 'design' of the eyes and subsequent distorted and partial information that the eyes can provide. But these defects notwithstanding, the visual experience appears to be quite perfect (O'Regan 1992).

Though visual experience appears perfect, there are some phenomena such as inattentive blindness and change blindness that make it clear that we do not normally see all that can be seen. The former is easy to notice—but often unnoticed—phenomenon of missing much in our visual range. That is, there are several things that we can see if we pay attention to it, but we miss seeing them due to lack of attention and limited short term memory capacity.

Change blindness is observed in cases where a fairly large change happened in a picture is not noticed by a viewer on a subsequent view. Many cases of change blindness are studied when changes are accompanied by some visual disturbances such as flickering but this can take place in real life situations too.

What these cases of blindness and the defects in the visual apparatus suggest is that the internal representation is rather sparse though the impression of seeing everything in detail is quite common. Where does that impression come from? The standard answer is that it is all constructed by the brain and, perhaps, for the brain. And this line of thought cannot help reaching the conclusion that the visual world is a grand illusion.

Though the exact nature of the brain contribution has been a matter of dispute, it is widely held that it all happens in the brain with the role of the environment restricted to providing the input. This is, what underlies, what Noe (2010) calls, the gastric juice conception of consciousness. As far as digestion is concerned, it can be understood as a phenomenon internal to the body, and the role of environment is restricted to providing the input and receiving the output. This notion underlies the most common and severe objection made against situated cognition that it fails to distinguish between mere input to a system and an additional part of a system (Haugeland 1998). All extended factors can be seen only as mere inputs to the cognitive systems and not proper parts of the system. This goes to the extent of holding that the external factors (even non-neural bodily parts) are intrinsically unsuitable to form mereological parts of cognitive systems.

Can consciousness be also said to be an internal process like digestion? The received view is in favour of holding such a similarity. The attempt of Noe and others, including Kevin Regan, is to replace this picture of consciousness long held us captive, by looking at consciousness as something that we do. This explanation appears in the backdrop of what is called 'the new view of seeing' according to which vision as an experience is constituted by the ongoing process of interacting with the environment and not something generated by the activation of some neural image. The role of the brain in perception is restricted to coordinate the eye and bodily movements. There is no need to build on the patches of information received by the eyes because things are there in the environment and just like items are retrieved from memory, information needs to be accessed from the environment. At the same time, memory does not have the kind of experiential feeling associated with vision. This asymmetry is explained by Regan by pointing out that memory does not have features like bodiliness and grabbiness that are there in vision.

Bodiliness, in this context, means even small changes in the condition of body amount to significant changes in experience. Even minute changes in the position of the eye can effect significant changes in the nature of visual experience. Grabbiness, on the other hand, refers to changes in the visual environment can grab the cognitive processing of the organism that can see those changes. Memory does not have any of these features. For instance, changes in the position of the body, normally, do not affect memory, nor we become immediately aware of any change in the memory such as loss of one item, etc. Thus, the features like grabbiness and bodiliness can be used to explain how visual experience is different from memory experience, or rather lack of any 'experience' associated with memory.

Regan's attempt to explain wholeness and continuity of vision proceeds on similar lines. The feeling of wholeness of vision, that is, we feel that we see the whole of an object even if we actually see only some parts, comes from the implicit knowledge that if we move our eyes we can see the missing parts of the object easily. Similarly, there is the feeling of continuous and detailed visual experience of the whole scenario surrounding us. This can also be explained by means of easy availability to exploration.

The impression of seeing everything, e.g. when we enter a room, we feel that we see everything in the room though, at a time, central retina can access information only about a very small part of the room, comes from the knowledge that information about the whole room is available on demand through small eye movements. Similarly, the continuousness of vision, in spite of regular blinking and other visual disturbances, can be traced to the immediate availability of information.

It is important to note that the new view of seeing offers a different framework altogether to explain visual experience. To put it in a nutshell, visual consciousness is constituted by our interaction with the world. The role of brain and sensory organs is primarily in enabling this interaction and therefore brain cannot be treated as the locus of experience. But the brain has got the knowledge of sensory motor contingencies, e.g. how incoming information would change as per bodily movements, and this knowledge enables the brain to coordinate the exploration. When we say that we see something, normally, we do not make any commitment to pictures in the brain but only to things in the world. It is this common sense that is salvaged and fine tuned by Regan by arguing that seeing does not require the activation of any internal picture but just the ability to explore the environment with adequate knowledge of things in the environment.

What about qualia—the qualitative character of experience or what it is like to be in particular state? Regan holds that much of debate concerning qualia and the explanatory gap stem from a category mistake. Experience is not a state having properties but a form of action. It is something that we do rather than something that we have. Therefore, there are no introspective available properties of experience either. Of course, this is not to deny that there is a distinctive feel associated with seeing, tasting, etc. But the distinctiveness of a particular experience, say, that of tasting coffee, arises out of lack of awareness of the complexity involved in the action and not any uncanny occurrence of some special thing. When we see red, Regan points out, there is a variegated activity such as movement of the eyes, shifting of attention mediated by the knowledge of how incoming information would change according to the bodily movements and attentional fluctuations. So, seeing red has got multiple aspects just like driving a

car consists of many components. In the latter case, we are aware of the complexity and there is no special quale of driving a car, whereas in the former case, the complexity is overlooked and the distinctive feel emerges.

Will the new view of seeing become the received view of seeing? Any conjecture would be no more than wishful thinking at this point of time. At the same time, it would be fruitful to inquire into the factors that are likely to affect our ability to appreciate this new view of seeing.

4 Free-floating self and experience

Where does the picture of consciousness being internal come from? One cannot help looking into the inveterate habits of seeing ourselves. When the self is conceptualised in terms of a separative or free-floating entity and not as an integral part of the web of life, it would be difficult to appreciate cognitive activity as inextricably interlinked with environment. The sandwich model of cognition, referred to in the first section, can be seen as the outcome of the separative self-understanding. If the self is treated as separated then its relation with the environment can only be as the source of input and the target of output, and there would hardly be any scope left to understand the organism and the environment as forming a coupled system. Further, the container metaphor can be said to be used in understanding the self and this too can be the source of sandwich model. Experience is one of the things that the container called the self includes, and this way of looking at the self cannot but result in viewing experience as internal. Further, as long as we conceptualise experience as 'my experience' there is the relationship of ownership to the thing called experience. The things owned are either external to the body or internal to it. Since experience can hardly be understood as a thing external to the body, it would be seen as internal. This is because external things that are owned are not constantly present, but experience appears to be almost continuously available to the self. The alternate suggested, to look at experience not as a state but as an exploratory activity requires revisiting the metaphors used in understanding the self. No wonder most of the attempts to locate consciousness in the brain are within the framework of assuming the internality of experience. Theoretical investigations cannot help starting from pretheoretical assumptions and initial efforts could be predominantly in the direction of justifying the initial assumptions.

What the above discussion implies is that even if we are not phenomenologically committed explicitly to a detailed picture in the head, an implicit commitment to the internality of experience is evident in conceptualising experience as 'my experience'. This has got a very interesting implication that if we change the way we conceptualise

experience, it may change the nature of the experience itself.

5 Impact of reconceptualisation

This is far away from being an obvious point. One interesting discussion of such a phenomenon is in the context of the hypothesis of the bicameral mind. As per the hypothesis presented by Jaynes (1976), in ancient people, mental processes were divided into the 'speaking' part and the 'obeying' part. Regarding the change purportedly occurred during the breakdown of the bicameral mind, Jaynes is of the opinion that this amounted to the very origin of consciousness or self-consciousness to be more precise. The bicameral man, *ex hypothesi*, did not conceptualise in terms of 'I am doing' and accordingly, he was not endowed with the kind of self-consciousness, the present-day human being possesses.

This matter is eloquently discussed by Dennett (1986) by comparing with the example of morality. It would be foolhardy to argue that even before the concept of morality originated, the phenomenon of morality existed. The distinction may be made in terms of natural phenomena and conceptual artefacts, e.g. gravity is a natural phenomenon, and it must have existed even before Newton conceptualised it. But that is not the case with morality.

So, can it be the case that when we started conceptualising experience as my experience it changed the very nature of experience? There is no way to answer this directly, but it can be contended that we tend to look for the locus of experience in the brain because we are used to conceptualise and therefore even 'experience' experience as internal. If the conceptualisation changes then accordingly the 'experience' of experience may also change.

A similar change is likely to take place if we no longer conceptualise ourselves in terms of autonomous agents with free will who are in control of things but as automatic organisms largely governed by unconscious factors with only rare conscious peeps into the large labyrinth of the unconscious. The folk psychological conception of the self as in control of things is largely based on the assumption that we have conscious access to most of cognitive activity. But a significant body of recent work in different areas of psychology shows this to be far away from the case and much of our behaviour is automatic or uncontrolled (Evans 2010). If we conceptualise ourselves with this picture in mind, it will certainly change our experience of actions because this amounts to a diminution of agency and consequent reduction in secondary emotions like pride, guilt, etc. In fact, Jaynes' suggestion that fear becomes anxiety or anger becomes hatred only with the breakdown of the bicameral mind is consistent with this observation.

6 Peak experiences and the feeling of wholeness

Though it is difficult to give bedrock evidence in support of the hypothesis of experiential change, there are several things that can be adduced in favour of this observation. Consider mystic experience or peak experience as Maslow (1964) calls it. Keeping the numerous controversies surrounding mystic experience based on various religious interpretations aside, what is of significance is that it involves the feeling of being connected with everything else or to viscerally feel being a part of the larger whole. It is important to note that the whole that is referred to here is not some group such as tribe or nation with which one can identify. It is the whole whose nature we are not fully aware of. To reflexively feel oneself to be part of that whole is characteristic of peak experience.

What does it amount to reflexively feel that one is part of the unknown whole? The defining features may be sketched in terms of the major elements in the focus of attention. Normally, especially when one is not actively trying to focus one's attention on any specific task such as reading or writing, the attentional mechanism is centred around the flux of thoughts, swinging from remembrances of past to anticipations of future. This is referred to as mind wandering, automatic thought, etc. in the literature. This state is arguably the normal mental state of a human being. The image of the I as a separate or free-floating entity with strong feeling of insecurity and clinging to various things for fulfilment is a common feature or may be even called the fulcrum of this wandering mental state (Leary 2004).

The relation with the normal mode of wandering mind and that of the separative self is straight and simple. This is because the wandering mind, say, while walking along a road, does not have its focus on whatever goes on around or, in other words, in the present, but on the stream of thought moving back and forth from past to the future. Instead, if the focus of attention is largely on what goes on around then the feeling that one is part of the whole can easily appear as the background. This is expected to be evident in those who practise mindfulness where the attempt is to pay attention whatever goes on in the present, non-judgementally.

What would be the approach of a mindful man towards his experience? If the experience is not understood as belonging to the self, then the possibility of treating external factors as constituting the locus of experience, as the new view of vision claims, opens up. The point is that our difficulty in comprehending experience as constituted by the ongoing exploration of the organism in the environment stems from the picture of viewing the self as something that can possess things including experience. If we reconceptualise experience, as the new view of vision suggests, then that may change the very nature of

experience in the sense of it no longer being experienced as my internal experience.

An analogy with the phenomenon of fame could help clarify the matter further. Consider the case of Mahatma Gandhi who was undoubtedly the most famous Indian lived in 20th century. What made him so famous? Qualities like courage, honesty, compassion would be the candidates. But does it mean that nobody else had these qualities in equal amount? It is not possible to draw any such conclusion because of the obvious fact that the fame of a person depends upon many external factors as well. During freedom struggle against British rule, most Indians were ready to be united under the leadership of Mahatma Gandhi. But in the present times, nobody can become such a mass leader precisely because there is no common and concrete adversary against which unity can be created. In this sense, the fame of a person does not lie in internal factors alone but external things are equally part of it. But the person who is famous may live under the illusion that his fame is due to internal factors alone. Perhaps, we all are under a similar illusion as far as experience is concerned.

The question may arise then what about qualities like courage and honesty? If they are internal then why not experience? There is a difference between these cases. Whereas courage, honesty, etc. can be explained in terms of dispositions to behave, and these dispositions can be understood as internal, experience cannot be treated as a disposition but a phenomenon whose occurrence need to be explained in terms of constituent factors. In this respect, it is more like fame than like courage. Just like the fame of Mahatma Gandhi is constituted by the particular historical circumstance in which he lived, it can be the case that the experience of a person is constituted by several factors that are external to him.

Of course, this is not to support Regan's analysis but to point out that we may fail to appreciate even the possibility of such an analysis because of the internal picture which, in turn, follows from looking at experience as 'my experience'. The ability to be sensitive to the fine details constituting experience that were earlier overlooked due to the presumption of internality can be the underlying factor if a change happens in the way experience is conceptualised. Whereas we treat driving or swimming as a skill to be developed normally we do not treat vision as a similar skill. This happens because it is not something that we consciously learn, but we are programmed in such a way so as to develop the skill and we can, in normal circumstances, never recall the state when we were not able to see. This does not mean vision is not as complex as driving or swimming.

What the above discussion implies is that to fully appreciate experience not as a state but as an ongoing interaction, the self itself needs to be conceptualised not as

a stable entity that can own things but as part and parcel of dynamic interaction. The possibility of such a reconceptualisation is something that can be empirically verified by conducting studies on long-term practitioners of mindfulness whose attentional resources are expected to be directed towards whatever happens in the present. This, in turn, implies reduction in the separative feeling of the self because to dwell in the present tantamounts to viscerally feeling oneself to be part of the larger whole. This reconceptualisation of the self may do away with, or substantially change, the nature of debates such as relationship of individual and society, individualism versus collectivism, human nature, etc. In debates such as whether individual or society is primary, the underlying assumption is that both can be studied as independent categories, but this assumption stands abandoned when the self is understood in a different light.

7 Conclusion

As far as embodied or situated approach to cognition is concerned, it is patently clear that this inchoate and incipient field cannot but question the inveterate ways of understanding ourselves in order to give rise to a comprehensive account of cognition. That is to say, reconceptualising the way we understand ourselves can open up ways to explore alternate means of explaining experience and related phenomena. This requires a significant leap in imagination and understanding with significant implications for the way we conduct ourselves in many walks of life.

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