Commentary

Consciousness, Non-conscious Experiences and Functions, Proto-experiences and Proto-functions, and Subjective Experiences

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ABSTRACT

A *general* definition of consciousness that accommodates most views (Vimal, 2010b) is: " '*consciousness is a mental aspect of a system or a process, which is a conscious experience, a conscious function, or both depending on the context and particular bias (e.g. metaphysical assumptions)*', where *experiences* can be conscious experiences and/or non-conscious experiences and *functions* can be conscious functions and/or non-conscious functions that include qualities of objects. These are *a posteriori* definitions because they are based on observations and the categorization." Non-conscious experiences are equivalent to relevant *proto-experiences* and non-conscious functions are equivalent to related *proto-functions* at various levels as these terms are precursors of respective conscious subjective experiences and conscious functions aspect of consciousness. The non-conscious experiences and non-conscious functions may be considered as a part of the definition of mind and/or awareness. My congratulations to Gregory Nixon for a very thorough and sophisticated essay, and my apologies for the rather hasty attempt to provide a hopefully relevant comment, for which opportunity I am grateful.

Key Words: consciousness, dual-aspect dual-mode framework, experiences, conscious experiences, non-conscious experiences, functions, conscious functions, non-conscious functions, proto-experiences, proto-functions, subjective experiences, self, mind, awareness, panexperientialism.

In (Vimal, 2010a), we proposed that there are three entities that need to be appropriately linked and addressed: *structure, function,* and *experience*. For example, there is a *structure* 'V4/V8/VO' color neural-network,[1] which has a *function* of detection and discrimination of wavelengths of light. In addition, normal trichromats have color related subjective *experience* (SE), such as *redness*, which needs to be appropriately linked to related *structure* and *function*.

According to (Nixon, 2010), "terms *experience* and *consciousness* are not interchangeable. Experience is a notoriously difficult concept to pin down, but I see non-conscious experience as based mainly in momentary sensations, relational between bodies or systems [there are 21 indicators of non-conscious experience] […] non-conscious experience as the precursor and foundation of subjective consciousness. […] Experience is a continuum [from non-conscious, to conscious, to self-transcending awareness], as Alfred North Whitehead explained [(Whitehead, 1978)]. […] Non-attended (nonsubjective) experience [*phenomenal* SE that cannot be reported; attended experience is *access*

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[1] The color area 'V8/V4/VO' refers to visual area V8 of Tootell group (Hadjikhani, Liu, Dale, Cavanagh, & Tootell, 1998; Tootell, Tsao, & Vanduffel, 2003), visual area V4 of Zeki group (Bartels & Zeki, 2000), and VO of Wandell group (Wandell, 1999); they are the same human color area (Tootell et al., 2003). VO stands for ventral-occipital cortex.

SE that is reportable] has *affect* — that is, it disturbs or creates emotions — and it has notable *effects*, too, on actual behaviour or on thought. […] Consciousness is certainly dependent on the animal capacity for experience. […] Experience is divided into subject and object. […] panexperientialism implies straightforwardly that the entire universe is in some way alive or has the potential of becoming so at any time anywhere. […] I suggest the distinction between conscious experience (aka consciousness) and *experience as such* is well worth making. If the terminology offends, call it unconscious experience, consciousness without mind, core consciousness, or experience without a subject, as others have."

The above is consistent with (Vimal, 2010b): (Nixon, 2007) and (Pereira Jr. & Ricke, 2009) argued that experience can occur with and without consciousness[2]. In this context, *experiences* could be *conscious experiences* and *non-conscious experiences*, and *functions* could be *conscious functions* and *non-conscious functions*.

Non-conscious experiences are those experiences that are not conscious experiences; for example, experiences related to pre-conscious, subconscious and unconscious domains, slow-wave dreamless deep-sleep, coma, vegetative, and anesthetized state. Non-conscious experiences can include experiences related to awareness without being aware or paradoxical awareness, such as *blindsight* and subliminal perception.

Non-conscious functions are those functions that are not conscious functions; for example, functions related to pre-conscious, subconscious and unconscious domains, slow-wave dreamless deep-sleep, coma, vegetative, and anesthetized state. Non-conscious functions can include functions related to awareness without being aware or paradoxical awareness, such as subliminal perception and related *state* consciousness (Rosenthal, 2009), *blindsight*, long-term memory, and implicit memory (listed in Table 1 of (Vimal, 2009a)).

One could ask: What is the difference between *non-conscious functions* and *non-conscious experiences*? Would both reduce to proto-experiences? The meanings attributed to the term 'consciousness' have been categorized in to functions and experiences (Vimal, 2009a). Functions are related to third person objective measurements related to the function of the system, whereas, experiences are first person subjective observations. Since *non-conscious experiences* are those experiences that are not *conscious experiences*, they are indeed proto-experiences in the dual-aspect dual-mode PE-SE framework. However, since *non-conscious functions* are those functions that are not *conscious functions*, it would be more appropriate to call them *proto-functions*. For example, in *blindsight*, subjects do not have conscious experience but they report 'seeing' something in cortically blind field; this experience is *non-conscious experience* or *proto-experience*. In addition, one could argue that subjects have no *conscious function* but they 'guess' above chance level, which can be interpreted as they can somewhat effectively detect and discriminate certain visual stimuli; this function can be called the related *proto-function* (Vimal, 2010b).

(Nixon, 2010) and (Vimal, 2010b) have elaborated examples of non-conscious experiences; we list some of them in terms of two categories, namely non-conscious experiences and non-conscious functions (Table 1).

[2] "In (Vimal, 2009a), over forty meanings (or aspects) attributed to the term *consciousness* were extracted from the literature and from online discussion groups; some of them overlapped and some were mutually exclusive, but certainly the list was in no way exhaustive. These meanings were categorized into two groups of mental entities: *function* and *experience*. It was emphasized that the prospect for reaching any single, agreed framework independent definition of *consciousness* appears remote" (Vimal, 2010b).

Table 1. List of some of non-conscious experiences and non-conscious functions

No.	Name	Non-conscious experiences	Non-conscious functions	References
1	Blindsight	Subjects do not have conscious experience but they report 'seeing' something in cortically blind field	Subjects have no conscious function but they can respond, detect, and discriminate appropriately to certain visual stimuli	(Carey, Sahraie, Trevethan, & Weiskrantz, 2008; de Gelder, Vroomen, Pourtois, & Weiskrantz, 1999; Heywood, Kentridge, & Cowey, 1998; Kentridge, Heywood, & Weiskrantz, 1999, 2004; Lamme, 2001; Lau & Passingham, 2006; Trevethan, Sahraie, & Weiskrantz, 2007a, 2007b; Weiskrantz, 2004, 2009)
2	Anton's syndrome: denial of blindness	No conscious experience of external visual stimuli, but subjects deny it.	No conscious function, but they subjects deny it and bump into things, stumble, fall, and unable to share perception	(Abdulqawi, Ashawesh, & Ahmad, 2008; Abutalebi et al., 2007; Damasio, 1999; Maddula, Lutton, & Keegan, 2009; McDaniel & McDaniel, 1991; Roos, Tuite, Below, & Pascuzzi, 1990; Suzuki, Endo, Yamadori, & Fujii, 1997; Wessling, Simosono, Escosa-Bage, & de Las Heras-Echeverria, 2006; Yilmazlar, Taskapilioglu, & Aksoy, 2003)
3	Prosopanosognosia	No conscious experience familiar faces but may have strong emotional response	No conscious function such as no recognition of familiar faces. However, brain activation and skin galvanization suggest some level the face recognition.	(Sacks, 1985)

As noted above, (Vimal, 2010b) has elaborated non-conscious experiences and non-conscious functions. (Nixon, 2010) have discussed 21 indicators/examples of non-conscious experiences related to blindsight (no conscious experience but subjects can respond appropriately to certain visual stimuli), Anton's syndrome (denial of blindness), prosopanosognosia (no conscious experience familiar faces but may have strong emotional response), amnesia (cannot remember people but may have physiological and emotional responses), split brain subjects, sleepwalking, dream effect, alcohol and drug effects, post-hypnotic suggestion, implicit memory/learning/knowledge or priming, subliminal perception, habitual behavior, reflex actions, pre-conscious and feral humans, non-human animals, psychoanalysis, the collective unconscious and mythic memory, panexperientialism, physics and quantum potentia, higher order thought or higher order perception and speech theories, supersensory or extra-sensory perception (*psi*), and proto-experiences.

According to (Pereira Jr. & Ricke, 2009), "when we are sleeping without dreams we nevertheless have experiences without consciousness, e.g. the proprioceptive ones that prevent us falling out of our beds! Another good example of experience without consciousness is *blindsight*, a phenomenon in which people who are perceptually blind in a certain region of their visual field respond to visual stimuli without any associated qualitative experience ('quale'). […] In conscious experience there is a content experienced by a subject, while in the case of unconscious phenomena there may be - among other possible combinations - a subject without content (e.g. animals under general anesthesia), and informational content without a subject (e.g. information patterns in the Hard Disk of a computer). More precisely, according to the referential nucleus above, an experience is conscious when there is a reportable content being experienced by a subject, such that the content is content *for the subject*. […] If a robot has feedback mechanisms allowing the completion of action-perception cycles, then it can be considered as having experiences, but not *conscious* subjective experience, because of the lack of content and subjectivity [artificial consciousness]."

This conception of non-conscious experiences is similar to or identical with proto-experiences (PEs) in the dual-aspect dual-mode PE-SE framework (Vimal, 2008a, 2008b, 2009b, 2010a) at various levels; for example, PEs related to sleep, dream, *blindsight*, general anesthesia, robots, and so on. This is because PEs are those experiences that not SEs; rather, PEs are precursor of SEs (Vimal, 2010b) so are the non-conscious experiences. In addition, or framework is consistent with the hypothesis that experience is a continuum because experiences at various levels range from elemental PEs to atomic PEs to molecular PEs to neural-net PEs to SEs and all PEs in between. Non-attended (nonsubjective) experiences or non-conscious experiences appear equivalent to *phenomenal* SE that cannot be reported; whereas, attended experiences are *access* SEs that are reportable. Experience can be divided into subject and object, where SE of subject is self (Bruzzo & Vimal, 2007) and SE of object could be the aspect of *phenomenal* or *access* consciousness (Vimal, 2009c). Panexperientialism (entire universe is alive) may be close to *Shiva* in *Trika Kashmir Shaivism* (Kaul, 2002; Raina Swami Lakshman Joo, 1985; Wilberg, 2008), where *Shiva* is the mental aspect of entire universe and *Shakti* is its material aspect in dual-aspect framework (Vimal, 2009d, 2010c).

In my view, non-conscious experience is equivalent to proto-experience (PE) because both appear to have similar or same meaning that they are not conscious subjective experience (SE). According to (Vimal, 2010b), "Based on the dual-aspect-dual-mode proto-experience/subjective experience (PE-SE) *optimal* framework, the *optimal* definition of consciousness is '*consciousness is a mental aspect of a system or a process, which has two sub-aspects: conscious experience and conscious function*.' A more *general* definition is: '*consciousness is a mental aspect of a system or a process, which is a conscious experience, a conscious function, or both depending on the context and particular bias (e.g. metaphysical assumptions)*', where *experiences* can be conscious experiences and/or non-conscious experiences and *functions* can be conscious functions and/or non-conscious functions that include qualities of objects. These are *a posteriori* definitions because they are based on observations and the categorization."

To sum up, (Nixon, 2010)'s elaboration of 21 indicators of non-conscious experience is interesting and non-conscious experiences are equivalent to relevant proto-experiences at various levels as both terms are precursors of conscious subjective experiences aspect of consciousness. There are over 40 different aspect of consciousness that were categorized into functions and experiences (Vimal, 2009a). The non-conscious experiences and related non-conscious functions can be considered as a part of the definition of mind and/or awareness as elaborated in (Vimal, 2010b).

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