

# Book review: J. Kevin O'Regan, *Why Red Doesn't Sound Like a Bell*

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In his 2011 publication J.K. O'Regan presents a “sensorimotor” account of consciousness in a largely successful attempt to direct and facilitate the discussion of a subject famously resistant to scientific analysis.

The theory concerns “raw feel”, defined as what is left of an experience after all measurable effects have been accounted for, that which philosophers may call phenomenal experience. Three main applications of the theory are discussed, they are; how raw feel is related to action, why the raw feels of different sensory modalities are distinct, and what is required for a being to consciously experience a raw feel. The term “sensorimotor dependency” refers to a relationship between a subject’s motor actions and the resulting sensory stimuli from the environment. Holding an object, for example, has a feel related to the changes in the received stimuli that would occur with exploratory actions, rather than the stimuli that pertain to a static grasp at a given instance. In justifying this account, attention is drawn to the observation that seen objects are felt to be spatially and temporally continuous even when the stimulus is discontinuous such as when partially obscured, or entirely obscured temporarily. This apparent paradox dissolves when feel is considered to arise from the collection of potential interactions; partial or temporary occlusion does not interfere with the stimuli that would occur during any potential interactions. This approach also explains why stimuli detected by receptors on the body’s surface can be felt as localised in the environment as interactions occur externally in the en-

vironment, not internally in the brain. An illuminating example is given where “the feeling of being at home” is described as constituted of all the potential actions such as visiting the bedroom or eating in the kitchen, but those actions need not be taking place. In a personal discussion with O’Regan it was agreed that being at home therefore feels pleasant as the potential actions are largely pleasant (with the potential for a latent unpleasant dimension arising from the actions associated with housekeeping chores).

This approach has important implications for the requirements of sense organs, the eye, for example, can be considered an imperfect optical device due to features such as retinal scotoma, the blind spot and relatively poor sensitivity outside of the fovea. This critique is only valid however, if its function is to gather a high fidelity snapshot view of the environment, the sensorimotor approach only concerns the *changes* in retinal stimulation as the eye moves relative to the environment, and these relationships remain in the presence of the features previously identified. There remains the question of how imperfect, inconsistently sensitive sense organs could produce a raw feel that presents itself as continuous and detailed, O’Regan declares this effect as tantamount to an illusion, features of raw feel can only be observed through active interrogation which necessarily presents them in detail, it is the convenience with which we can interrogate our whole visual field that produces the impression of continuous high fidelity. In the way that a fridge light is commonly only observed as being on, raw feel can only be consciously experienced in detail. As the motor actions involved in interrogating visual signals are distinct from those involved in interrogating auditory signals, the differences between the sensorimotor dependencies effect their distinct feeling, that is, why the raw feel of the colour red is not like the raw feel of the sound of a bell. By separating feel from stimulation at an instant and associating it with a continuum of potential interactions, the sensorimotor account provides explanations for the localisation of stimulus, environmental awareness without invoking a detailed internal representation, and how conscious experience presents itself as continuous.

After presenting the nature of feel in terms of interrogative action, O’Regan goes on to address what is required for a being to experience raw feels and how they may be characterised. Scientific accounts that describe consciousness as arising from activity amongst neural representations suffer from an “explanatory gap”; how can any neural structure generate raw feel? Why would it produce one

type of feel rather than another? This question does not apply to the sensorimotor account as feel is not generated anywhere, it is simply “an abstract quality of our interaction with the environment”. O’Regan clarifies that they are not denying the necessity of the brain or the existence of representations, indeed neural encodings are required to store sensorimotor contingencies as learned, but simply that raw feel is not the product of the activation of an “internal picture”. Though abstract, the quality of an experience that defines its feel can be characterised by a few terms, namely (partial) insubordinateness, richness, grabbiness and bodiliness. Respectively, they are the levels at which; stimuli may change without a subject’s acting, interrogating the experience presents detailed information, experiences grab our attention, and are subject to change as the body moves. These terms allow comparison of feelings as diverse as pain (extremely bodily and grabby), thirst (reasonably grabby, but weakly bodily) and proprioception (weakly grabby but highly bodily). Feelings that rate highly on bodiliness and grabbiness are easier to describe as “real” sensations, while environmental sensory experiences are describable as also having high (partial) insubordinateness and richness. A seemingly obvious counterexample is that of non-environmental experiences that require no motor actions such as remembering, imagining and dreaming. O’Regan addresses these phenomena specifically, explaining that purely introspective experiences have distinctly different profiles when considered in the given sensory terms, for example there is no insubordinateness in a recalled situation, entirely of your creation. This point is paramount as it demonstrates that O’Regan’s theory can not only admit purely mental experiences but also explain the differences in their experiential qualities.

To be able to experience raw feel, it is described as necessary and sufficient for a being to have the following cognitive capacities. First, the capacity to be poised to make use of a set of sensorimotor contingencies. Second, the capacity to be poised to make use of the fact that they are poised to make use of a set of sensorimotor contingencies. Third, the being requires a notion of self. O’Regan’s description of what amounts to a notion of self is unfortunately not backed up with the level of justification and demonstrations as that which accompanied the discussion for prioritising action in feel. The concept is considered as consisting of the cognitive self and the social self, both of which are described with such brevity as to only identify little more than O’Regan’s con-

viction that there are "no magical as-yet-unknown" aspects of the self that could not be implemented in a robot. Common anti-computationalism arguments are avoided due to having eliminated the mystery of consciousness from the brain, allowing the self to be governed by raw computation. In the case of a being with the previously described cognitive capabilities one final requirement remains for the quality of an interaction to be consciously experienced, that is the being must also be consciously attending to that quality. This stance has two important implications for what is *not* present in raw feel; without conscious attendance raw feels are not felt, and without a notional sense of self experience *cannot arise at all*. Babies and animals, therefore only experience pain if they are considered to have developed a specific cognitive capability. This is a potentially controversial result, but it is not damaging to the theory in the way an inconsistency would be, and there is certain credit in the theory making clear, if controversial, predictions even when applied to fringe cases. O'Regan clarifies that stimuli can be processed and may affect future behaviour without being consciously attended to, though they will not be present in conscious experience. This is another potentially controversial result as raw feels that are not felt are present in any interaction in an environment, applying equally to animal, vegetable and mineral.

Though it may be impossible to empirically prove any account of conscious experience, O'Regan demonstrates the advantages of adopting the sensorimotor account. It may seem a radical departure from classical accounts of consciousness but it is not incompatible with the majority of the literature, and provides clear explanations for the observations therein. The text falls short of an set of imperative instructions for building a robot that is conscious and feels, but O'Regan explicitly states that he sees no logical reason why it cannot happen. Ultimately, the sensorimotor account of consciousness is a significant theory in the philosophical reshuffle pervading contemporary Cognitive Science. This makes this concise, accessible text broadly relevant and potentially very influential to this audience.

## References

- [1] J.K. O'Regan. *Why Red Doesn't Sound Like a Bell: Understanding the Feel of Consciousness*. Oxford University Press, 2011. 182 pages.