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Embodiment and Bionic Vision Restoration

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Embodiment and Bionic Vision Restoration

Abstract

This poster will explore and describe some philosophical implications of Bionic Vision Restoration research. The prosthetic restoration of sight can begin to test current philosophical distinctions of mind, body and world. The challenge of finding an adequate approach is encountered when the conceptual and neurobiological horizons of vision restoration are contemplated; where it can be difficult to avoid thinking that implies that consciousness is nowhere or potentially everywhere. Well aware of the difficulty of finding an adequate approach, this poster seeks to help craft a path toward healing. It will aim for this goal by beginning with a contemplation of the embodiment of perception in the context of the prospect of vision restoration. Here in the flesh of perception, phenomenology is demonstrably inescapable. Also, despite the inherent ambiguity of perception, phenomenology is important in avoiding half-truths as we re-explore the internal and external surfaces of being human.

Keywords

restoration, embodiment, bionic, vision

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P033 - How do we know what we see ? The influence of visual identification decision on visual awareness ratings

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How do we know what we see? Is this only the effect of perceptual evidence accumulation; or do we use some other information to judge our metacognitive awareness? Here, we present four studies aiming to test the relations between visual identification and visual awareness by investigating the effects of decision in identification task on subsequent subjective awareness ratings. In all experiments, we have applied perceptual awareness scale in the context of a visual identification task with Gabor patches either before, or after the identification task decisions. Results of first two studies clearly showed that awareness ratings strongly predicted accuracy, but the overall relationship between awareness ratings and performance was weaker, when participants rated their awareness before providing identification responses. We concluded that the identification task affected subsequent awareness ratings and proposed that this could be a result of either longer time that participants required to estimate their certainty in the identification decision, or the influence of the decision itself on awareness rating. Thus, we run two additional studies that aimed to test those two contradictory interpretations by separating decision time and identification/awareness rating order influences. In the third study we manipulated the amount of time participants had to rate their awareness, while the identification decision was always made after visual awareness ratings. In the fourth study we used the task order manipulation, but controlled the time participants had to rate their awareness in both conditions. The results showed both, the effect of time participants had to rate their awareness, and also the effect of decision on awareness ratings. We interpret those results in line with hierarchical theories of consciousness suggesting that metacognitive awareness is based on low-level visual processing, but also influenced by post-decision processing.

MIND-BODY PROBLEM

P034 - Embodiment and Bionic Vision Restoration

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