

The paradoxical self

Vilayanur Ramachandran and William Hirstein

Summary

We consider a number of syndromes incorporating paradoxical phenomena that lie at the boundary between neurology and psychiatry. Amongst the phenomena we examine are Cotard's Syndrome (belief that one is dead/dying), Capgras Syndrome (belief that a personally familiar person has been replaced by an imposter), and Apotemnophilia (desire to have a limb amputated). We use these phenomena to speculate on the manner in which the brain constructs a sense of self. We propose that, despite the extraordinary variety of paradoxical symptoms encountered in neuropsychiatry, certain key assumptions can help explain most of these self-related phenomena. (1) Discrepancies and conflict between the information dominating different brain systems. (2) Disturbance of Me/Other distinctions caused by dysfunctional interactions between the mirror neuron system, frontal lobe structures and sensory input. (3) Misattribution of symptoms to spurious causes, so as to minimize internal discrepancies. (4) The existence of three functionally distinct visual systems, as opposed to the two conventionally accepted ones, with selective damage or uncoupling between them. (5) Recruiting one neural map for another unrelated function, or one neural structure serving as a template for transcribing on to another neural structure. We suggest that, paradoxically, the mechanisms that give rise to psychiatric delusions and illusions may themselves sometimes have adaptive value in evolutionary terms.

Introduction

An approach we have pursued in our laboratory involves exploring precisely those phenomena that have long been regarded as paradoxical or anomalous, that do not fit the overall framework of science as currently practised, or that appear to violate established conventional assumptions. Neurology and psychiatry are full of such examples. What can be more paradoxical than a person with Cotard's Syndrome denying his own existence, when the very denial implies existence? Conditions such as Cotard's Syndrome, and many others, have shown that the self is not the monolithic entity it often believes itself to be. Our unitary sense of self may well be an illusion that incorporates distinct components, each of which may be studied separately. If it is an illusion, it is not enough to merely state that fact; we need to explain how it arises. An interesting question is, for example, whether it is an adaptation acquired through natural selection (cf. McKay and Dennett, 2009).

Our emphasis in this chapter will be on 'borderline' syndromes that straddle the boundary between neurology and psychiatry, with a focus on delusions directly or indirectly

