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Impaired self-reflection in psychiatric disorders among adults: A proposal for the existence of a network of semi independent functions

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ABSTRACT

Self-reflection plays a key role in healthy human adaptation. Self-reflection might involve different capacities which may be impaired to different degrees relatively independently of one another. Variation in abilities for different forms of self-reflection are commonly seen as key aspects of many adult mental disorders. Yet little has been written about whether there are different kinds of deficits in self-reflection found in mental illness, how those deficits should be distinguished from one another and how to characterize the extent to which they are interrelated. We review clinical and experimental literature and suggest four different forms of deficits in self-reflection: (a) sense of ownership of one's own thoughts and actions, (b) emotional awareness, (c) distinction between fantasy and reality and (d) the integration of a range of different views of oneself and others. We propose how these different impairments in self-reflection are linked with one another.

1. Introduction

Self-reflection refers to the abilities of individual persons to think about who they are as unique human beings. It allows persons to ask and respond to questions which range from "who am I," to "why did I say or do that?" We refer here to higher-order conscious processes involving ability to detect aspects of the self, such as emotional experience, and to describe them in words the addressee can understand. Self-reflection also involves the ability to reason about aspects of the self interacting with the world, such as grasping plausible eliciting factors for the emotion one is experiencing or taking a critical distance for one's own ideas about an event understanding it is a subjective construction and not a truth-like description of the external world.

This is different from basic self-relatedness, which implies tacit or very basic processes of relating stimuli to the self as opposed to the external world (Northoff et al., 2006), thus for the whole paper we will discuss higher-order conscious cognitive processes instead of the minimally reflexive and pre-reflexive ones, though we will briefly describe how disorders in the latter ones also have clinical consequences – i.e. depression (Grimm et al., in press) – and impaired higher-order self-reflection. Self-reflection involves a range of seemingly different and semi independent capacities. To be reflective about oneself could involve forming ideas about one's innermost thoughts, feelings, and motives. In other circumstances effective self-reflection might involve seeing how one effectively functioned as an active agent alongside others in a complex social network.

Researchers from a range of disparate fields have begun to explore models of self-reflectivity and the consequences of its failures. Recent evidence from robotics, for instance, has demonstrated that a machine – a starfish robot – equipped with

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something that might roughly approximate unconscious self-representations, that is actuation–sensation relationships which can be used by the starfish to infer its own structure, can more effectively generate locomotion and adapt to losses of its limbs (Bongard, Zykov, & Lipson, 2006). Metzinger (2008) has noted that the finding that a robot with some kind of approximate self-representation works better than one without an approximate self-representation, might offer some clues about people whose complex and conscious levels of self-reflection are impaired. Clearly, deficits in self-reflectivity should prevent persons from correcting imprecise causal attributions, ineffective action plans and faulty coping strategies leading to gross psychological distress and social impairment. If I could not reflectively integrate disparate personal experiences across a series of days, how could I maintain an integral sense of identity or respond to complex social challenges? If I cannot effectively reflect on internal experience, how could I modify specific beliefs and larger strategies for dealing with threats to health and well being? These forms of dysfunction might place persons in some sense in a position similar to the starfish robot, one without a self-map, incapable of relearning to walk when its internal structure is damaged.

Behaviors which proceed from dysfunctions in self-awareness could not only mirror that of the virtual starfish but also what we see in some forms of mental illness (Dimaggio, Semerari, Carcione, Nicolo, & Procacci, 2007; Lane, 2008; Taylor, Bagby, & Parker, 1997; Vanheule, Desmet, Verhaeghe, & Bogaerts, 2007). Secondly, it seems natural to ask whether forms of dysfunctional self-reflectivity play a central role in mental illness. A key feature, for instance, of a range of disorders involves lack of awareness of one's own deficits and impact on the lives of others (Lysaker & Buck, 2008). The capacity for self-reflection in general has moreover been prospectively linked to resilience and the development of personal agency in the face of mental illness (Hauser & Allen, 2006) and to better therapeutic outcomes (Grabe et al., 2008; Taylor et al., 1997). Poor emotional regulation might arise from disturbed self-reflection (Ochsner & Gross, 2008). Patients, for example with schizophrenia, who lack the cognitive resources to reappraise the meaning of stimuli, may be unable to recognize that a seemingly hostile statement is not a sign of aggression because it uttered by someone with a cheerful expression on their face. They may also struggle to balance the short and long-term pros and cons of a choice (Ochsner, 2008), or to cope with disturbing negative emotions.

1.1. Problems in relating self awareness to mental illness

At present, at least two related issues exist that make it difficult to understand the relationship of deficits in self-awareness and mental illness. First, there are a dizzying array of ways in which self-awareness may be impaired. For instance, at one extreme, there may be pervasive disturbances in processes such as sense of ownership, 'this movement is my movement, this thought is my thought', and of agency 'I am causing this movement, or initiating this action' (see Gallagher, 2000). People may lack a sense of ownership of the most basic movements of their body or of their thoughts. On the other hand, the sense of ownership can be artificially provoked. Persons for instance can be lead to think a rubber hand is part of their body (Tsakiris, Schütz-Bosbach, & Gallagher, 2007).

Persons may also possess little sense of agency, or even be unaware of having voluntarily initiated a certain behavior (Metzinger, 2003; Synofzik, Vosgerau, & Newen, 2008). For example, a range of clinical as well as non-clinical populations have been described as suffering from disorders of self-awareness in which there is the illusion that one's own body is moving when in reality it is immobile (Metzinger, 2008; Ramachandran & Rogers-Ramachandran, 1996). Also the illusion of movement or contact has also been induced experimentally (Lenggenhager, Tadi, Metzinger, & Blanke, 2007). At the other end of the continuum, some may have the experience that alongside many intact facets of self-awareness, are prominent deficits in other specific aspects of self-awareness. Persons with schizophrenia, for instance, may be able to understand a range of things about themselves and function well on the job but simultaneously be unable to see how certain conscious thoughts are their own (Bell, Fiszdon, Richardson, Lysaker, & Bryson, 2007). Persons with depersonalization may manage many aspects of their lives adequately but not recognize their bodies as fully their own (American Psychiatric Association, 2000). Many patients with psychosomatic concerns in turn have problems experiencing emotions and tend to experience bodily symptoms or neurovegetative agitation in response to events which evoke strong affects (Lane, 2008; Taylor et al., 1997). Individuals experiencing mania, on the contrary, may imagine they control events that are in reality far beyond conscious control, so that the self-representation of agency is exaggerated and experienced as all encompassing (Metzinger, 2008).

Second, there is no agreed upon way to categorize or understand the relationships between different kinds of deficits in self-reflection. Clinicians and researchers have noted the presence of these difficulties in mental illness, yet it is unclear whether self-reflectivity is composed of relatively autonomous and independent functions (Semerari, Carcione, Dimaggio, Nicolò, & Procacci, 2007), which are selectively impaired in different patients or clinical populations. Nichols and Stich (2001), for example, hypothesized that a monitoring mechanism for perceiving inner states worked independently from mechanisms for thinking about mental states (theory of mind) and could be selectively impaired. Certain patients with schizophrenia are capable in a semi-structured interview of experiencing themselves as aware that they are producing their own thoughts and yet are not able to portray themselves as experiencing unique affects (Lysaker, Buck, & Ringer, 2007). Some patients with parietal lobe damage are not able to detect mismatches between movements they have performed and movements they have seen, but their judgment of agency is preserved (Synofzik et al., 2008; Synofzik, Vosgerau, & Newen, 2009). Carruthers (2009) advocates for a double dissociation between a deficient sense of agency for movement that could underlie delusions of alien control, while a deficient sense of agency for thoughts could underlie thought insertion.