Self in the mirror

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	What are mirror systems good for? Several suggestions have been made in response to this question, addressing the putative functions of mirror systems in minds and brains. This paper examines possible contributions of mirror systems to the emergence of subjectivity. At the heart of the discussion is the notion of social mirroring, which has a long tradition in social philosophy and social anthropology. Taking the existence of mirror devices in minds and brains for granted, I argue that social mirroring is a prerequisite for the constitution of mental selves, and, hence, the emergence of subjectivity. However, the fact that self and subjectivity are socially created should not be taken to indicate that they are illusory. They are as real as natural facts are. © 2013 Elsevier Inc. All rights reserved.

1. The looking glass self

Mirrors have two faces. In one sense, they are innocent physical things—nothing but polished surfaces reflecting light according to simple geometrical rules. Yet, in another sense, when used by human observers, they are powerful cultural things. This is because mirrors help people to extend the reach of what they can see. Mirrors help people to look around corners and see what is happening behind their backs—as well as allowing them to look at themselves and check their outer appearance.

Probably by virtue of this remarkable capacity, in many cultures mirrors have made their career as both technical devices for exploring the outer world and symbolic devices for exploring the inner self. Not only do they function as technical tools for checking one's outer appearance, but also as symbolic instruments for deeper ways of reflecting one's inner self. Such symbolic use of mirrors is widespread in Western art and literature. For instance, in the act of portraying oneself, mirrors are often thought to reflect aspects of the artist's inner self through his or her outer appearance. Occasionally, the act of self-mirroring may even be included in the self-portrait as a symbolic indication of the reflective and reflexive intentions entailed in that act. For instance, the Uffizi Gallery harbors a beautiful painting by the Austrian painter Johannes Gumpp, which shows the painter's image in a mirror, as well as the painting that he is painting of that image (Gumpp, 1646).

In a similar vein, the act of detecting and recognizing oneself in the mirror has become a classical literary topic. Perhaps one of the most dramatic incidences of mirror self-recognition is reported in the myth of Narcissus. According to the testimony of Ovid's Metamorphoses, Narcissus was bound to die at the very moment at which he discovered that the beautiful face in the mirror that he had fallen in love with did not belong to some beloved other but, rather, to himself (Ovid., 1977, p. 157). In more recent times, the French psychoanalyst Jaques Lacan revitalized the myth of mirror self-recognition. Lacan believed that the very first incidence of mirror self-recognition is a dramatic "Aha! experience" for the young infant—an act of utmost importance in the formation of the human mind and self-consciousness (Amsterdam, 1972; Lacan, 1949/1977). Yet, in the meantime, we have learned that mirror self-recognition cannot be considered a specific signature of human mentality.

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Chimps do it, elephants do it, crows do it, and so do many other species (e.g., Gallup, 1970). Taken together, these observations seem to suggest that mirror self-recognition has perhaps often more to say about these animals' understanding of mirrors than of themselves.

In the context of self-recognition and self-reflection, one also encounters a metaphorical use that applies to social rather than physical mirrors. In social mirroring other individuals serve as mirrors for the self. This notion has, more or less independently, been promoted by a number of classical authorities from social philosophy and social science like, e.g., Cooley (1902), Hegel (1807), Mead (1934), Smith (1759/1976), and Whitehead (2001). The crucial idea here is that individuals come to understand themselves through mirroring themselves in others—that is, by learning to understand how their conduct is perceived, received and understood by others. To address this notion, Cooley (1902) has coined the term "looking glass self". What this suggests is that, for individuals, social mirrors can play a role similar to that of physical mirrors: Both help them to "see" how others perceive them.

One may wonder what lies behind the widespread use of mirrors as symbols and metaphors for reflecting the self and reflecting upon the self. What can looking at our outer appearance in the mirror possibly add to what we already know from our inner experience? Do not we have direct, unmediated access to that experience? Obviously, if this were true, mirrors would provide redundant information: they would just replicate knowledge that we already have. In that case, it would be hard to understand how mirrors can have made such a fantastic career as cultural symbols for seeing one's mind through one's body. What that career seems to reflect, instead, is that perceiving oneself from the outside may often deliver a clearer and more adequate picture of our true feelings and actions than the inside perspective can provide.

This paper examines the looking glass self from a cognitive science perspective. While the classical discussion of this idea in social philosophy and social science is mainly grounded in language as a symbolic mirror between others and the self, a novel view has recently emerged from several branches of cognitive science. This view claims that social mirroring may, likewise, be grounded in actions that serve as embodied mirrors between the self and others. In fact, one may even claim that social mirroring first relies on embodied *acting* (i.e., the ways in which individuals interact with each other), and only later shifts to symbolic *talking* (i.e., the ways in which individuals communicate about their acting); e.g., Prinz (2008, 2012, 2013).

Adopting this view, we still need to ask how social mirroring works and what it does to individuals. Is there anything serious behind the widespread symbolic and metaphorical use of mirrors for self-recognition and self-reflection? What does it mean for individuals to perceive themselves in ways they otherwise cannot and what can they make of it? Here, I argue that mirrors may indeed play an important role in the formation of our mental selves—provided that the mirrors outside are met by mirrors inside. By *mirrors outside* I refer to social and physical mirrors that individuals encounter in their environments. By *mirrors inside* I refer to mirror-like representational devices operating inside their minds. I propose that these two kinds of mirrors interact with each other in ways that give rise to the formation of our mental selves.

Over the past decades literature on social mirroring has been scarce, at least as far as solid empirical research is concerned. Accordingly, the framework I am sketching here is not meant to cover and integrate extant empirical evidence. It is rather meant to provide a heuristic basis for guiding future experimental research into mechanisms and practices of social mirroring.

2. Social mirroring

To understand social mirroring we need to consider two perspectives, that of the *target individual* whose acting is being mirrored and that of the *mirror individual* who is mirroring the target's acting. For the target individual, the mirror individual provides a living mirror in his or her environment. In what ways can the target individual find his or her own action mirrored through the mirror individual's action? To answer this question it may be useful to draw two distinctions, one between two basic *modes of mirroring* and another one between two basic *modes of communication*.

2.1. Modes of mirroring

We may discern two basic modes of mirroring: reciprocal and complementary. In the most fundamental form of social mirroring, *reciprocal mirroring*, target individual "T" sees her own action imitated, or replicated by mirror individual "M". In a setting like this, M acts as a mirror for T in a more or less literal sense. Social mirrors are, of course, fundamentally different from physical mirrors. Even if M attempts to provide as-perfect-as-possible copies of T's acting, those copies will always be delayed in time and their kinematics will never be as perfectly correlated with T's acting as specular images are. We can speak of reciprocal mirroring as long as T is in a position to recognize and understand M's acting as a delayed copy of her own preceding action. Hence, the constitutive feature of reciprocal mirroring is T's understanding of M's action *as a copy* of T's own foregoing action.

A slightly different form of social mirroring, *complementary mirroring,* arises when T sees her own action continued and carried on by M rather than simply being replicated. This is, of course, entirely different from what physical mirrors do. Still, what complementary mirroring has in common with reciprocal mirroring is that (1) M's action is strongly contingent upon T's preceding action and (2) that contingency needs to be perceived and understood by T. In this case, complementary mirroring requires that T is in a position to assess M's doing *as a continuation* of his or her own doing.