



Inner speech and conscious experience

Talking to ourselves is important in developing a sense of self

By Alain Morin

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Imagine that scientists have been successful at designing a drug that “freezes” brain areas producing our internal monologue. After taking the drug you can’t talk to yourself anymore. Every other mental activity is fine, but it’s now total silence in your head. Not a word. What would happen? What would it be like?

Of course, such a pharmacological agent doesn’t exist. Actually, we don’t need it. Some unfortunate people suffer from brain damage that selectively interrupts inner speech. It’s as if they were under the influence of this imaginary drug. Scott Moss, a psychologist who was victim of a stroke, lost the ability to use language. He was able to recuperate and related his experience:

What would happen if you could not speak to yourself?

“I had lost the ability to converse with others ... and to engage in self-talk. In other words, I did not have the ability to think about the future—to worry, to anticipate or perceive it—at least not with words. Thus for the first four or five weeks after hospitalization *I simply existed.*”

What this quotation suggests is that inner speech makes us aware of what we are experiencing. Moss, because he was unable to talk to himself about what was happening in his mind, “simply existed.” Surely he was feeling and perceiving things, but he was only vaguely—if at all—aware of his mental processes; furthermore, he was incapable of foresight.

In a paper that I just submitted for publication, I propose that inner speech is the main cognitive process leading to self-awareness. That is, self-talk allows us to verbally identify and process information about our current mental experiences (e.g., emotions, thoughts, attitudes, goals, motives, sensations) and other personal characteristics such as personality traits, behavior, and appearance. At an even higher level, I suggest that our internal dialogue is also what makes us aware of our own existence: “I’m alive and well; I’m a unique person with an identity; I have goals, aspirations, and values.” Being conscious that you exist is *not* the same as “simply existing.”

Speech is the main cognitive process leading to self-awareness

Recent studies using various measures of self-talk and self-awareness support the hypothesis of a correlation between these two mental activities. Overall, they indicate that the more we talk to ourselves the more we become self-aware, and vice-versa. To illustrate, Michael Siegrist, at the University of Zurich in Germany, developed a self-talk scale measuring inner speech that we typically use to examine ourselves. An example of one item is “I often talk to myself about happenings or experiences that are crucial to me.” Siegrist also assessed self-awareness with the Self-Consciousness Scale constructed in 1975 by Allan Fenigstein and his colleagues at the University of Texas at Austin. Self-consciousness is the disposition to focus on the self more or less frequently. He obtained a significant positive correlation between the two measures. In another study, Johann Schneider, at the University of the Saarland (also in Germany) evaluated inner speech with Siegrist’s scale and correlated it with a validated measure of self-reflection. Self-reflection represents a non-anxious, healthy form of self-awareness (see my [December 2002 SCR paper, No. 1](#)). Schneider also observed a strong significant and positive correlation between inner speech and self-reflection.

Current neuropsychological studies also tend to confirm the importance of inner speech for self-awareness. These two processes seem to share a common neurological basis, suggesting that they are linked. Assessments of patients suffering from brain damage, together with

Recent studies demonstrate a central involvement of the prefrontal lobes in self-awareness

studies of psychiatric conditions (e.g., schizophrenia and autism), and recent brain-imaging experiments all strongly support the notion of an central involvement of the prefrontal lobes in self-awareness. For example, Johnson and his team at the Barrow Neurological Institute in Phoenix, asked 11 healthy volunteers to evaluate the self-relevance of personality traits, abilities, and attitudes by pressing “yes” or “no” buttons. Such a task obviously requires self-awareness because it involves thinking about oneself. The brain activity of participants was simultaneously observed with functional magnetic resonance imaging (fMRI). The main area activated while the participants were performing the task was the prefrontal cortex, on both sides of the brain.

Interestingly, a series of studies conducted by Philip McGuire and his collaborators at the Institute of Psychiatry in London, show that specific structures within the left prefrontal lobe are also activated when people are invited to silently articulate sentences or single words. More specifically, inner speech is associated with activation of the left inferior frontal gyrus within the prefrontal cortex. Since a portion of the left prefrontal lobe is associated with inner speech, and that the prefrontal lobes as a whole mediate self-awareness, then it supports the notion that the former participates in self-awareness.

It comes as no surprise then that disruption of self-talk following left prefrontal brain injury negatively affects self-awareness, as suggested by Moss’ experience presented earlier. If loss of inner speech decreases self-awareness, we should expect the reverse process to take place with *recovery* of self-talk after cortical damage. Indeed, George Ojemann, a neurosurgeon at the University of Washington, observed that conscious experience in patients seems to return in parallel with inner speech.

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A pertinent question at this point is: In what way exactly does inner speech make us self-aware? What is the nature of the relation between self-talk and self-awareness? My proposal is that inner speech can reproduce (i.e., internalize) and expand social sources of self-awareness. Our social milieu is populated by friends, family members, and coworkers who regularly comment on our personal characteristics and behaviors. This social feedback allows us to learn about ourselves. For example, people can claim “You are very strong...” or emotional, good-looking, introverted, lazy, punctual, etc. People may say to you: “I’ve been observing you lately—you seem anxious”... or sad, happy, healthy, impatient, etc. People communicate with us, smile at us, look angry at us, or ignore us; we use this information to develop a self-concept.



Inner speech makes it possible to communicate and develop a relationship *with ourselves*. We can talk to ourselves as if we were speaking to someone else; in this process we can reproduce for ourselves appraisals we get from others. For example, we can say to ourselves “You’re very strong”, emotional, lazy, etc. “Why did you do this? Because...”, “You take yourself way too seriously!”, “I feel anxious”, and so on. Talking to ourselves that way most certainly makes us self-

aware and helps us identify self-information.

People around us also constantly confront us to other ways of thinking, feeling, or behaving; we perceive differences between these elements and what we typically do, think or feel. This motivates us to take the perspective of other persons and to develop an objective vision of ourselves and to examine our own intellectual, emotional, and behavioral patterns. To illustrate, let’s suppose you are at the theater watching a movie. The person seating in front of you keeps talking to her friend, which is annoying since it distracts you. This behavior strikes you as being rude (confrontation) and makes you realize (perspective taking and self-awareness) that you would never engage in such a behavior. You conclude that usually, at least in that kind of situation, you are respectful of others (acquisition of self-information).

Inner speech can internalize this mechanism of taking others’ perspective. This means that we can engage in self-talk in which we state to real or imaginary persons our motives for behaving in a given fashion or for having some personal characteristics. When, in response to the expected reactions of others, we explain our actions or describe ourselves in self-talk, we take other people’s perspective into consideration and thus gain an objective view of ourselves. For example, you might say to yourself: “X might wonder why I didn’t smile much at supper time last evening [objective vision of oneself produced by the anticipation of the reaction of another person]. Why did I act that way? Well, the plain fact is that X and I had a nasty fight two days ago and I still feel hurt and angry at her” [acquisition of information about your emotions]. Talking to ourselves that way, which encourages perspective taking, is bound to facilitate self-awareness.

Inner speech facilitates the process of taking others’ perspective

Overall, my argument is that inner speech is fundamental to self-awareness. Our social environment represents a necessary *but insufficient* condition for the emergence of self-awareness. Once initiated by social interactions, self-awareness is then taken over and extended by cognitive processes. In addition, language allows us to verbally label different self-dimensions; this greatly facilitates the identification of self-information, especially more conceptual, abstract material. Talking to ourselves and naming self-aspects make these more salient and visible. Without self-talk, emotional responses, physiological sensations, values, attitudes, goals, etc. would still be perceptible but more “diffuse” or “out of focus.” Inner speech also makes it possible for us to use a rich vocabulary about ourselves and to better differentiate between subtle self-aspects. For example, you could say to yourself “I feel tired”; but you could also utter “I don’t simply feel tired—I feel sleepy, drowsy and exhausted,” in which case your subjective experience will be significantly deepened by the use of a sophisticated vocabulary about yourself.



It would be naïve to believe that inner speech *alone* produces self-awareness. We just saw that our social environment is important; so are a host of neurological and cognitive processes. Self-awareness represents a complex, multifaceted phenomenon. But I believe that inner speech plays a central role. I like to compare inner speech to a flashlight that we would use to find our way through a dark room. Without the light and by using touch we could still perceive objects and furniture in the room (by analogy: self-information); but perception (self-awareness) would be much more vivid and precise if we would put the flashlight on.

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KEY WORDS

Self-awareness; inner speech; self-talk; prefrontal lobes; social feedback.