

Creation between two minded-bodies

Intercorporeality and social cognition

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Abstract

My aim here is to describe how meaningful communication is generated from embodied interactions between the self and the other. In order to do so, first, I revisit and clarify Merleau-Ponty's notion of intercorporeality based on his texts. Intercorporeality is formulated as the reciprocal perception-action loop between the self and the other. Perceiving the other's action prompts the same action in the self (e.g., contagious yawning), or its possibility (e.g., smiling), and vice versa. It is the process underlying the understanding of intentions in another's actions. Then, I extend the notion of intercorporeality from the enactive perspective. Since we immediately grasp the intention of another's action through perceiving it, that action appears as such that affords us to react naturally in response. Thus, intercorporeality unfolds as the embodied interaction of action-reaction, which at a certain moment overrides the individual's intentions and gains its own autonomy. It is through this process that intersubjectively meaningful communications are created.

Keywords Intercorporeality, Social cognition, Embodied interaction, Behavior matching, Interactional synchrony

Introduction

My aim in this paper is to revisit Maurice Merleau-Ponty's notion of intercorporeality (*intercorporéité*) and reconsider it in the context of current research on social cognition. It is well known that the theory of mind (ToM) has long been a central issue in the field of social cognition, and within the theory itself there has been debate between proponents of the theory theory (TT) and those supporting the simulation theory (ST), regarding the nature of our ability to understand the other person's mind (Davies and Stone, 1995; Doherty, 2009).

From the phenomenological perspective, the subject of social cognition belongs to the realm of intersubjectivity. However, before discussing social cognition as a problem of intersubjectivity it should be reconfirmed that current theories of social cognition lack the perspective of embodiment (Gallagher, 2005; Gallagher and Zahavi, 2008; Fuchs and De Jaegher, 2009). Both TT and ST perceive the other person's mind as something private and beyond observable bodily behaviors; therefore, one must employ theory or simulation to approach it. As Gallagher appropriately points out, "both theory theory and simulation theory conceive of communicative interaction between two people as a process that takes place between two Cartesian minds" (Gallagher, 2005, p. 211).

Long before ToM, Merleau-Ponty (1964/1951) clearly indicated that this point would be a stumbling block in the field of social cognition. Examining an infant's relationships with other people, he questions how social understanding becomes possible for an infant if the others' minds are invisible from the outside and accessible only to themselves, as presumed in classical psychology. Moreover, he refers to the notion of intercorporeality and attempts to give an alternative account of the problem of the other mind. In this paper, first, I clarify the notion of intercorporeality based on Merleau-Ponty's text. Then, I will develop the notion in line with two key ideas – "behavior matching" and "interactional synchrony" (Bernieri and Rosenthal, 1991). My basic attempt is to re-describe the social cognition as a creative process between two lived bodies.

Merleau-Ponty's notion of intercorporeality

Considering the problem of social understanding, Merleau-Ponty urges us to change our view of the mind—"We must abandon the fundamental prejudice according to which the psyche is that which

is accessible only to myself and cannot be seen from outside" (Merleau-Ponty, 1964/1951, p. 116). Then, he focuses on the relation between one's own body and that of the other to illuminate intersubjectivity in an alternative way. Here I quote three related passages.

- 1) In perceiving the other, my body and his are coupled, resulting in a sort of action which pairs them. This conduct which I am able only to see, I live somehow from a distance. I make it mine; I recover it or comprehend it. Reciprocally I know that the gestures I make myself can be the objects of another's intention. (Merleau-Ponty, 1964/1951, p. 118)

To understand this passage, it might be helpful to consider the example of yawning. It is a common experience that we cannot help yawning when we see someone else yawn. The self perceives the other yawn and "live somehow from a distance," resulting in the same action of yawning, which pairs "my body and his." In other words, the self lives another's action through its own body by perceiving it. In *Phenomenology of Perception*, Merleau-Ponty gives an example of a baby to describe what one lives through the body in perceiving another's action.

- 2) A fifteen-month-old baby opens his mouth when I playfully take one of his fingers in my mouth and pretend to bite it. ... "Biting" immediately has an intersubjective signification for him. He perceives his intentions in his body, perceives my body with his own, and thereby perceives my intention in his body. (Merleau-Ponty, 2012/1945, p. 368)

A fifteen-month-old baby, as soon as he perceives the adult's action of biting, echoes the same action even though he does not know whether his face structurally corresponds to that of the adult in front of him. The baby pre-reflectively acknowledges through his body (that is, through his motor capacity) the adult's intention of biting, and as such the intention to bite is shared intersubjectively between the baby and the adult. The following passage refers to this point.

- 3) Communication or the understanding of gestures is achieved through the reciprocity between my intentions and the other person's gestures, and between my gestures and the intentions which can be read in the other person's behavior. Everything happens as if the other person's intention inhabited my body, or as if my intentions inhabited his body. (Merleau-Ponty, 2012/1945, pp. 190–191)

The word “gestures” in this passage could also be read as “actions.” There is reciprocity between my intentions and another's actions, and between another's intentions and my actions. Consider again the baby's case: after perceiving my action of biting, the baby carries out his own intention to bite. The action occurs as if my intention inhabited the baby's body. And conversely, as seen in the case of my contagious yawning, the action occurred as if another's intention inhabited my body. Here, an example of smiling can also be considered. Generally, smiling is not as contagious as yawning. However, when I come upon someone's innocently smiling face, I may feel that the muscles around my mouth are about to mimic the same facial expression, even though I do not actually smile (Schilbach Eickhoff, Mojzisch and Vogeley, 2008).

Thus, now it is possible to understand the notion of intercorporeality, as shown in Figure 1 (Tanaka, 2013, p. 103). Intercorporeality contains a perception-action loop between the self and the other. The self's perception of the other's action prompts the same action in the self (like yawning) or the action's possibility (like smiling). Conversely, the self's action prompts the same action, or its possibility, in the other's body. Merleau-Ponty expresses this type of relation between the self's body and that of the other by stating, “each one of us [is] pregnant with the others and confirmed by them in his body” (Merleau-Ponty, 1964/1960, p. 181). Therefore, it is understandable that intercorporeality is also referred to as “carnal intersubjectivity” (*intersubjectivité charnelle*). Merleau-Ponty aimed to reformulate intersubjectivity not as a problem of communication between two *minds*, but between two *minded-bodies*.

In terms of social cognition, through this reciprocity between bodies, one can directly grasp the intention of another's action. For the self, to perceive another's action is potentially to perform the same

action. Thus, it is through one's motor capacity that one understands the meanings of the other's action (Kono, 2005). Our basic

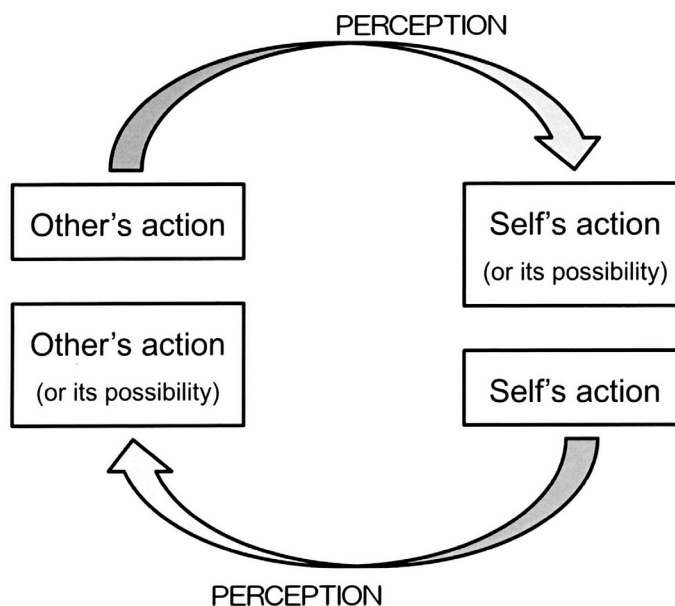


Figure 1. The structure of intercorporeality

ability to understand others is perceptual, sensorimotor, and non-conceptual (Tanaka, 2013). The most primary form of social understanding is to grasp directly another's actions through one's own body, and to find one's own possibility of actions in another's body. This understanding precedes the theoretical inferences or inner simulations put forward in the theories of mind.

Intercorporeality as behavior matching

Since Merleau-Ponty's death in 1961, many empirical cases have been reported in the fields of social and developmental psychology that support the notion of intercorporeality. The following cases are well known in these fields:

- Reflexive crying (Simner, 1971): Newborn infants have a strong tendency to cry in response to another newborn's crying. It is said to be the earliest stage of empathy.

- Neonate imitation (Meltzoff & Moore, 1977): Newborn infants imitate an adult's facial expressions, such as opening and closing the mouth or sticking out the tongue.
- Matching in vocalization (Capella, 1981): In dyadic interactions, infants consistently match their vocalization in timing and duration to those of the mother.
- Postural congruence (Schefflen, 1964; LaFrance & Broadbent, 1976): During communication in pairs or in a group, a similarity in participants' postures is often observed (e.g., crossing the legs, propping one's head, and leaning back).
- Motor mimicry (Bavelas, Black, Lemery & Mullett, 1986): When one occasionally comes across another's emotional expression (e.g., wincing for pain), he or she mimics the same movements, including facial expressions.

Similar to contagious yawning, these cases involve our natural tendency to imitate the others' actions. This tendency is observed not only in newborns but also in adults, and it includes a broad range of nonverbal behavior such as facial expressions, paralinguistic, postures, gestures, movements, and mannerisms, most of which are unintended and non-conscious (see Nagaoka, 2006, for a review). In all cases, more than two people show a similarity in nonverbal behavior, especially in bodily actions, which Bernieri and Rosenthal (1991) comprehensively conceptualize as "behavior matching."

It would be appropriate to refer to the mirror neuron system in this context (Murata, 2005; Rizzolatti and Craighero, 2004). As is well known, mirror neurons are a special type of neuron that are activated when one performs a specific movement and observes someone else performing the same movement. Neurons in the brain of an observer reflect the action of another, as if the observer were acting in the same way. In fact, it is considered that the primary function of these neurons is to understand the meaning of another's action (see also Rizzolatti and Sinigaglia, 2008). As seen above, perceiving another's action does not necessarily provoke the same action (like smiling); however, it draws out the possibility of the action in the self's body, that is, "potential behavior matching." The activation of mirror neurons primarily appears to correspond to this latent behavioral process. From my viewpoint, the mirror neuron

system is one of the neural correlates of intercorporeality: the neural basis for the perception-action loop between the self and the other.

As the mirror neuron system is considered to be the basis of empathy (Gallese, 2001), it is reasonable to think that the aspect of intercorporeality that appears as behavior matching forms the underlying process of empathy. Empathy is generally defined as understanding the other person on the basis of the vicarious experience of that person's feelings, perceptions, and cognitions (American Psychological Association, 2007). Behavior matching, whether it remains potential at the neural level or becomes actual at the behavioral level, offers an opportunity for a person to live the same intentionality of the other by experiencing the same action or its possibility: *at what* the other laughs, *for what* the other distorts the face, *to whom* the other speaks in a cheerful tone, and so on. Shared intentionality between two minded-bodies makes empathy between the self and the other possible.

However, it is necessary to add that the empathy which we discuss here along the notion of intercorporeality also includes a more profound aspect. When the perception-action loop between the self and the other appears as behavior matching, especially as unintended and non-conscious mimicry, the accompanying feelings or emotions might not belong to the independent mind in a strict sense. For example, consider the case of reflexive crying. It is clear that crying newborns may share a certain emotion, but it would be difficult to know whose emotion it derives from originally. There is a sort of empathy that does not derive from one particular individual but from the "between" of the self and the other.

This phenomenon might be beyond what can be described through the notion of "empathy," since it is difficult to trace whose feelings belong to whom. For the same reason, "emotional contagion" (Hatfield, Cacioppo, and Rapson, 1993) is not a suitable term either because the concept of contagion implies that something is transferred from one person to the other. For example, consider the audience members in a concert hall listening to the music in identical poses as if mirroring each other. They certainly share a similar emotional state and intentionality of consciousness toward the music. In this case, both the self and the other appear to merge into the same impersonal emotional state. Here I would like to add that Merleau-Ponty also stated, "He and I are like organs of one single inter-

corporeality” (Merleau-Ponty, 1964/1960, p. 168). Intercorporeality includes an emotional state that belongs to “we.”

Intercorporeality as interactional synchrony

With a focus on the nonverbal behaviors of interpersonal communication, intercorporeality appears not only as behavior matching but also as a meshing of each other’s actions, which is formally termed “interactional synchrony” (Bernieri & Rosenthal, 1991). Synchrony is the concept that “describes the coordination and timing of movements and includes simultaneous movement, tempo similarity, and coordination or smoothness” (Trees, 2009, p. 257). In communication research, behavior matching and interactional synchrony (simply, matching and meshing) are generally considered to be two basic types of interpersonal coordination that occur in social encounters with others (Knapp and Hall, 2010).

Similar to the case of behavior matching, various cases of synchrony are also reported in the fields of social and developmental psychology. According to the classical findings, two-week-old infants are also able to synchronize movements of their hands, head, and legs to an adult’s speech patterns (Condon and Sander, 1974). A similar coordination is also seen between adults: the flow of movements in the listener rhythmically corresponds to the speaker’s vocalization (Kendon, 1970). Thus, from the very early stage of development before ToM is established, the other’s action is perceived as something meaningful that provokes a related reaction in the self. Social perception requires us to understand it in relation to action.

Synchrony constitutes another phenomenal aspect of intercorporeality because the perception-action loop between the self and the other does not always appear as mirroring behavior. Rather, it appears in much larger part as embodied interactions of action and reaction. Perceiving the other’s action, we immediately grasp the intention through our motor capacity and react in response to that intention. In our daily interactions with others, we more often show a meaningful reaction than take a similar action. For instance, if a speaker lowers the voice and starts to whisper, the listener will naturally lean closer toward the speaker to identify what is being said. If an interaction partner hands a note to the other, the other will hold out the hand to receive it without deliberation. The reaction to the previous action then induces a subsequent reaction, and thus,

the process continues. In other words, we mesh the flow of embodied actions with one another in communication, as if we were playing music or dancing together. Interactional synchrony is this type of well-timed and meaningful interpersonal coordination, the basis of which is the rhythmical circulation of action and reaction between the self and the other.

It is important to add that this circulation is based on the perception of each other's action. From the enactive point of view, perception is not a process of passively receiving stimuli from the environment. On the contrary, it is a process of exploring possible action toward the environment based on embodied skills (Noë, 2004). Perception itself is a potential action. In the context of interpersonal communication, therefore, the other's action is perceived as one that affords the self to react in a certain manner. Conversely and in turn, the self's action is perceived as one that affords the other to react in response to it. The self and the other reciprocally seek the potential action through each one's perception, as a result of which the "interaction" is created. This view coincides with the idea of "enactive intersubjectivity" proposed by Fuchs and De Jaegher (2009), who also try to develop the notion of intercorporeality.

Embodied interaction that is experienced as interactional synchrony is in itself intersubjectively meaningful. Consider the case of an improvisation of jazz music. At a certain moment during the performance, the synchronized interaction between players gains an autonomy as if it has a life of its own, outside of which each player would perform differently. As a result of this moment of emergence, they create a new and one-time-only tune through which the players comprehend each other. Thus, through the process of interactional synchrony, the other and the self co-experience the emergence of meaning, which does not necessarily take concrete forms. It often appears as various implicit moods of the interpersonal field, such as convivial, collaborative, cohesive, confrontational, and competitive. These moods comprise the context of social understanding, in which the self and the other come to understand each other mutually in an explicit way. As was shown in the case of newborns who synchronize their movements to adults' speech pattern, embodied interaction of action-reaction precedes our ability of social understanding based on social norms and rules, and also underpins it. The notion of intercorporeality opens up the possibility of reconsidering our so-

cial understanding, not as a communication between two Cartesian minds, but as a creation between two minded-bodies.

Concluding remarks

Thus far, I revisited Merleau-Ponty's notion of intercorporeality and tried to lay the foundation for social cognition through it. Unlike current theories of social cognition that assume the other person's mind to be private and hidden, Merleau-Ponty stressed the primal bodily resonance between the self's body and that of the other. The self and the other can directly perceive intentions involved in each other's actions, and thus can understand the meaning of them. As is discussed above, intercorporeality contains a perception-action loop between the self and the other. It appears as embodied interactions in two closely connected but different manners, that is, behavior matching and interactional synchrony. The former serves as the basis of empathy, and the latter produces various implicit moods of the interpersonal field. Providing descriptions of both patterns of intercorporeality, it is suggested that the most basic process of social understanding is a creation of meaning through embodied interactions. The self's body and that of the other are engaged through perception and action, and both begin to participate in "between", outside of which the self and the other would feel and think differently. The impersonal emotions, moods, atmospheres and ambiances that are created in "between" may offer implicit contexts, within which the self and the other construct explicit mutual understanding through verbal communications. As is implied in the etymological sense of the word "communication", the possible range of social understanding would be what can be made common between the self and the other. Intercorporeality that appears as embodied interactions is the most fundamental condition for such commonality.

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