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TOWARD A SYMPATHETIC PROPENSITY THEORY OF MIND

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ABSTRACT

Numerous cognitive studies on theory of mind have been done. However, their paradigms are mainly desinged to probe if children can infer an imaginary person's behavior derived from the person's belief in an imaginary situation. They have given little attention to the fact that it is the person in close relation whose mind we would like to know. In this article what is the essential character of human relationships is discussed. Then, it points out limitations of cognitive perspectives on understanding others' minds comparing with emotional communication between infants and their close partners. Significance of sympathy as the essential propensity in understanding of others is considered through the comparison between Japanese term *kokoro* and mind. Finally, as human interactions naturally include both cognitive and emotional aspects, it suggests the need for integral approaches to understand their interrelations in future researches.

Key Words: intimate relation, emotional communication, theory of mind, *kokoro* and mind, integral approach

I. AN OVERVIEW OF "THEORY OF MIND" STUDIES

The topics on "Theory of Mind (TOM)", how children understand others' intentions, beliefs, or emotions, have been given great attention by researchers in cognitive development for the past decade. According to a seminal work by Premack and Woodruff (1978), to understand others' minds is that one can attribute the other's mental state to the cause of his/her acts or to their own past similar experience. This notion suggests that the understanding of invisible others' mental states requires the person to construct them mentally by means of inference or contribution, i.e., to need a "theory". Along this viewpoint, Wimmer and Perner (1983) developed "the false belief paradigm", and the paradigm became the most popular methodology to study in the

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field. It has brought a widely-known finding that there is a normative age boundary around age four to reach successful understanding of others' false beliefs. This under -four- impasse was even interpreted as indicating a conceptual deficit of understanding others' minds (Perner, Leecam & Wimmer, 1987).

Recent studies in this field are shifting their research focuses to search for the precursor of TOM rather than its age limitation. For instance, Wellman demonstrated that age 2-3 children can not only identify the difference between thinking and acting, and also predict what others desire (Wellman, 1992; Wellman & Woodlly, 1990). It is also suggested that in the case that intentions are overtly expressed, even under-four children can predict others' actions though it is difficult for them to infer the background intentions of the actions (Moses, 1993; Robinson & Mitchell, 1995). As Mitchell and Lewis (1994) proclaimed, this approach was aimed at challenging the proposition that TOM suddenly appears at a certain age. Leslie's theory (1994) may provide a good illustration of this challenge. The theory presented three modules that appear at different age levels, develop in parallel, and serve as independent learning mechanisms. The first module was named the " Theory of Body Mechanism (ToBy)", which begins to develop at 3-4 months of age. ToBy is the module to process information about behavior of physical objects and to generate representation of classes of objects (Moore, 1996). According to Leslie's explanation (1994), if an object changes motion state not because of external impact, but by itself, it will be recognized more readily, especially if the object is an agent. Then, ToBy is presumed to provide distinction of, and identification of, the agents from non-agentive objects. However, agents are identified not only in terms of their physical movement properties, but also by their goal-directed actions to connect objects and spatially and temporally distant goals. Around 6-8 months of age, to process information about agents' goal- directed actions, it is hypothesized that the first component of TOM Mechanism (ToMM1) appears. ToMM1 enables infants to use representation similar to what is needed in joint attention or social referencing which presents the relation between agents and possible objects aimed by their actions. Finally, beyond the visible reality, when the second TOM Mechanism (ToMM2) develops about 18 months, children start to processes information about agents and their mental relations to propositions. In other words, ToMM2 provides meta-representation of the mental relationship between actions and possible propositions (e. g., a girl is crying because she tumbled down and was hurt on her knee).

In line with Leslie's theory, Baron-Cohen (1994, 1995) examined ToBy giving special emphasis on detection of others eye directions to indicate their intentions. In his theory, ToBy was paraphrased into three subcategories: a) the Intention Detector (ID), b) the Eye Direction Detector (EDD), and c) the Shared Attention Mechanism (SAM). SAM comes on line toward the first birthday, and generates triadic representations such as "Agent sees an object " and " Self sees the object ", then "Agent sees ' Self sees the object '". Thus, SAM was considered the most significant as a precursor of TOM.

II. ALTERNATE VIEW: CLOSE COMMUNICATION IN INFANCY IN EVERYDAY CONTEXTS

However, in spite of these significant works of TOM, they seem to have produced an incongruence to studies on early emotional communication in everyday close relationships. The latter studies have evidence that understanding others' inner states already started in the earlier stage of human life. In fact, since the 1970's countless studies have been made and they evidented infants have enough abilities to interact mutually with their parents (e. g., Bateson, 1979; Beebe, Jaffle, Feldstein, Mays, & Alson, 1985; Stern, 1985, 1995; Trevarthen, 1979, 1984, 1993). The findings confirmed that reciprocal influences between interactants are the basic character of human relationships (Cappella, 1981). Thus, it can be concluded that the central principle of human relationships is the mutual agreement that one's actions will be received and responded as anticipated by the other (Trevarthen, 1993). Murray and Trevarthen's observation (1985, also see 1986) that a two-month-old infant and her mother communicated through the "double video" proved cogently this point. In their research, the infant and her mother were in separate rooms and while each of them was interacting with the other through images on a monitor TV, suddenly the images were replaced from live to replay images. The observation demonstrated that after several seconds, the infant began to show distress and finally gazed away from the (replay) image of his/her mother even though the video image of his/her mother was smiling. Terefore, As Reddy, Hay, Murray and Trevarthen (1996) summarized, "infants are born with a readiness for communicative interactions" and are active partners "seeking both to initiate and influence the course of communication" (p. 267).

More recently, the significance of such infants' interactions with close partners has been considered in similar contexts of TOM. For instance, Harris (1989) referred to the observation that, around one-and-half year old, infants start both to comfort and to hurt his/her playmate. He suggested that these actions cannot have any significance without the child knowing how their actions would effect the partners. Dunn's striking observation of conflicts between toddlers and their older sibling or mother (1988, 1993) proved the fact that the toddlers knew how their actions could disturb feelings of the older sister/brother. They broke the older siblings valuable things, or put disliked things near the siblings. They also justified themselves by insisting to their mothers how evil the older siblings were. Sullivan and Winner (1991) also described a similar anecdote showing a two-year-old girl's full understanding of others possible feelings and instrumental deceit action. The girl confessed to her mother that she deceived her aunt by pretend sadness to lure the aunt's sympathy to her when her aunt did not come to play with her. Further, according to Reddy's observation (1991), a ten-month-old infant stood in front of the TV screen on which his parents were watching a program, and smiled at them just like teasing them. Those evidences clearly suggest that infants can read others inner states and anticipate their next actions *in intimate relations*.

Comparing above studies with cognitive TOM studies mentioned earlier, one will find three dimensions obviously different between them: a) emotion versus cognition, b) reality versus fiction, and c) close persons versus general people. In cognitive TOM

studies, children were asked to infer *generally* how a *person* will do in a given *fictional* story. Although in Leslie (1994) and Baron-Cohen (1994, 1995), intaraction processes in a infant-parent dyad were considered, their focuses seems to be on *general capacities* to detect others' eye-directions and to read their intentions from the movements. They niether showed any concerns why the infant in the dyad like to share his/her attention with the other, nor considered who is the other in the dyad. In a dyad interaction sharing attentions mutually, the other should be the partner in a close relaionship, in other words, the *cpmpanion* (Bråten, 1996), neither poeple in general nor a stranger. In infant-close partner interactions, infants were observed their harmonized socio-emotional expressions to their companions according to the companions' inner states. This is considered why in the dyad interactions they must be motivated to know the intimate otheres' minds. This means that if the same infant interacts with a stranger, the results would be different from the one in infant-close partner interactions.

Here, to reconcile the gap between those two paradigms on children's understanding others, one can ask two possible questions: a) whether the ability of socio-emotional communication in infancy transforms into the cognitive ability of TOM in childhood in a fashion from TOM in close relations to TOM for people in general; b) or socio-emotional communication and cognitive TOM develop in parallel. The answer here is the second. Both emotional and cognitive understanding of others are considered to have own function in each other through all developmental phases. In their definiton of empathy, Davis, Hull, Young, and Warren (1987) suggested that there are cognitive and emotional empathy and they have different effects. Cognitive empathy may derive from relation to imaginative transformations and some form of verbal or symbolic encoding, while emotional empathy may depend on more affect-laden imagery. This parallel development hypothesis will be also strengthened by Reddy, *et al.* (1996). They insisted that communicative intentions cannot originate in a cognitive clarification of the nature of other persons as mental beings. Rather, "these intentions must originate in motivations" (p. 264-265) and "both knowledge about the effects of communicative acts on others, and the very communicative intentions themselves, i. e., the what and how and why of communicating, are changing and diversifying within interaction throughout life" (p. 265).

In addition to this parallel development hypothesis, as Fig. 1 illustrates, understanding others may vary depending on intimacy between the self and others. Why and how and what we communicate to intimate persons including parents, family members, close friends are because we like them. We are motivated to know and share why, how, and what the intimate persons think, feel, and do so. This propensity presumes to produce "a sense of we" (Stern, 1995) or "the space of we" (Nakano, 1997) and is basically characterized by emotionality. In contrast to this, when we infer why, how, and what people in general would think, feel, and do, we are likely to employ cognitive functions. For instance, just three years ago, a terrible earthquake hit one of our metropolitan cities, Kobe, and changed all parts of the city into scenes of the Hell. There were catastrophic situations far beyond our imagination. It is obvious to recognize the situation and feelings of the suffered were limited in vicariousness to the people who have never had any real crisis experiences. Here vicariousness refers to the imag-

inative participation in others' experiences (Hoffman, 1981). This suggests that the vicarious understanding of persons very looks like Piagetian understanding of physical causality achieved by inferring lowful consequences that an agent's action on an object results. In addition to that, it may be right to say that we are capable of extending cognitive empathy not only to human beings, but also to anything in this universe applying imaginations with personification. Thus one can reasonably dout that cognitive understanding others or the cognitive theory of mind may not derive from direct person -to-person relationships, but some form of verbal or symbolic understanding of pysical causalities.

Therefore, one may correctly claim to TOM researchers what is their postulated character of human relationship and how they show the relationship by applying the TOM paradigm.

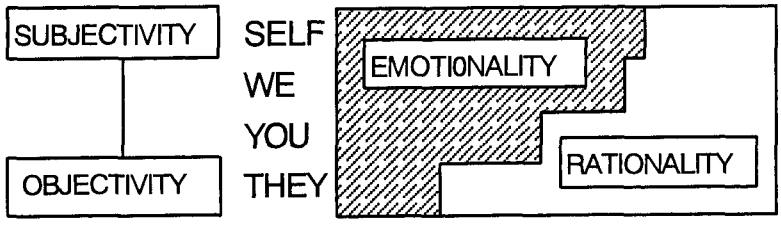


Fig. 1 A conceptual model of differentiated functioning of emotionality and rationality depending on closeness.

III. MIND VERSUS *KOKORO* : A PERSON-DIRECTED PSYCHOLOGICAL ENTITY

In past several years, some books on TOM were trauslated into Japanese (e. g., Astington, 1994 ; Bennett, 1993) and journal special issues (e. g., Japanese Psychological Review, Vol. 40, No. 1) have been published. The issue of TOM has now become one of the popular topics among Japanese psychologists. In Japanese, the term " Theory of Mind " is translated into " Theory of *Kokoro* ". However, it may be right to say that " mind" and " *kokoro* " are not equivalent in their precise sense. In a part of his ambitious review on psychoanalytic significance of the concept of *Amae* (dependence/indulgence), and the explanation of its validity in Japanese society, Doi (1973) explained that in Japanese there is no single equivalent word to " mind " which incorporates a conglomerate of cognitive, perceptual, and emotional functions. He asserted that the translation of " mind " into Japanese " raise the possibility of applying many terms that refers to different operational categories " (p. 227). Then he listed the Japanese candidates, including the terms that means intellect, reason, consciousness, attention, intention, disposition, emotion, and spirit. However, it may be true that in such compound senses of " mind ", in general, the rational functioning is rather regarded as taking a priority over the others.

On the other hand, Johnson (1993) allocated the translation of *kokoro* into " heart ", though " heart " is assumed to have a different implication from " mind ". He explained : " *Kokoro* is taken for granted as a mostly hidden and deep part of personal functioning. Although not used as a formal psychological term, at a folk level,

kokoro has the informal status of a motivational system that activates behavior through true feeling and sincerity" (p. 225). In short, it can be said that *kokoro* indicates the psychological function toward more specific to be a motivational-emotional entity, while "mind" denotes general, but rational-orienting functions.

This may be demonstrated by the recent appeal, "The Need for the Education for *Kokoro*", proclaimed by the Ministry of Science and Education of Japanese Government. It was proposed just after a gruesome murder happened last year that a junior high school boy be headed an innocent elementary school boy and left it at the gate of his school secretly. In this context, *kokoro* is presumed to imply disposition or propensity "to think of and understand others' feelings and to show a warmhearted affection toward the person". In short, it means a propensity to articulate "*omoiyari* behavior" (sympathy or emotional attunement). As Johnson (1993) described that "the development of a finely tuned sensitivity to the feelings and latent intentions of others is a crucial part of early childhood socialization" (p. 245), *omoiyari* is given the central venture in Japanese society.

Chen (1996) considered characteristics of Japanese adults' attitudes in socializing their children. He suggested that "it is interesting to note that this practice assumes that young children are loneliness-prone and that adults not only recognize this nature of children but also accommodate for it. This actively empathic support for it is in contrast with that of the Chinese and the Western societies" (p. 122). He concluded, that through socializing processes Japanese children develop behavior in accordance with cultural vultures: "the ability to be dependent in a sophisticated manner". This process was in contrast to the ability to be dependent in Western societies, and "the ability for knowing the pathos of things and for sympathizing and empathizing with the weak" (p. 123). Thus, Japanese children are expected to develop a sense of perceiving intuitively to what extent they will be allowed to be dependent on (*amaeru*) the person with whom they have a relationship. At the same time, they are also encouraged to show empathy and sympathy [see, Wispé (1991, p. 79-80) for the definitions] to others and to have concern with their inner states. In short, what is socializing in Japan is to read others' *kokoro* and show their own *kokoro* to others. Therefore, *kokoro* is assumed basically to be characterized by not only a motivational-emotional entity but also a propensity to consider others' inner states, i. e. "other-directed". In other words, a propensity to articulate *omoiyari* (sympathy or emotional attunement). It also should be added that this propensity to consider others' feelings is not restricted to human beings, but also engaged in personified objects. For instance, some Japanese mothers would say that: "Your carrots and lettuce are waiting to be eaten on your plate. Don't you think they must be sad if you leave them alone?", when they are trying to persuade their children at a dinner table to eat their vegetables.

Here, my point is not to present through the above discussion to prove either "cultural nationalism" or "chauvinistic uniqueness" of Japanese vocabularies and thoughts by referring to indigenous terms. However, one may claim this kind of discussion is simply "emic" (Pike, 1954), specific to the culture itself, but not "etic", more abstract descriptions and explanations based on more universal categorization. According to Jahoda (1982), emic approaches aim at describing behavior as a partial

structure of given cultural systems using indigenous terms. They mainly argue meanings and distinctions of the behavior within the system, independent from gauges outside the system, regardless if the meanings are standard or not. On the other hand, in etic approaches behavior is studied by using the gauges into which are brought the cultural systems targeted by an observer as an outsider. As Jahoda (1983) suggested, such gauges are likely to be regarded implicitly as being more scientific, objective, and universal because, in principle, etic studies can be replicated by applying the same procedure by any other persons, regardless of whether they are the members of a targeted culture. Perhaps, in line with this sense, the concept of "mind" may have been viewed as a more scientific and universal entity beyond its reality of one of English words.

The point that I am trying to present here, comparing differences in the concept of between *kokoro* and mind, is to examine what is the underlying basic propensity to generate, sustain, and enrich the nexus of interpersonal relationships. As postulated above, the hypothetical essence of *kokoro* is the propensity to articulate sympathy or emotional attunement (*omoiyari*) and other-directedness. Wisp(1991) discussed the roots of sympathy historically, ontogenetically, and developmentally, and concluded that the capacity for sympathy would be inborn (p. 92). She suggested that although "it is impossible to analyze precisely where, when, or how sympathy began" (p. 84), the beginning of sympathy may link to the mother-child interaction (p. 85). Reddy *et al.* (1996) also claimed in their argument on communication in infancy that communicative intentions emerge from innate motivations to engage psychologically with others, rather than from a late appearing cognitive restructuring of the nature of persons and a discovery of their minds (p. 267). It is certain that those affirmations of the innate motivational-emotional and "other-directed" propensity have much in common with the consideration that *kokoro* described above.

At the present, we can only conjecture the basic structure and characteristics of *kokoro*. However, through comparative studies on differences between mind and *kokoro*, it will be more clarified and a more sympathetic communication theory of mind would be developed.

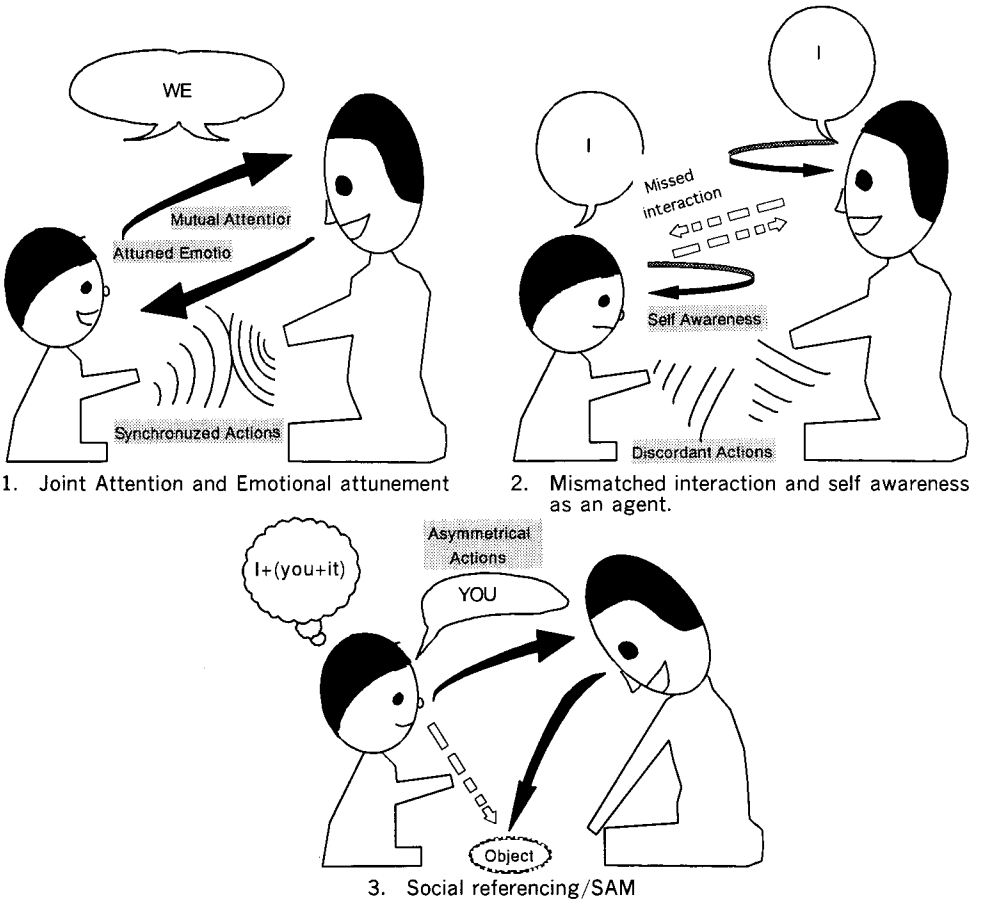
IV. TOWARD THE INTEGRAL APPROACH TO UNDERSTANDING OF SELF-OTHER RELATION.

I have presented limitations of cognitive studies on TOM and an alternate viewpoint based on the idea of the sympathetic propensity of mind. Finally, I would like to call for the integral approach of how children develop understanding of self-other relation.

In his review on recent researches of TOM in infancy, Moore (1996) categorized them into modularity theories (e. g., Leslie, 1994; Baron-Cohen, 1994, 1995), Piagetian theories (e. g., Frye, 1991), matching theories (e. g., Gopnik & Meltzoff, 1994; Meltzoff & Gopnik, 1993, Moore & Corkum, 1994), and intersubjectivity (e. g., Hobson, 1989, 1991, 1993, 1994). Then he concluded none of these theories are completely correct and all are of some value (p. 35). For them to be incorporated into a full theory of origins of social understanding, he proposed a variety of approaches for three compo-

nents of social understanding: the understanding of other agent, of self, and of self and other. This proposal seems to be too conventional and not specific because those three components are naturally essential in dyad interactions. However, his claim to incorporate those three components can still maintain its significance. As shown in Fig. 2, all of those theories may be available to one aspect of all sequential dyad interactions, not whole. Each theory might be valid for only a segment of them. Perhaps, some of thories may be more authentic than others to explain how to generate, sustain, and enrich the nexus of interpersonal relationships. It is also the truth that sometimes infants may attune their emotions to the partner, but the next moment they might engage activities according to their own interest, after then they could observe sincerely the partners actions. There can be certainly various forms of agent-other relations in a process of an interaction.

Therefore, to achieve an incorporated view on developmental understanding of others, we need an integral approach to find interrelationships of individual aspects of interactions. To do so, it may be required to re-consider and explore what propensity is required to postulate the authentic structure of mind.



1. Joint Attention and Emotional attunement
2. Mismatched interaction and self awareness as an agent.
3. Social referencing/SAM

Fig. 2 An illustration of understanding the self and other in three different situations of dyad interactions

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