Being Human Together:

Empathy Revisited

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Introduction

Early in the psychoanalytic tradition, Freud (1926) recognized “empathy’s” value as the only way of knowing the existence of the psychic life of another. This began the rich history in psychoanalytic thought examining the value of “empathy” in the therapeutic process (Ferenczi, 1928; Winnicott, 1965; Kohut, 1959, 1982, 1984). This interest was not unique to psychoanalysis, however, as other modalities have also deemed “empathy” as essential to therapeutic efficacy (Rogers, 1959, 1975, 1980). However, as Teicholz points out, (2001) certain precincts within psychoanalysis have, at times, severely questioned “empathy’s” therapeutic value, concerned that if lacking authenticity and genuineness, it could easily become a hackneyed therapeutic technique.

Major discoveries in neuroscience, including the discovery of the mirror neuron and related systems in the human brain, has inspired renewed interest in “empathy” and all aspects of intersubjectivity in a diverse spectrum of academic disciplines (Decety and Ickes, 2009; Gazzaniga, 2008; Cozolino, 2006; Ramachandran, 2011). This parallels renewed interest in “empathy” within psychoanalysis accompanied by interest in Dynamic Systems Theory, (Reis, 2009; Gallese & Sinigaglia, 2011; Gallese, 2009; Emde, 2009; Vivona, 2009; BCPSG, 2010; Shore, 2000), in attempting to redefine what it means to be human, “together.” The spirit of this renewed interest is contained in Emde’s provocative question echoed by Gallese; to what extent and under what circumstances does therapeutic change depend upon implicit and nonconscious interactive “empathy” exchanges between patient and psychoanalyst? This paper addresses this question by deconstructing “empathy,” suggesting that the term is too limited to fully describe this essential aspect of human development and therapeutic efficacy. It will also look at “empathy” as an emergent property of mind in an effort to demonstrate a rationale for its training as a social skill.
Empathy’s Neurobiology

The mirror neuron (MN) was discovered in the mid-1990s, at University of Parma, Parma, Italy during individual neuron brain mapping research with macaque monkeys (Gallese et al. 1996; Rizzolatti, 2005; Rizzolatti et al. 1996). Quite by accident, researchers discovered a special set of neurons that would fire while the test animal was simply observing another monkey’s goal directed action. Because of the precise brain mapping procedures, the researchers knew that these were the same neurons that would fire if the observing monkey were performing the action it was observing! In effect, a portion of the observing monkey’s brain was mirroring what was happening in the other monkey’s brain, thus the label, mirror neuron.

Subsequent research established the presence of MNs and related systems in the human brain constituting a robust mirroring capability extending beyond mirroring goal-directed actions to include bodily sensations and emotions. From this research, Gallese, also a member of the original Parma research team, developed a theory of “embodied simulation,” (Gallese, 2001, 2003a, 2003b, 2005a, 2005b) which posits that human mirroring capability constitutes a fundamental “mirroring mechanism” in our brain. The mirroring mechanism automatically maps the action, emotion or sensation of another in the observer’s brain as its own motor, viscera-motor, or somatosensory representation of that action, emotion, or sensation where it will be “reused” in forming an “action understanding” of the other. This form of embodied understanding enables the observer to perceive the other’s action, emotion, or sensation as if it were the observer’s own (Gallese, 2010; Gallese & Sinigaglia, 2011).

It is reasoned that by automatically achieving a motor representation of another’s goal-directed action, the observer has the advantage of quickly “understanding” the flow of the other’s actions thus aiding in perceiving the other’s intentions and predating his/her next action (Fogassi et al, 2005). This conclusion which is consistent with cognitive psychology and evolutionary psychology supports the idea that the mind/brain’s basic function is prediction/anticipation (Heylighen, 2006). Especially in a hunter-gather mode,
the better one understands the other’s actions/emotions, the more effective one will be in anticipating that person’s next action and thus in choosing an appropriate response. If the response is sufficiently co-operative/synergistic, it could produce survival/reproductive advantage for the responder as well as for that individual’s group/tribe (Heylighen, 2007c).

Embodied Simulation Theory (EST), posits that an embodied understanding of the other’s experience is primary to forms of cognitive understanding, thereby playing a fundamental role in informing all aspects of intersubjectivity (Gallese, 2010; Gallese & Sinigaglia, 2011). Mirroring mechanisms do not, however, preclude the existence of the more cognitively driven brain processes involved in analyzing and understanding the intentional acts of others. Rather, by providing kinesthetic information, they make these processes more effective. But, given the instantaneous and non-cognitively mediated nature of the mirroring phenomenon, it is reasonable to say that this embodied form of knowing the other could be considered a priori. That is, this form of knowing is presupposed and fully functioning without intra-psychic examination or analysis.

There is strong evidence that mirroring capabilities and ES are hardwired. Evidence comes from infant research involving distress crying responses and mimicking facial expressions (Gazzaniga, 2008). In the former, infants are observed responding out of a calm state and crying when exposed to another infant’s distress crying. Here, the MN hypothesis suggests that this phenomenon occurs because the observing (previously calm) infant experiences/feels (via embodied simulation) the upset infant’s distress as a form of emotional contagion. Given the infant’s limited cognitive ability, this is a reasonable assumption because an infant lacks the cognitive ability to distinguish between self and other (Hatfield, et al., 2009). Similarly, facial mimicry studies with infants report that infants will mimic the facial expression of (m)other as early as 42 hours old, long before significant cognitive development occurs. This phenomenon is also consistent with EST which posits that the (m)other’s facial movement automatically produces a motor representation of these movements in the infant’s pre motor cortex thus supplying the infant with the sufficient blueprint for action, (Meltzoff & Moore, 1998). Similarly,
Shamay-Tsoory, et al., (2009) conclude, that “… (emotional contagion) is the lowest common denominator of all empathic responses.”

We see this innate imitative ability in the complex interplay of embodied communication between infant and (m)other which provides mutual “confirmative mirroring” between them. That is, the (m)other’s reactions/responses act as a mirror, providing the infant with external validation of the existence of its affect and internal sensations. This, Lichtenberg, Lachman & Fosshage (2002) see as the first elements of the infant’s developing consciousness. The early mutual engagement of the infant’s and (m)other’s mirror mechanisms and ES provides the fundamental link between their minds providing action recognition, intentionality sensing, and emotion sharing. This manifests as an intersubjective dance consisting of mutual mirroring and affect regulation within the dyad as the partners create the fundamental relatedness unique to their dyad (Beebe et al., 2005).

This begs the question: are we born with fully functioning MNs or do they develop? Gallese (2010) hypothesizes that the baby comes equipped with rudimentary MN functioning that can be modulated by motor experience and gradually enriched by visuomotor learning. He cites (Lepage & Theoret, 2007) studies that propose at least part of early development involves learning to mediate the otherwise automatic (MN) mirroring function. Without this mediation, the representations produced in the automatic mapping process are prone to unconscious enactment. But with mediation, the representations are transformed to an ES experience and are then available to inform higher cognitive processes.

As important as MNs and ES are to intersubjectivity and relatedness, they also are developmentally problematic. With the paucity of cognitive mediation at this fundamental level (MNs and ES) of experience, there is natural confusion as to the origin of feelings: (whose feeling is this? Yours, mine, or ours?). Remember the infant distress crying studies? At the early stages of cognitive development, an infant can’t differentiate between self and other. None-the-less it has an emotional reaction and response to the other
distressed infant. This illustrates how, in absence of cognitive input, emotion sharing occurs with potential confusion and ambiguity as to the origin of feelings. This confusion and ambiguity makes the task of establishing and maintaining a psychological boundary between self and other a highly complex process (Iacoboni, 2009; Decety & Lamm, 2006).

In Summary, MNs and ES underpin emotional contagion, mimicry, and emotion sharing which inform all aspects of intersubjectivity and relatedness. These should be considered the constituents of “emotional empathy,” the basic form of “empathy” both phylogenetically and in terms of individual developmental (Shamay-Tsoory, et al., 2009; Gallese et al., 2011). But, “emotional empathy” is not fully constitutive of the concept of “empathy.” To fully understand the concept of “empathy” we must also consider its cognitive constituents, Perspective Taking and Theory of Mind (ToM). In the following discussion, I will also argue for using the term “empathic attunement” (EA) because it better describes the emotional and cognitive constituents of the full “empathic” experience.

**Empathy’s Cognitive Processes**

As mentioned earlier, the human mind/brain’s primary function is prediction and anticipation. The mind/brain has countless ways of organizing and making sense of the world of physical objects in order to quickly infer and predict what unfolds in this realm. However, predicting human behavior/intentions is a much more complex task, requiring more than emotional contagion, it requires psychological attunement. On a cognitive level, we accomplish this attunement in two major ways; first by employing what cognitive science refers to as Theory of Mind (ToM) (Gazzaniga, 2008; Decety & Lamm, 2006). Sometimes referred to as intuitive psychology, ToM operates as an unconscious projection wherein we assume that the other person has a mind which includes invisible mental states, that operates very much like ours. These assumptions make it easier to conceive of others as “selves” like us, thereby making it possible to access and understand their thoughts and
feelings. Gallese (2010) refers to this implicit process as “intentional attunement,” an important element in creating the “intersubjective manifold,” meaning the highly varied nature of human experience.

The second major cognitive process that helps us understand the other is “perspective taking.” Interestingly, this complex cognitive process, of putting yourself in the other person’s shoes, takes place in separate but overlapping brain areas. For example: certain brain cortices are most active when one is thinking/focused on one self (i.e. I need to do x. I want y. My tooth hurts etc.), and different cortices are most active when one is thinking/focused on the other (Ruby & Decety, 2001; Decety & Lamm, 2006; Shamay-Tsoory, et al., 2009). However, because of the functional overlap of these various cortices, when thinking about the other, the brain area that provides the personal (I, me) perspective may also be engaged. And the opposite is so. When one is focused on oneself the area of the brain that allows one to entertain the other’s perspective may be engaged at the same time. Thus, these brain areas constitute a “self-other” system in which perspective taking is not an all-or-nothing, either-or proposition. The extent to which we entertain one perspective more than another depends on a myriad of subtle environmental factors including: 1) social context, 2) level of emotional distress, 3) nature of the relationship (cooperative vs. competitive), 4) perceived similarity between self and other (Decety & Lamm, 2006; Shamay-Tsoory, et al., 2009), thus making perspective taking a complex process.

The preceding discussion has deconstructed “empathy” in order to elucidate the full complexity of the dynamic interplay of its cognitive and affective constituents. It is because of this complexity that I depart from using the term “empathy,” preferring the term Empathic Attunement (EA). This term better suggests the dynamic blending of the emotional (MNs, ES) and cognitive (ToM, Perspective Taking) all of which are necessary to attain full resonance and understanding of the other. To better understand this “blending,” I will use Dynamic Systems Theory (DST) and look at EA as an emergent property of mind.
I undertake the following discussion fully acknowledging that this is only a modest beginning in examining the complex area of Dynamic Systems Theory (DST). By looking at EA through the DST lens, I suggest that EA can be seen as an emergent property of mind (Fogel, 2006; Lewis, 2000; Lewis and Granic, 2000; Thelen & Smith, 1994). This view can provide a better understanding of EA’s value in the clinical setting as well as provide insight with regard to the question of training EA as a way of enhancing it as a social skill.

But first, what is an emergent property? In the non-biological realm, water is an example of an emergent property. When hydrogen and oxygen combine under the right circumstances, they form a completely new physical thing (water) which bears no resemblance to its pre-generators. That is, the new substance has completely different and unique properties that stand on their own in terms of analysis and cannot be understood simply as the superposition of the individual contributors, thus water is an emergent property of hydrogen and oxygen.

At the opposite extreme, in the biological realm, mind can be seen as the emergent property of brain. The 100 billion neurons and the 100 trillion synaptic connections and the firing patterns of these neurons are the basic physical constituents of brain. From the unique operation of these constituents, mind emerges from a “self-organizing” process, forming a new non-physical entity, in this case, an entirely new “dynamic system,” the primary function of which is the anticipation/prediction of happenings in the physical and psychological surround (BCPSG, 2010; Heylighen, 2006). In this view, mind, like all systems, develops through the functions and interactions internal to its underlying constituents, all acting without any pre-specification of internal or external rules of determination (Fogel, 2006; Lewis, 2000; Lewis and Granic, 2000). Heylighen, (2011, in press) offers the following description, “Self-organization is the spontaneous process through which systems emerge and evolve, becoming ever more complex more adaptive and more synergistic . . . (emerging from) the mutual adaptation and co-evolution of the
system’s initially autonomous components.” This is not traditional Darwinian evolution however; rather this describes intrapsychic evolution, a process of development within an individual mind producing a new system in response to a specific need in the physical or social surround.

As a complex system, EA’s emergence is consistent with the general pattern of hierarchical development of self-organizing systems. That is, new and more complex systems emerge when existing systems are not effective in solving problems in the environment. If the newly emergent system proves effective, it then resides at the top of a hierarchy of its constituent elements/sub-systems, all of which remain in place and fully functional. We can trace this process to see how EA emerges. In human evolutionary history, as the social milieu became more complex, existing neuronal systems were no longer effective predictors and anticipators of others’ motivations and behaviors. This gave rise to the emergence of new more complex mirroring systems (MNs, ES) which were better predictors and anticipators. And, as the social milieu became even more complex, these systems proved less effective thus creating the need and opportunity for an even more complex system to emerge in the form of EA. This new system emerges through a blending process that brings diverse functional constituents together (i.e. mirroring mechanisms and ES plus higher cognitive processes, ToM and Perspective Taking). As a product of this intrapsychic blending, EA emerges as a social skill designed to enhance individual relational fitness and efficacy in the social milieu.

Now two key questions; 1) what drives this self-organization process, and 2) is this aspect of human development automatic? Eons of human evolutionary history of evolving in social groups places a premium on synergy and co-operation within the group. I posit that as a result of this evolutionary history, humans have an implicit need/drive to maximize personal relational fitness and efficacy in the social milieu. It is this implicit need that provides the impetus for EA to develop via the self-organizing process. I further posit that regardless the innate/hard wired aspect of some of EA’s constituents (MNs, ES), its development at the level of the individual mind is not automatic and furthermore, the degree to which it develops is variable and trainable.
How does this complex social skill develop? The child’s early experience of EA is crucial because this experience becomes a template for being able to give or receive EA. This is because, in the experience of being empathized with, some representational elements of this experience are retained in the child’s psyche for reuse in bootstrapping the EA developmental process. This is analogous to Meltzoff & Moore’s (1998) explanation of how the infant is able to imitate facial expressions; the (m)other’s facial movement automatically produces a motor representation of these movements in the infant’s premotor cortex which is then available for reuse. Similarly, when a child experiences EA from (m)other, relational representations are laid down in the child’s psyche that are then available for reuse in the EA self-organizing process. Thus, development of this ability depends greatly on the vicissitudes of the child’s early relationships! The child must have the experience of receiving EA, that is, it is necessary for the child to have had sufficient dyadic experiences of emotional safety and of feeling understood for this system to organically develop within its mind.

Emotional safety exists when there is little or no chance of being used, humiliated, shamed, or unfairly criticized. Absent adequate emotional safety, maladaptive brain/mind systems will readily develop around affective themes such as shame, envy, victimhood depression, etc. (Harkness & Tucker, 2000; Izard, et al. 2000). When this is the case, the child unconsciously presents a guarded self to the world, exhibiting a restricted “relational posture” as a way of protecting against a possible psychological injury. Manifesting unconsciously, this relational posture reflects the child’s “implicit relational knowing,” that is, it’s “knowing how to be with another” (BCPSG, 2010) based on its experiences with (m)other.

In addition to emotional safety, the experience of “feeling understood” is essential to developing EA ability. Simply stated, this is the experience of the other person “getting” you, that is, when they understand the full range of your inner experience; your needs, wants, vulnerabilities, aspirations, as well as the origins and meanings of them. Thus, when EA is present it transforms the intersubjective space within the dyad into, what I term, the “WE Space.” When two people, regardless of the relational context, create a
sense of emotional safety and mutual understanding within their unique intersubjective dance, they will have co-created the “WE Space.” Entering into the “WE Space” is what the BCPSPG (2010) describe as “moments of meeting,” wherein a “… new dyadic possibility crystalizes when the two partners achieve the dual goals of complementarity, fitted actions, and joint intersubjective recognition in a new form” (p. 64). And, how will you know if you are operating in the “WE Space”? You will know because there is a “qualitative shift” that is felt conjointly with the other. And, most importantly, regardless of the relational context, operating in the “WE Space” is a powerfully liberating experience allowing greater creativity, cooperation, and productivity in the dyad. Again, the motivation to develop EA ability is implicit in the individual’s need to maximize personal relational fitness and efficacy in the social milieu. In short it maximizes his/her ability to have happy, healthy, and productive relationships.

Now to Emde’s question to Gallese; to what extent and under what circumstances does therapeutic change depend upon implicit and non-conscious interactive “empathy” exchanges between patient and psychoanalyst? While this paper can be only a modest beginning in addressing this question, my goal for this discussion is to provide a better understanding of EA: why and how it develops within an individual mind as well as how the lack of this development detracts from an individual’s relational fitness and efficacy in the social milieu. To the extent that the enhancement of the patient’s relational fitness and efficacy is a therapeutic goal, the clinical setting is a natural arena for EA development to occur. When the patient-therapist intersubjective dance results in the co-creation of the “WE Space,” the patient naturally forms new mental (relational) representations of that experience. These representations are necessary in bootstrapping the EA developmental process. As the new (EA) system begins to take hold, both partners will sense the shift to the “WE Space” as their intersubjective dance produces frequent, “moments of meeting.” As this process unfolds within the therapeutic dyad, the newly developing system (EA) crowds out the less adaptive existing systems. These older systems represent unproductive aspects of the individual’s “implicit relational knowing,” which, unfortunately do not disappear but remain fully operational as they drift into the intrapsychic background. The
therapeutic goal is for the patient to eventually use this new more adaptive system beyond the therapeutic dyad. This is not, however, a corrective emotional experience, but rather a transformative process made possible by the “relational quality” of the therapeutic dyad as determined by the therapist’s empathically attuned (or lack thereof) reactions/responses to the patient (Orange, 1995; BCP SG, 2010). And, while the BCP SG folks rarely use the term “empathy” or EA, I believe we are talking about the same interpersonal phenomenon, a complex process of fitting together and creating a “WE Space” that allows us to be fully human together.

The preceding discussion deconstructing EA has two primary goals; 1) to offer insight as to how and under what conditions EA naturally develops in the clinical setting, and 2) to describe why this is developmentally advantageous to the patient in terms of enhancing her/his personal relational fitness and efficacy in the social milieu. I have also tried to make the case for EA as an emergent property thus making it possible to understand EA as a developable social skill. It is with this perspective I make the following suggestions about approaches to training EA skills. Prior to instruction, ideally students should have an EA quotient evaluation measuring their ability to accurately access another’s inner experience. In the teaching itself, the most effective method will provide an “organic learning experience” meaning the teaching must go beyond didactic and conceptual presenting. An “organic” approach provides an experiential focus with ample opportunities to illustrate and practice co-creating the “WE Space,” and a developmental and therefore more integrated learning experience. At the close of the training, students will have a second EA quotient evaluation to measure any change in their ability to accurately access another’s inner experience. This is in the hope and expectation that their EA ability will show improvement, thus making them more able to be human together both in their clinical work and in general.
References


