

# The Explicit and Implicit Domains in Psychoanalytic Change

JAMES L. FOSSHAGE, PH.D.

New research findings of the development and organization of the mind, brain, and behavior bolster the ongoing relational or intersubjective-field paradigmatic revision of psychoanalytic theory. A multisystems view of learning, memory, and knowledge provide us with a more complex picture of information processing that has fundamental implications for a psychoanalytic theory of therapeutic action.

If the implicit and explicit learning/memory systems are viewed as parallel processes, not easily translatable from one to the other, then new implicit relational experience carries considerably more power as compared to explicit/declarative processing in changing and establishing new implicit mental models. When these cognitive processing systems are viewed as more closely interconnected with a developmental emphasis on connecting them through language, then exploratory/interpretive work becomes more central. REM, dream, infant, and cognitive research evidence suggests that imagistic symbolic capacity exists at birth. Learning and remembering using imagistic symbolic processing could suggest a more easily translatable connection with later developed verbal symbolic processing and a closer, although varied, interconnection between implicit and explicit (symbolic) memory systems.

Explicit attitudes are more directly modifiable through an explicit/declarative focus. Implicit mental models, it is proposed, are *variably*

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James L. Fosshage, Ph.D. is President, International Association for Psychoanalytic Self Psychology; Past President, Association for Autonomous Psychoanalytic Institutes; Cofounder and Board Director, National Institute for the Psychotherapies, New York City.

modifiable through two different change processes: (1) accommodation or transformation of expectancies through new implicit procedural experience (not requiring explicit focus) and (2) diminished activation and increased capacity to deactivate implicit mental models through explicit/declarative processing and the establishment of contrasting implicit models through new implicit procedural experience.

**T**HROUGHOUT THE HISTORY OF PSYCHOANALYSIS A RUNNING BATTLE has been waged between interpretation/insight and relational experience as focal points of therapeutic action (Friedman, 1978). The ongoing paradigmatic change within psychoanalysis from an intrapsychic to a relational (Greenberg and Mitchell, 1983; Mitchell, 1988) or intersubjective (Atwood and Stolorow, 1984) field model, in which the analytic encounter is viewed as a coconstructed “intersection of two subjectivities” (Stolorow, Brandchaft, and Atwood, 1987), has accentuated the importance of relational experience in our understanding of development, pathogenesis, transference, and therapeutic action. So important is the relational interaction that exploratory/interpretive analytic work is best subsumed as one aspect of analytic relational experience that can only be understood within the context of that experience.

New research findings of the development and organization of the mind, brain and behavior bolster this relational field paradigmatic revision of psychoanalytic theory, including our understanding of how psychoanalysis brings about change—the focus of this paper. For example, longitudinal attachment research (Ainsworth et al., 1978; Main, 2000) in demonstrating the establishment of enduring attachment patterns offers considerable empirical support for the relational origins of development. Infant research reveals relational origins of psychological organization as well as constitutional capacities of infants. Beginning with an emergent capability to self-regulate in utero (e.g., dampening arousal in response to stimulation; Brazelton, 1992), infant research has demonstrated the establishment of self-regulatory and interactive-regulatory patterns within the first two to three months (Sander, 1977; Stern, 1985; Tronick, 1989; Beebe and Lachmann, 2002). In investigating how past events affect current experience, cognitive psychology is providing a multisystems model of learning, memory, and knowledge that involve implicit/nondeclarative and explicit/declarative processing (Pally, 1997; Stern et al., 1998; Lyons-Ruth, 1999; Siegel, 1999; Westen, 1999; Davis, 2001—to mention a

few). Neuroscientists are tracking differences in brain function that correspond with these multimemory systems (Schoore, 1994, 2003a, b). Robust research findings in these areas are providing empirical underpinnings for revision and specification in models of development of psychological organization and change and psychoanalytic theories of therapeutic action.

The purpose of this paper is to contribute, through ongoing assessment and integration of research findings, to the reconceptualization of development of psychological organization, change processes, and a theory of therapeutic action. I will focus specifically on the implicit and explicit domains of learning and memory and their implications for a theory of psychoanalytic change.

### *A Multisystems View of Learning and Memory*

In the broadest definition “memory is the way past events affect future function” (Siegel, 1999, p. 24).<sup>1</sup> From a neuroscientific perspective, the firing of a neural circuitry, a “neural net profile,” increases the probability of it being reactivated in the future. Hebb’s (1949) law states that neurons that fire together wire together: “The increased probability of firing a similar pattern is how the network ‘remembers’” (p. 24). Neural net profiles are also called neural memory networks or maps (Nelson, 1986; Edelman, 1987; Leven, 1991; Damasio, 1999). Whereas transient metabolic changes are involved in short-term memory, more stable structural changes are apparently involved in long-term memory. Repetition of firings and the involvement of affect increase the probability that the neural net profile will become engrained circuits of the brain and will enter long-term memory storage. Edelman (1992) refers to the formation of positive feedback loops in which one group of neurons activates another, and that one reactivates the original group—constituting a major organizing process of the brain. Research amply demonstrates that REM sleep and dreaming consolidate neural networks, contributing to learning and memory (Fosshage, 1997; Siegel, 1999).

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<sup>1</sup>My coauthors, Joseph Lichtenberg and Frank Lachmann, and I addressed this topic in chapter 4 of our book, *A Spirit of Inquiry* (The Analytic Press, 2002).

Most cognitive science models differentiate between two, at times three, memory systems (Epstein, 1994). Distinctive memory systems apparently evolved to enable animals to deal with different kinds of problems (Sherry and Schacter, 1987). Memory systems differ in type of information processed, principles of operation, and neurological structures; yet, often more than one system is involved in performing particular tasks (Schacter and Tulving, 1994).

Perception is a constructive process; memory retrieval is a *reconstructing process* (Joseph, 1996). Pally (1997) writes, “What is remembered is constructed ‘on the spot’ and is not an exact replica of what happened in the past” (p. 1228). Memory can be transformed through recalling and telling it in a different context, critically important for understanding changes in memory and narrative within the psychoanalytic process.

Among the contemporary conceptualizations of memory, I will first focus on those cognitive science models that differentiate between two domains of memory—implicit/nondeclarative and explicit/declarative. The terms *implicit* and *explicit* refer to whether or not memory can be consciously recollected or not (Davis, 2001). The term *declarative memory* (Cohen and Squire, 1980) refers to a *memory system* involved in the processing of information that an individual can consciously recall and “*declare* to remember” (Davis, 2001, p. 451).

Cohen and Squire (1980) originally differentiated between declarative and *procedural* memory. Squire (1994) subsequently came to view procedural memory as one type of nondeclarative memory, the latter consisting of several separate memory systems. The nondeclarative memory systems influence experience and behavior, but typically cannot be explicitly or consciously recalled. Davis (2001) describes how classical conditioning and skill-and-habit (also called procedural) memory are two nondeclarative memory systems. Classical conditioning is now viewed as a “‘high-level’ process capable of representing complex temporal, spatial, and logical relations between events, features of those events, and the contexts in which the events occur . . . [and] form the primary basis for an organism’s expectations about the nature of future events” (p. 452). Skills and habits are learned either consciously or unconsciously and, through gradual incremental learning (Schacter and Tulving, 1994), become automatic procedures. While the concept of procedural learning had typically referred to behavioral sequences—for example, riding a

bike, driving a car, playing tennis—more recently it has been applied to social learning, specifically to learned patterns of relating (Clyman, 1991; Grigsby and Hartlaub, 1994; Stern et al., 1998).

LeDoux (1996) distinguishes between emotional memory and the declarative memory of an emotional situation. Declarative memory entails facts of the situation; emotional memory refers to emotional responses during the event. A declarative memory may or may not trigger an emotional memory. Studies provide ample evidence of neuroanatomical differences between the two systems, with implicit/nondeclarative processing involving the right brain and explicit/declarative processing more anchored in the left brain (Schoore, 2003a, pp. 52–53).

The implicit memory system is typically devoid of a subjective experience of recalling and does not require focal attention for encoding. In contrast, the explicit memory system is understood to require conscious focal attention for encoding and has a subjective sense of recollection. It involves the memory of facts (semantic) and episodes (e.g., oneself in an episode of time). Procedural learning often occurs at a subliminal or unconscious level of awareness yet can begin with explicit declarative focus (e.g., tennis strokes or direct prohibitions and admonitions) and gradually become procedural knowledge.

The implicit memory system appears to begin in utero (Brazelton, 1992) and is clearly operative at birth. Watching a newborn learning to connect an innate sucking response with a turn of his or her head (to the breast) provides credible evidence of implicit/nondeclarative (classical conditioning and procedural) learning and memory. From a neuroscientific perspective, the right brain, the seat of the implicit memory system, develops in volume and surface features more fully from about the 25th gestational week to the second year when linguistic development occurs (Trevarthen, 1989, p. 582). Schoore (2003a) describes how the “early-maturing emotion-processing right brain is dominant in human infants and for the first three years of life” (p. 116). In contrast, explicit/declarative capacity is typically viewed as developing during the second year of life, augmented by the emergence of verbal capability (the left brain), on the average around 18 months.

While the commonly held view is that implicit/nondeclarative learning occurs before explicit/declarative learning, Rovee-Collier, Hayne, and Colombo (2000) present experimental data suggesting that the “memory systems that support implicit and explicit memory are both present from early in infancy” (p. 188). In their response to

novelty, for example, infants are capable of explicit focal attention—watching mother’s expressions, observing mobiles, and learning contingencies (e.g., turning on music through changing their timing of sucking pauses; Decasper and Carstens, 1980).

Even more controversial is when infants first become capable of symbolic thinking. Infant researchers have documented experimentally that “some kind of rudimentary representational capacity, not yet symbolic, appears in the second month of life” (Beebe and Lachmann, 2002, p. 67). Beebe and Lachmann describe how mother–infant interaction patterns (at an implicit procedural level) accrue to the formation of what they and others call “presymbolic representations” which, in turn, affect symbolic representations, formed as language develops around 18 months of age. Mandler (1988) refers to the formation of “sensorimotor schemas” and links these schemas to a primitive form of representational ability appearing early in the infant’s life. Lyons-Ruth (1999) views this early “internalization” to be “occurring at a presymbolic level, prior to the capacity to evoke images or verbal representations of the ‘object.’ Thus, the primary form of representation, in her view, must be one not of words or images but one of enactive relational procedures governing ‘how to do,’ or what Stern et al. (1998) have called ‘implicit relational knowing’” (p. 586). This description of implicit relational knowing appears to be anchored in what Bucci (1997a) calls “subsymbolic processing” and does not include sensorial symbolizing processing (to be described).

How is implicit memory encoded? Does encoding vary according to the specific implicit/nondeclarative system? The answers are not yet clear. Although the terms *representational capacity* and *sensorimotor schemas* suggest something akin to symbolizing processes, infant researchers have tended to view symbolic capacity as developing with the onset of language. While infant research has contributed substantially to a picture of infants as far more cognitively capable than previously thought, the traditional equation of symbolic capacity with language development, in my view, has hindered recognition of the infant’s sensorial symbolizing capability and its contribution to complex cognitive functioning. In contrast, both Bucci and I have posited that what I (1983, 1997) call *imagistic* (i.e., thinking in images and other sensory modalities so apparent in dreams) and what Bucci (1997a) has termed *nonverbal symbolic* capacity provide the earliest avenue for affective/cognitive *symbolic* processing. Bucci

(1997b) defines symbols as “discrete entities that refer to or represent other entities and may be combined following systemic processing rules” (p. 154). Information is processed, for example, through sequential images and words, symbolically capturing meaning. Imagistic or nonverbal symbolic processing occurs implicitly or explicitly. Research amply demonstrates that REM activity involves information processing, learning, and mapping of the brain (Fosshage, 1997). While both modes of processing are operative, imagistic, as compared to linguistically anchored, mentation is more dominant in REM dreams. The fact that REM activity begins in utero and continues after birth suggests that a rudimentary *symbolic* representational capacity in the form of imagistic processing begins to develop in utero and exists at birth, far before the development of language. Relevant to this line of thought is DeCasper and Spence’s (1986) demonstration that learning, specifically the categorization of different qualities of sounds, occurred in utero through mothers’ reading aloud to fetuses a particular Dr. Seuss story which after birth the infants preferred to hear when compared to their mothers’ reading another Dr. Seuss story. To be able to finely discriminate “rhythmicity, intonation, frequency variation, and phonetic components of speech” (Beebe and Lachmann, 2002, p. 69) from being read to during gestation and after birth points to an early developed auditory learning capacity. Bucci (1997a) and I believe that capacities for “subsymbolic” and “nonverbal symbolic” processing “exist in human beings from the beginning of life, and in other species as well” (p. 159). The hypothesis, based on the above evidence and line of reasoning, that both subsymbolic and nonverbal or imagistic symbolic processing contribute early in development to implicit relational learning has significant ramifications for a theory of therapeutic action.

*Implicit and Explicit Contributions to  
Sense of Self and Others*

Our sense of self and others is derived from both memory systems. Implicit mental models affect explicit memory, and explicit memory cues evoke implicit memories. Spiegel (1999) notes, “Our internal sense of who we are is shaped both by what we can explicitly recall, and by the implicit recollections that create our mental models and

internal subjective experience of images, sensations, emotions, and behavioral responses” (p. 46). Consonance between explicit and implicit autobiographical memories likely contributes to an increased sense of self-cohesion (independent of negative or positive valence).

### *Implicit Mental Models: A Converging Concept*

The concept “implicit mental models,” emerging out of experimental research in cognitive psychology, converges with the neuroscience concept of neural memory networks or maps (Nelson, 1986; Edelman, 1987; Leven, 1991). These concepts, in turn, resonate closely with a number of psychoanalytic terms aimed to conceptualize patterns of perceptual/affective/cognitive processing. While these patterns are often initially established implicitly—that is, out of awareness, on the basis of lived experience—they might also begin with explicit focus and become implicit procedures. Subsequently, these patterns significantly affect the construction of ongoing experience. “Implicit” processing occurs at what Stolorow and Atwood (1992) call the pre-reflective unconscious level, to be differentiated from Freud’s conceptualization of the dynamic unconscious that involves repressive forces. With various connotations and shadings, a group of psychoanalytic terms refers to established patterns of processing: the *representational world* (Sandler and Rosenblatt, 1962), *internal working models* (Bowlby, 1973), *principles or patterns of organization* (Wachtel, 1980; Stolorow and Lachmann, 1984/1985; Fosshage, 1994), *RIGs or representations of interactions that are generalized* (Stern, 1985), *pathogenic beliefs* (Weiss and Sampson, 1986), *mental representations* (Fonagy, 1993), *interactional structures* (Beebe and Lachmann, 1994), *expectancies* (Lichtenberg, Lachmann, and Fosshage, 1996), *themes of organization* (Sander, 1997), *implicit relational knowing* (Stern et al., 1998), and *enactive representations* (Lyons-Ruth, 1999).

### *How Implicit Mental Models Shape Ongoing Experience*

Once implicit mental models are established, they shape ongoing experience through the use of four affective/cognitive processes: (1)

expectancies, (2) selective attention (and selective disattention), (3) attribution of meaning, and (4) interpersonal construction (Fosshage, 1994). In other words, a patient approaches an analytic session with expectancies, selectively attends to and attributes meaning to particular cues that confirm those expectancies, and interpersonally interacts in a way that tends to elicit responses from the other that confirm the expectancies. Analyst and patient gradually recognize and highlight the patient's initially unconscious (or nonconscious) patterns of organization as they emerge within the psychoanalytic encounter.

### *Dimensions of Implicit Mental Models*

How do implicit mental models vary? They vary along a number of dimensions (Fosshage, 1994). *The first is a vitalizing-to-devitalizing continuum.* While in the clinical situation psychoanalysts generally validate and support vitalizing percepts of self and other, we focus on illuminating and understanding the origins of more negative, devitalizing percepts of self and other, as part of the change process to be delineated.

*The second dimension is a frequency-of-use or -activation continuum.* Expectancies that others are critical, for example, can range from episodic to a relatively constant activation in which one feels under a continuous threat. A paranoid delusion is a most extreme example of a consistently activated pattern of organization.

*Third, procedural learning varies as to accessibility to conscious reflection.* Procedural learning that began with explicit/declarative focus and gradually became procedural knowledge is probably more available to conscious reflection—for example, tennis strokes or parental prohibitions and admonitions. In contrast, relational procedures learned implicitly, never articulated—Bollas's (1987) "unthought known" and Donnel B. Stern's (1997) "unformulated experience"—are usually more difficult to bring into conscious reflective awareness. For example, a familial sense of emotional deadness that unconsciously seeps into and devitalizes a child is in adulthood far more difficult, even at times impossible, to become aware of for conscious reflection and articulation. Thus, change processes accenting explicit declarative focus or new implicit relational procedures will differ depending on conscious accessibility.

*Fourth, implicit mental models are variably modifiable through two different processes:* (1) accommodation (Piaget, 1954) or transformation of expectancies through new experience and (2) diminished activation, increased reflective capacity to deactivate, and establishment of contrasting implicit and explicit models. Small disparities between expectancies and experience, as cognitive dissonance theory demonstrates, can be accommodated; sharp discrepancies create dissonance and conflicting cognitive/affective/perceptual experience. The potential for accommodation or modification of an implicit model presumably is related to how early in a person's life the model was established, frequency of repetition, affective intensity, especially traumatic intensity, of the model-establishing experiences, and the current intersubjective context (Stolorow, Atwood, and Orange, 2002). Those implicit mental models that are firmly established in permanent memory and mapped in the brain, however, are probably not amenable to transformation or accommodation; yet, as evident in psychoanalytic practice, they can be significantly diminished in frequency of activation and, when activated, can be reflectively deactivated more quickly. In turn, new implicit mental models are gradually established and become more dominant than their counterparts, creating an experience of change that feels "transformative."

### *Intractability of Implicit Mental Models*

Of particular concern for psychoanalysts is why some devitalizing implicit mental models—for example, negative self-percepts—are so intractable and unalterable despite new experience. Cogent psychoanalytic explanations have included (1) elements of the conflict remain unconscious (drive/conflict model), (2) the patient's loyalties to a bad object (object relations theory), (3) the patient's needed selfobject tie (self psychology), and (4) the patient's strategy formed to adhere to a secure base (attachment theory). In addition to the relevance of any one of these dynamic formulations to explaining a particular moment of intractability, the general resistance of negative mental models to change emerges out of the primary adaptive function of the implicit/nondeclarative memory system. Lived experience establishes expectancies that enable us to anticipate, interpret, and interact with the world for purposes of negotiation and survival

(attachment theorists, see Main, 2000; Slade, 2000). Experience of the world discrepant with expectancies can be disruptive, challenges views of “reality,” and makes the world unrecognizable, jeopardizing self-regulation and capacity to negotiate the world. “Invariance” (Stolorow, Brandchaft, and Atwood, 1987) in implicit mental models is related psychologically to their past and current adaptive value, cognitively to their long-term or permanent implicit and explicit memory status, and neurologically to the establishment of primary (increased probability of firing) neural memory networks.

### *Bucci’s Theory of Information Processing*

In her multiple code theory of psychological organization Bucci (1997a, b) delineates three forms of thinking: subsymbolic, symbolic nonverbal, and symbolic verbal. Subsymbolic processing operates at the implicit/nondeclarative level. Bucci (1997b) describes:

This mode of processing involves fine differentiations on continuous gradients and “computation” of analogic relationships among spatial, temporal, or other sensory patterns, within specific perceptual and motoric modalities. This processing is carried out without explicitly identifying the underlying dimensions or metrics, or the processing rules that apply. The infant uses such “computation” in positioning itself at its mother’s breast; the toddler . . . to climb down from a table . . . the dancer and athlete use this mode of processing to learn new routines. Similarly, the analyst perceives and responds to his patient on multiple, continuous dimensions, including some that are not explicitly identified. The analyst is able to make fine distinctions among a patient’s states, including distinctions on sensory and bodily levels, sometimes using his own feelings as indicators, and without being able to express those feelings in words [p. 158].

Bucci notes that subsymbolic thinking is “emotional information processing,” similar to LeDoux’s emotional memory—which from a neuroscientific perspective Schore (2003a, b) refers to as part of right-brain functioning (Ornstein, 1997), as the “right mind.”

In Bucci's (1997b) model, symbolic thinking occurs both *non-verbally* and *verbally*, processing information with the use of symbols—images or words. “Symbolic processing involves organization of such entities [images and words], following processing rules that are explicit or can be made so. . . . They can be combined to generate infinite varieties of composite images and meanings” (p. 159). Images can be visual images or imagery based in other senses (Fosshage, 1983, 1997; Bucci, 1997a, b). The baby forms a prototypical image of mother that “incorporates all sensory modalities as well as internal somatic experience and motoric feedback” (Bucci, 1997b, p. 159).

Bucci (1997b) suggests that to “enable an integration of functions, communication with others, and the development of a sense of self, nonverbal representations, in subsymbolic and symbolic formats, must be connected to one another and to language” (p. 160) through a “referential process.” The connection of these systems of information processing provides the framework for her theory of therapeutic action. “The difficulty of this process and its partial and limited nature have not been sufficiently recognized within either cognitive science or psychoanalysis” (p. 160). Bucci's postulation that connection of these thinking systems is necessary to foster integration, communication, and development stands in contrast to the emphasis by the Boston Change Process Study Group (BCPSG) that the implicit and explicit are, by and large, two parallel systems, a topic to which we now turn.

*Implicit Relational Knowing:  
The Boston Change Process Study Group*

In their dynamic systems model of developmental change, the BCPSG (2002), a group of infant researchers and psychoanalysts, distinguishes between the “declarative, or conscious verbal, domain; and the implicit procedural, or *relational*, domain” (p. 904; see also Stern et al., 1998; Lyons-Ruth, 1999). The study group reports, “Whether they are in fact two distinct mental phenomena remains to be determined. At this stage, however, we believe that further inquiry demands that they be considered separately” (p. 905). Procedural knowledge of relationships, in their view, is represented nonsymbolically in the form of what

they call *implicit relational knowing*—knowing about “how ‘to be with’ someone.” They propose that these two parallel systems of learning and memory are differentially affected in psychoanalytic treatment through different processes:

Declarative knowledge is gained or acquired through verbal interpretations that alter the patient’s intrapsychic understanding within the context of the “psychoanalytic.” . . . *Implicit relational knowing* . . . occurs through “interactional, intersubjective processes” that alter the relational field within the context of what we will call the “shared implicit relationship” [p. 905].

Stern et al. (1998) delineate “now moments” as affectively “hot” moments in the therapist–patient interaction that require a “response that is too specific and personal to be a known technical manoeuvre. . . . They force the therapist into some kind of ‘action,’ be it an interpretation or a response that is novel relative to the habitual framework, or a silence” (p. 911). A now moment therapeutically seized is a “moment of meeting,” which they describe:

The two are meeting as persons relatively unhidden by their usual therapeutic roles, for that moment. Also, the actions that make up the “moment of meeting” cannot be routine, habitual accessibility to or technical; they must be novel and fashioned to meet the singularity of the moment. Of course this implies a measure of empathy, an openness to affective and cognitive reappraisal, a signalled affect attunement, a viewpoint that reflects and ratifies that what is happening is occurring in the domain of the “shared implicit relationship,” that is, a newly created dyadic state specific to the participants [p. 913].

Stern et al. suggest that “interpretations can lead to ‘moments of meeting’ or the other way around. . . . If the interpretation is made in a way that conveys the affective participation of the analyst, a ‘moment of meeting’ may also have occurred” (p. 914). They emphasize that the analyst must be affectively engaged so as to reveal a “personal aspect of the self that has been evoked in an affective response to another” (p. 917). Moments of meeting act “within and upon the ‘shared implicit relationship’ and changing it by altering implicit knowledge

that is both intrapsychic and interpersonal” (p. 917). Stern et al. declare that long-lasting change occurs principally in the domain of implicit relational knowledge. *“In the course of the analysis some of the implicit relational knowledge will get slowly and painstakingly transcribed into conscious explicit knowledge. How much is an open question”* (p. 918, italics added).

In grappling with the interaction between implicit/nondeclarative and explicit/declarative memory processes, the BCPSG has emphasized the “noninterpretive mechanisms” as providing the basis for new implicit relational learning. While initially emphasizing highly affectively charged “now moments” and “moments of meeting,” which refer to moments of affect matching in the moment-to-moment “shared implicit relationship,” they more recently have also included the “small, less charged moments” as moments of change (procedural learning) (BCPSG, 2002). Stern (2004) has more recently emphasized the “present moment” as a “lived” nonverbal moment. In recognizing the importance of the implicit relational experience that occurs within an analytic dyad, the BCPSG has been correcting for the long-standing premium placed within classical psychoanalysis on interpretation and insight. In addition, their delineation of the analyst’s required affective engagement has countered the classical psychoanalytic prescriptions of blank screen, anonymity, and neutrality that obstruct the analyst’s affective engagement. Their work further contributes to the ongoing relational field paradigm shift in psychoanalysis at large.

*Interaction of the Implicit and Explicit Domains:  
Implications for a Theory of Therapeutic Action*

Most cognitive theorists agree that implicit/nondeclarative and explicit/declarative memories are different memory systems (Squire, 1994). Some cognitive theorists, however, suggest on the basis of research evidence with infants that these two systems are the “same memory that has simply been retrieved via different routes—either implicitly or explicitly” (Rovee-Collier, Hayne, and Colombo, 2000, p. 250). A single memory system would make our task, as psychoanalysts, far easier, for we would have two avenues of access to the same system. If it were a single memory system, then the question would be what are the factors that account for variable access.

Assuming the multisystems view is accurate, how the implicit/nondeclarative and explicit/declarative cognitive processing systems operate and functionally interact is centrally important in the consideration of effecting change within the psychoanalytic arena. The functional interaction between these two memory systems is most complex and, not surprisingly, engenders contrasting views, as we have seen. I focus on two central issues in the consideration of a psychoanalytic theory of therapeutic action: (1) the participation of subsymbolic and imagistic or nonverbal symbolic processing in procedural learning and (2) the variable access of procedural knowledge to conscious reflection and factors that contribute to that variability.

To reiterate, the BCPSG views declarative and procedural knowing (also called *enactive knowing*; Lyons-Ruth, 1999) to be separate and parallel domains, rendering declarative processing as relatively ineffective in altering procedural knowledge. Additionally they view procedural knowledge as represented nonsymbolically and, therefore, less accessible to declarative focus (i.e., exploratory/interpretive work). Lyons-Ruth writes:

The elaboration of symbolic forms of thought, including both images and words, contains the potential to contribute to the reorganization of enactive knowing. However, I would contend that retranscription of implicit relational knowing into symbolic knowing is laborious, is not intrinsic to the affect-based relational system, is never completely accomplished, and is not how development in implicit relational knowing is generally accomplished. Rather, I would argue that procedural systems of relational knowing develop in parallel with symbolic systems, as separate systems with separate governing principles. Procedural systems influence and are influenced by symbolic systems through multiple cross-system connections, but these influences are necessarily incomplete. Furthermore, enactive relational knowing is . . . likely to exert as much or more influence on how symbolic systems are elaborated as symbolic systems exert on how relational systems are elaborated [pp. 579–580].

No doubt that much of the complex interaction between analysand and analyst does not receive declarative focus, rendering the procedures

(including the now moments and the quiet moments) of the shared implicit relationship crucially important in the change process. The importance of implicit relational processes is in keeping with current relational psychoanalytic thinking, using the term *relational* broadly to refer to those models in which normal and pathological development, transference, and therapeutic action emerge within and are affected by relational (or intersubjective) systems (Fosshage, 2003). Emphasis on the therapeutic impact of relational experience in analysis is captured by “getting real” (Renik, 1998), the “intimate edge” (Ehrenberg, 1992), “disciplined spontaneous engagements” (Lichtenberg, Lachmann, and Fosshage, 1996), “throwing the book away” (Hoffman, 1998), and the “specificity of selfobject experience in therapeutic relatedness” (Bacal, 1998), to name a few. Affective engagement of the analyst is required. From a self-psychological perspective, for example, “when the selfobject-seeking dimension is in the foreground, the analyst must resonate at the deepest layers of his or her personality (Kohut, 1977, p. 252) to be sufficiently available and responsive to the patient’s developmental and self-regulatory needs” (Fosshage, 1994, p. 277). While explicit and implicit processes are variably present in these descriptions, certainly many spontaneous interactions remain implicit. With regard to BCPSG’s emphasis on implicit relational knowing and learning, the implications for interaction are radical from a more traditional psychoanalytic perspective (Ryle, 2003) and more in keeping with a relational paradigm.

In contrast, Bucci (1997b) suggests that subsymbolic processing occurs at the implicit level and that nonverbal and verbal symbolic processing follows “processing rules that are explicit or can be made so” (p. 159). Central for development, “integration of functions,” and therapeutic action, in her view, is connecting nonverbal representations, in subsymbolic and symbolic formats, to language (verbal symbolic processing). The process of connecting, called the “referential process” (Bucci, 1997b, p. 160), initially occurs within the nonverbal system “through connection of subsymbolic processes to prototypical images” (p. 161) (symbolic nonverbal processing) and, in turn, these images are connected to language. While the referential process is gradual, difficult, and never fully completed, explicit/declarative processing is centrally important in integrating these different forms of processing to create change. “While language can capture only part of the underlying sensory and bodily contents of an

emotional experience, the connections to the verbal system have the power to add new connections and new meanings, not previously seen” (p. 161). While Bucci fills out from a cognitive psychology perspective the complexity, difficulty, and even limitation of connecting different cognitive processes in treatment, her emphasis on connecting through language supports the traditional psychoanalytic emphasis on the use of words, articulation, and exploration and interpretation.

To assume that procedural knowledge is rarely symbolically represented widens the gulf between the implicit and explicit systems and makes procedural knowledge less accessible to symbolic processing. In my view, procedural knowledge can be represented through subsymbolic, imagistic symbolic, and even verbal symbolic processes. For example, the infant’s prototypic images of mother and father use subsymbolic and imagistic (nonverbal symbolic) systems of processing. Dreaming uses imagistic and verbal symbolic processing to portray relational procedures involving self with other. To posit that the subsymbolic and symbolic systems are more complexly interwoven makes implicit procedural knowledge more accessible to conscious reflective processing.

Procedural memories appear to vary with regard to access to consciousness—a point of considerable significance for a theory of psychoanalytic change. Procedural learning, for example, may begin with an explicit/declarative focus that includes verbal as well as nonverbal symbolic processing and gradually becomes established as procedural memory. Similar to learning driving and dance procedures, attitudes about self and self-with-other can be conveyed verbally with an explicit/declarative focus and gradually accrue to relational procedural knowledge operating outside of awareness. In these instances, procedures are presumably more available for conscious recollection, yet tend to function at a nonconscious level of awareness. Declarative focus on this type of implicit procedure disrupts the automatic “flow” required for the establishment of a new dance step or tennis stroke. Similarly, declarative focus on an implicit mental model in the psychoanalytic situation variably disrupts its automatic activation that, in turn, creates an opportunity for change and the formation of a new model.

Variability of procedural knowledge to access explicit/declarative focus is probably related to a variety of other factors as well, including the age of onset when the procedure was being learned, frequency

of repetition, intensity of affects, the current analytic intersubjective context, and, with problematic procedures, the degree of emotional trauma. In those more extreme situations where procedures are learned at an early age, frequently repeated, and severely traumatic, access to conscious reflection diminishes. Even when a traumatic relational procedure becomes accessible to consciousness, reflectively intervening and deactivating the procedure remains difficult for some time. Traumatically based procedures, for example, negative self and self-with-other percepts, are easily triggered and require both conscious awareness and repetitive new implicit relational experience to overcome the grips of the emotional memory.

In my view, in those instances when procedural knowledge cannot be consciously accessed through explicit/declarative focus, the emphasis of the BCPSPG, the primary avenue of change, becomes new implicit relational experience. In other words, to the degree that “implicit relational knowing” is inaccessible to consciousness and declarative focus, exploratory/interpretive interventions will garner little.

In contrast, when procedural knowledge can become accessible to conscious awareness, then exploratory/interpretive work can be productive. Increased awareness, in my view, can gradually contribute to the suspension or deactivation of these negative percepts, facilitating the establishment of new self and self-with-other images through new implicit relational experience.

In the ordinary course of analytic work, a current perceptual/affective experience is assimilated into previously established networks for categorization and further attribution of meaning. New experience for which no category or neural memory network exists is registered in immediate memory, but tends to have difficulty in entering long-term memory. Explicit highlighting of a firmly established implicit mental model, facilitated in part by its juxtaposition with new and different relational experience, creates a conscious perspective that aids in the deactivation of the old. Deactivation of an established implicit mental model facilitates integration of new implicit relational knowledge and corresponding explicit knowledge into long-term memory, gradually consolidated in permanent memory. When a traumatic theme (implicit relational knowledge) is replicated in the analytic relationship, focused attention enables analyst and analysand to observe, understand, and extricate themselves from the replication, all of which contributes to new implicit relational experience.

### *Conclusion*

New research findings of the development and organization of the mind, brain and behavior bolster the ongoing relational or intersubjective field paradigmatic revision of psychoanalytic theory. A multisystems view of learning, memory, and knowledge provide us with a more complex picture of information processing that has fundamental implications for a psychoanalytic theory of therapeutic action.

The running battle throughout the history of psychoanalysis between interpretation/insight and relational experience as focal points of therapeutic action can now be better understood in light of explicit/declarative and implicit/nondeclarative systems of processing information. Recognition of the implicit/nondeclarative and explicit/declarative memory systems, augmented by right brain–left brain research, has provided conceptual and empirical support for the fundamental importance of implicit mental models and relational experience within the psychoanalytic arena. Relational experience is comprised of complex verbal exchanges, including intonations, syntax, and implicit and explicit messages, and of complex nonverbal communicative processes, including gestures, postures, facial expressions, sounds, rhythms, and turn taking, also operating at implicit and explicit levels.

While we are making considerable progress in understanding change processes within the analytic arena, fundamental questions remain. If the implicit and explicit systems are viewed as parallel processes, not easily translatable from one to the other, then new implicit relational experience carries considerably more power as compared to explicit/declarative processing in changing and establishing new implicit mental models. When these cognitive processing systems are viewed as more closely interconnected with a developmental emphasis on connecting them through language, then exploratory/interpretive work becomes more central. REM, dream, infant, and cognitive research evidence suggests that imagistic symbolic capacity exists at birth. Learning and remembering using imagistic symbolic processing could suggest a more easily translatable connection with later-developed verbal symbolic processing and a closer, although varied, interconnection between implicit and explicit (symbolic) memory systems.

Explicit attitudes, if not fundamentally connected to implicit procedures, are more directly modifiable through an explicit/declarative focus. Implicit mental models, I propose, are variably modifiable

through two different change processes: (1) accommodation or transformation of expectancies through new experience (not requiring explicit focus) and (2) diminished frequency of activation, increased capacity to deactivate, and the establishment of contrasting implicit models through new implicit procedural experience.

In other words, apart from explicit focus on explicit attitudes, two basic change processes involving implicit procedures occur in the psychoanalytic encounter. In some instances implicit relational procedures never see the “light of day” (i.e., conscious awareness brought about through an exploratory process) and are gradually altered, by accommodation or diminished activation, through repetitive new implicit relational experience. When implicit mental models are potentially accessible to consciousness, the “spirit of inquiry” (Lichtenberg, Lachmann, and Fosshage, 2002) illuminates both the autobiographical scenarios of the explicit memory system and the mental models of the implicit memory system that contribute to a sense of self and self-with-other. This process, explicitly and implicitly, over time increases reflective capacity that enables a patient to deactivate or suspend old implicit models, so that new implicit and explicit models based on current relational experience can be gradually established in both memory systems for lasting change. In this way, the foreground and background shifts that comprise the dance between the implicit and explicit systems provide an important key to understanding and facilitating the psychoanalytic process.

#### REFERENCES

- Ainsworth, M. D. S., Blehar, M., Waters, E. & Wall, S. (1978), *Patterns of Attachment*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Atwood, G. & Stolorow, R. (1984), *Structures of Subjectivity*. Hillsdale, NJ: The Analytic Press.
- Bacal, H. (1998), Optimal responsiveness and the specificity of selfobject experience. In: *How Therapists Heal Their Patients: Optimal Responsiveness*, ed. H. Bacal. Northvale, NJ: Aronson, pp. 141–170.
- Beebe, B. & Lachmann, F. (1994), Representation and internalization in infancy: Three principles of salience. *Psychoanal. Psychol.*, 11:127–166.
- \_\_\_\_\_ & \_\_\_\_\_ (2002), *Infant Research and Adult Treatment*. Hillsdale, NJ: The Analytic Press.
- Bollas, C. (1987), *The Shadow of the Object: Psychoanalysis of the Unthought Known*. New York: Columbia University Press.

- Boston Change Process Study Group (BCPSG): Bruschiweiler-Stern, N., Harrison, A., Nahum, J., Sander, L., Stern, D. & Tronick, E. (2002), Explicating the implicit: The local level and the microprocess of change in the analytic situation. *Internat. J. Psycho-Anal.*, 83:1051–1062.
- Bowlby, J. (1973), *Attachment and Loss. Vol. 2: Separation*. New York: Basic Books.
- Brazelton, T. B. (1992), Touch and the fetus. Presented to Touch Research Institute, Miami, FL.
- Bucci, W. (1997a), *Psychoanalysis and Cognitive Science: A Multiple Code Theory*. New York: Guilford Press.
- \_\_\_\_\_ (1997b), Patterns of discourse in “good” and troubled hours: A multiple code interpretation. *J. Amer. Psychoanal. Assn.*, 45:155–187.
- Clyman, R. B. (1991), The procedural organization of emotions: A contribution of cognitive science to the psychoanalytic theory of therapeutic action. *J. Amer. Psychoanal. Assn.*, 39(Suppl.):349–382.
- Cohen, N. J. & Squire, L. (1980), Preserved learning and retention of pattern-analyzing skill in amnesia: Dissociation of knowing how and knowing that. *Science*, 210: 207–209.
- Damasio, A. (1999), *The Feeling of What Happens*. New York: Harcourt Brace.
- Davis, J. T. (2001), Revising psychoanalytic interpretations of the past: An examination of declarative and non-declarative memory processes. *Internat. J. Psycho-Anal.*, 82:449–462.
- DeCasper, A. & Carstens, A. (1980), Contingencies of stimulation: Effects on learning and emotion in neonates. *Infant Behav. & Dev.*, 4:19–36.
- \_\_\_\_\_ & Spence, M. (1986), Prenatal maternal speech influences newborn’s perception of speech sounds. *Infant Behav. & Dev.*, 9:133–150.
- Edelman, G. (1987), *Neural Darwinism: The Theory of Neural Group Selection*. New York: Harper & Row.
- \_\_\_\_\_ (1992), *Bright Air, Brilliant Fire*. New York: Basic Books.
- Ehrenberg, D. B. (1992), *The Intimate Edge*. New York: Norton.
- Epstein, S. (1994), Integration of the cognitive and the psychodynamic unconscious. *Amer. Psychol.*, 8:709–724.
- Fonagy, P. (1993), The roles of mental representations and mental processes in therapeutic action. *The Psychoanalytic Study of the Child*, 48:9–48. New Haven, CT: Yale University Press.
- \_\_\_\_\_ (1999), Memory and therapeutic action. *Internat. J. Psycho-Anal.*, 80:215–223.
- Fosshage, J. (1983), The psychological function of dreams: A revised psychoanalytic perspective. *Psychoanal. & Contemp. Thought*, 6:641–669.
- \_\_\_\_\_ (1994), Toward reconceptualizing transference: Theoretical and clinical considerations. *Internat. J. Psycho-Anal.*, 75:265–280.
- \_\_\_\_\_ (1997), The organizing functions of dreams. *Contemp. Psychoanal.*, 33: 429–458.
- \_\_\_\_\_ (2003), Contextualizing self psychology and relational psychoanalysis: Bi-directional influence and proposed syntheses. *Contemp. Psychoanal.*, 39:411–448.
- Friedman, L. (1978), Trends in psychoanalytic theory of treatment. *Psychoanal. Quart.*, 47:524–567.

- Greenberg, J. & Mitchell, S. (1983). *Object Relations in Psychoanalytic Theory*. Cambridge, MA: Harvard University Press.
- Grigsby, J. & Hartlaub, G. (1994), Procedural learning and the development and stability of character. *Percept. Motor Skills*, 79:355–370.
- Hebb, D. O. (1949), *The Organization of Behavior: A Neuropsychological Theory*. New York: Wiley.
- Hoffman, I. (1998), *Ritual and Spontaneity in the Psychoanalytic Process*. Hillsdale, NJ: The Analytic Press.
- Joseph, R. (1996), *Neuropsychiatry, Neuropsychology and Clinical Neuroscience*. Baltimore, MD: Williams & Wilkins.
- Kohut, H. (1977), *The Restoration of the Self*. New York: International Universities Press.
- LeDoux, J. E. (1996), *The Emotional Brain: The Mysterious Underpinnings of Emotional Life*. New York: Touchstone.
- Leven, F. (1991), *Mapping the Mind*. Hillsdale, NJ: The Analytic Press.
- Lichtenberg, J., Lachmann, F. & Fosshage, J. (1996), *The Clinical Exchange: Technique from the Standpoint of Self and Motivational Systems*. Hillsdale, NJ: The Analytic Press.
- \_\_\_\_\_ & \_\_\_\_\_ (2002), *A Spirit of Inquiry Communication in Psychoanalysis*. Hillsdale, NJ: The Analytic Press.
- Lyons-Ruth, K. (1999), The two-person unconscious: Intersubjective dialogue, enactive relational representation, and the emergence of new forms of relational organization. *Psychoanal. Inq.*, 19:576–617.
- Main, M. (2000), The organized categories of infant, child, and adult attachment: Flexible vs. inflexible attention under attachment-related stress. *J. Amer. Psychoanal. Assn.*, 48:1055–1096.
- Mandler, J. (1988), How to build a baby: On the development of an accessible representation system. *Cogn. Dev.*, 53:991–1003.
- Mitchell, S. (1988), *Relational Concepts in Psychoanalysis*. Cambridge, MA: Harvard University Press.
- Nelson, K. (1986), *Event Knowledge*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Ornstein, R. (1997), *The Right Mind: Making Sense of the Hemispheres*. New York: Harcourt Brace.
- Pally, R. (1997), Memory: Brain systems that link past, present and future. *Internat. J. Psycho-Anal.*, 78:1223–1224.
- Piaget, J. (1954), *The Construction of Reality in the Child*. New York: Basic Books.
- Renik, O. (1998), Getting real in analysis. *Psychoanal. Quart.*, 67:566–593.
- Rovee-Collier, C., Hayne, H. & Colombo, M. (2000), *The Development of Implicit and Explicit Memory*. Philadelphia, PA: John Benjamins.
- Ryle, A. (2003), Something more than the “something more” than interpretation is needed: A comment on the paper by the Process of Change Study Group. *Internat. J. Psycho-Anal.*, 84:109–118.
- Sander, L. (1977), The regulation of exchange in the infant–caretaker system and some aspects of the context–content relationship. In: *Interaction, Conversation and the Development of Language*, ed. M. Lewis & L. Rosenblum. New York: Wiley, pp. 133–156.

- \_\_\_\_\_ (1997), Paradox and resolution. In: *Handbook of Child and Adolescent Psychiatry*, ed. J. Osofsky. New York: Wiley, pp. 153–160.
- Sandler, J. & Rosenblatt, B. (1962), The concept of the representational world. *The Psychoanalytic Study of the Child*, 17:128–145. New York: International Universities Press.
- Schacter, D. L. & Tulving, E. (1994), What are the memory systems of 1994? In: *Memory Systems*, ed. D. L. Schacter & E. Tulving. Cambridge, MA: MIT Press, pp. 1–37.
- Schore, A. (1994), *Affect Regulation and the Origin of the Self: The Neurobiology of Emotional Development*. Mahwah, NJ: Lawrence Erlbaum Associates.
- \_\_\_\_\_ (2003a), *Affect Regulation and the Repair of the Self*. New York: Norton.
- \_\_\_\_\_ (2003b), *Affect Dysregulation and Disorders of the Self*. New York: Norton.
- Sherry, D. F. & Schacter, D. L. (1987), The evolution of multiple memory systems. *Psychol. Rev.*, 94:439–454.
- Siegel, D. (1999), *The Developing Mind: Toward a Neurobiology of Interpersonal Experience*. New York: Guilford Press.
- Slade, A. (2000), The development and organization of attachment: Implications for psychoanalysis. *J. Amer. Psychoanal. Assn.*, 48:1147–1174.
- Squire, L. R. (1994), Declarative and nondeclarative memory: Multiple brain systems supporting learning and memory. In: *Memory Systems*, ed. D. L. Schacter & E. Tulving. Cambridge, MA: MIT Press, pp. 203–232.
- Stern, D. N. (1985), *The Interpersonal World of the Infant*. New York: Basic Books.
- \_\_\_\_\_ Sander, L., Nahum, J., Harrison, A., Lyons-Ruth, K., Morgan, A., Bruschiweiler-Stern, N. & Tronick, E. (1998), Non-interpretive mechanisms in psychoanalytic therapy: The “something more” than interpretation. *Internat. J. Psycho-Anal.*, 79:903–921.
- Stern, D. (2004), *The Present Moment in Psychotherapy and Everyday Life*. New York: Norton.
- Stern, D. B. (1997), *Unformulated Experience*. Hillsdale, NJ: The Analytic Press.
- Stolorow, R. & Atwood, G. (1992), *Contexts of Being: The Intersubjective Foundations of Psychological Life*. Hillsdale, NJ: The Analytic Press.
- \_\_\_\_\_ & Orange, D. (2002). *Worlds of Experience*. New York: Basic Books.
- \_\_\_\_\_ Brandchaft, B. & Atwood, G. (1987), *Psychoanalytic Treatment: An Intersubjective Approach*. Hillsdale, NJ: The Analytic Press.
- \_\_\_\_\_ & Lachmann, F. (1984/1985), Transference: The future of an illusion. *The Annual of Psychoanalysis*, 12/13:19–37. New York: International Universities Press.
- Trevarthen, C. (1989), Development of early social interactions and the affect regulation of brain growth. In: *Neurobiology of Early Infant Behavior*, ed. C. von Euier, H. Frossberg & H. Lagercrantz. London: Macmillan, pp. 191–216.
- Tronick, E. Z. (1989), Emotions and emotional communication. *Amer. Psychol.*, 44:112–119.
- Wachtel, P. F. (1980), Transference, schema and assimilation: The relevance of Piaget to the psychoanalytic theory of transference. *The Annual of Psychoanalysis*, 8:59–76. Chicago: University of Chicago Press.
- Weiss, J. & Sampson, H. (1986), *The Psychoanalytic Process*. New York: Guilford Press.

Westen, D. (1999), Scientific status of unconscious processes: Is Freud really dead? *J. Amer. Psychoanal. Assn.*, 47:1061–1106.

*250 West 57th Street, Suite 501  
New York, NY 10019  
fosshage@psychoanalysis.net*