The Two-Person Unconscious: Intersubjective Dialogue, Enactive Relational Representation, and the Emergence of New Forms of Relational Organization

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RECENT PSYCHOANALYTIC THEORY HAS MOVED INCREASINGLY toward a relational, intersubjective, and social–constructivist stance. In this view the psychoanalytic encounter is seen as mutually coconstructed between two active participants, with the subjectivities of both patient and analyst contributing to the form and content of the dialogue that emerges between them (McLaughlin, 1991; Hoffman, 1992; Ogden, 1994). The current emphasis in analytic writing on the importance of enactments in the treatment situation attempts to keep the lens focused squarely on the point of contact between the two analytic participants and on the form of the implicit transactions that emerge between them (e.g., Ogden, 1994). Clinical descriptions acknowledge the active contributions of both partners to the coconstruction of the enactment, even though the primary clinical interest may be in those features of the enactment that echo problematic aspects of the patient's interactions with other important people (Jacobs, 1991; Hoffman, 1992). Enactments have been viewed as

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important opportunities to gain a window on unconscious motivations and meanings held by the patient that have not been previously recognized or articulated (McLaughlin, 1991).

In this shift to a more fluid and mutual view of therapeutic process, the need for a psychoanalytic model of development has increasingly been questioned (e.g., Mitchell, 1988). Converging pressures on psychoanalytic theories of mind and of development have come from the increasing sophistication of both behavioral and neuroscientific research. New findings regarding the development and organization of mind, brain, and behavior have outstripped the pace of change in psychoanalytic theory, further undermining the credibility of older developmental models. In contrast to these changes that have fostered scepticism about the role of developmental theory, longitudinal attachment research has provided recent consistent support for the view that important dimensions of relational behavior are grounded in relational history. This emerging developmental research base supports the continued relevance of developmental history to psychoanalytic process and the concomitant need to refashion a psychoanalytic metatheory that is consistent both with the new research base and with a more fluid, mutual, and constructivist view of relational change in adulthood.

The initial questions that led to the concerns in this paper were questions taken as a focus by the Process of Change Study Group of Boston, namely: what are the noninterpretive mechanisms of change that operate in the psychoanalytic situation, and how might the study of development illuminate these mechanisms of change? These questions are more directly addressed in related papers (Boston Process of Change Study Group, 1998; Stern et al., 1998). In struggling with these questions, however, it became apparent that to consider how noninterpretive mechanisms lead to change, one also has to grapple with the issue of what changes.

Psychoanalysis has always been concerned with understanding the organization of meaning, with affects viewed as the central guides and directors of meaning. New research is now pressing psychoanalytically oriented scholars to expand accounts of how meaning systems are organized to include implicit or procedural forms of knowing. Procedural knowing refers to knowing how to do something and how to behave adaptively, rather than knowing information or images that

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can be consciously recalled and recounted (Cohen and Squire, 1980). The organization of memory and meaning in the implicit or enactive domain only becomes manifest in the doing. In accord with the current psychoanalytic interest in enactments in psychoanalytic treatment, I will refer to "knowing how to do" as enactive representation (see also Bruner, Olver, and Greenfield, 1966).

The central postulates of this paper will be (1) that much of our relational experience is represented in an implicit procedural or enactive form that is unconscious, though not necessarily dynamically unconscious; (2) that in both development and psychoanalysis, the increasing integration and articulation of new enactive "procedures for being with" destabilize existing enactive organization and serve as a primary engine of change; and (3) that enactive procedures become more articulated and integrated through participation in more coherent and collaborative forms of intersubjective interaction. Put another way, at the level of unconscious enactive procedures, the medium *is* the message; that is, the organization of meaning is implicit in the organization of the enacted relational dialogue and does not require reflective thought or verbalization to be, in some sense, known. In accord with infant observers such as Beebe and Lachmann (1994), enactive representation is viewed here as the earliest medium through which the "shadow of the object" becomes part of the "unthought known" of the infant's early experience (Bollas, 1987).

This paper will attempt to make more explicit a model of the development and change of enactive relational procedures that is consistent both with recent psychoanalytic literature and with recent findings in attachment research, early parent–infant interaction, cognitive neuroscience, and nonlinear dynamic systems theory. Attachment research has concentrated on describing and validating a range of organized strategies of caregiver–infant interaction around attachment needs that are represented by the infant by the end of the first year. More recent work has extended these descriptions of the infant's enactive representations around attachment needs to include the parent's corresponding enactive strategies for ways of responding to an interview about his or her own early attachment-related experiences. Although the details of these patterns of enactive relational representation in the realm of attachment experiences are important in themselves, they have been well described in the literature and will not be reviewed here (see Bretherton, 1988; Main, 1993; Lyons-Ruth and Jacobvitz, 1999). Instead, the focus of this paper will be on the implications of such enduring attachment-oriented enactive relational procedures for a general developmental–psychoanalytic theory of relational process and enactive representation. Attachment research has provided the most extensive empirical basis for this synthesis, but work on early face-to-face interaction and work on context-sensitive models of brain development and cognitive development, as well as research on adult cognition, also contribute to the emergence of the model.

Because it seems premature to rigidify a set of terms for describing this new conceptual territory, I will refer interchangeably to enactive representations, relational procedures, or implicit relational control systems. I use the term *representation* in relation to enactive knowing because, in keeping with prior psychoanalytic insights, this form of representation preserves knowledge of the affective-perceptual and spatio-temporal contingencies in the environment. I will also use *implicit* and *unconscious* interchangeably here to refer to the nondynamic procedural unconscious.

A central contention of this paper is that enactive knowing develops and changes by processes that are intrinsic to this system of representation and that do not rely on translation of procedures into reflective (symbolized) knowledge. This is not to contend that translating enactive knowledge into words may not be an important therapeutic tool or developmental step; it *is* to contend that development does not proceed only or primarily by moving from procedural coding to symbolic coding (*or* from primary to secondary process *or* from *pre*verbal to verbal forms of thought). Procedural forms of representation are not infantile but are intrinsic to human cognition at all ages and underlie many forms of skilled action, including intimate social interaction.

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 developmental change in implicit relational knowing is generally accomplished. Rather, I would argue that procedural systems of relational knowing develop in paral-

lel 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 grounded in goal-directed action, along with the affective evaluations guiding that action, and so 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 (see Anderson, 1982; Schachter and Moscovitch, 1984; Damascio, 1994).

I sketch the outlines of a theory of psychoanalytic and developmental change based on unconscious or implicit enactive representation and patient–therapist transactions rather than on symbolized meaning and interpretation. This focus on the two- person process is intended to establish a theoretical framework through which longstanding clinical insights on the interplay of affect, conflict, defense, and resistance can be further extended into a two-person realm and given a scientifically credible developmental base. Although constructs of motivation and, to some extent, affect are not dealt with extensively here, they are intrinsic to any theory of enactive representation, and the current framework is intended to augment, not replace, the extensive literature on affect and motivation in analytic treatment. Similarly, many points of interface where the model described in this paper might converge with or complement self psychological or conflict models of intrapsychic organization are not made explicit here. Instead, the paper focuses on extending our conceptualization of the transactional space and its representational forms in development and in psychoanalytically oriented treatment.

The paper is divided into two parts. The first section focuses on the two-person dialogue in early development. Three central implications of current attachment research are highlighted. First, more flexible and inclusive enactive representations emerge from more collaborative forms of parent–child dialogue. Second, adult neuroscience converges with infant research to confirm the separate and dissociable status of conscious symbolized knowledge and nonsymbolized implicit or procedural knowing throughout the lifespan. Third, prior to the outset of symbol use, the infant's implicit relational procedures include indicators of conflict and defense that are tied to particular restrictions or distortions in the parent–infant affective dialogue.

The second section of the paper explores noninterpretive mechanisms of change in implicit relational control systems. The developmental models of Fischer (1980) and Case (1991) are reviewed which emphasize the context-dependent and fractionated nature of the development of skilled behavior, in both relational and nonrelational domains. Most importantly, Fischer and Case elaborate developmental models of how more complex control systems are elaborated from infancy to adulthood by coordinating enactive procedures with one another to form progressively more flexible and inclusive skills. A strength of these models is their emphasis on the analysis of task complexity, a complexity that is independent of whether the task requires verbalized knowing or more implicit procedural problem solving. The increasing articulation and coordination of task components in these models offers a view of how enactive procedures may become more coordinated, articulated, flexible, and inclusive as they are repeatedly applied, without verbal articulation of the procedure itself. Some unique features of enactive procedures for doing things with others are also considered, features that are central to psychoanalytic concerns but that have not been articulated in the literature on cognition.

Finally, nonlinear dynamic systems principles are evoked to account for how the slow transactional process of repeated relational encounters in the psychoanalytic situation can result in increased complexity and organization in the patient's (and analyst's) relational procedures. From a self-organizing systems perspective, this increased articulation destabilizes old forms of organization and eventually crystallizes a shift to an emergent new form of procedural organization that is more complex and coherent.

Part I: Developmental Origins of Enactive Relational Procedures

Collaborative Dialogue and Coherence in Enactive Representations

Both the analyst–patient relationship and the parent–infant relationship share a focus on facilitating developmental change—for our purposes here, change particularly in the area of constructing new

possibilities for adaptive regulation of intersubjective experiences. In addition, the analyst has the much more demanding charge of facilitating the deconstruction of established but unsatisfying ways of "being with" while simultaneously moving toward the new.

This focus on understanding and deconstructing the old has captured much of the attention of psychoanalytic writers in the past. Psychoanalytic clinicians have inherited a well-articulated descriptive language of individual psychopathology. With this has come an indispensable understanding of how to read some of the intricate and creative defensive maneuvers available to adapt to painful and constricting environments. To some extent, however, psychoanalytic theorists have concentrated on exploring the internalized forms of pathological representations and their emergence in the transference with less attention to articulating the developmental requirements for the co-construction of more flexible, coherent, and adaptive ways of being with others.

Attachment research has demonstrated that the development of coherent "internal working models of attachment" or implicit relational procedures is tied to participation in coherent forms of parent–child dialogue (see van IJzendoorn, 1994, metaanalysis; Main and Goldwyn, 1994). *Dialogue* is being used here in its broadest sense to encompass all avenues of interpersonal communication, including the affective communications inherent in movement, timing of behavior, and speech contour, as well as in gestural and affective signals. *Coherence* is being used as defined in relation to adult attachment representations by Main and Goldwyn (1994), following the philosopher Grice (1975). According to Grice (1975), coherence in communication is achieved by adhering to maxims governing quantity, quality, relation, and manner, that is, being truthful, clear, relevant, and succinct, yet complete. These qualities serve to maximize the overriding communicative principle of cooperation between participants. Thus, coherent dialogue is truthful and collaborative. This definition might also serve as a first-level working model for capturing essential attributes of coherent clinical dialogue as defined in contemporary two-person models.

The attachment research literature offers a perspective on what might be termed some essential features of collaborative dialogue. Studying the early parent–child communication process provides one

laboratory for observing how various organizations of dialogue play out over developmental time. Longitudinal attachment studies give some insight into the kinds of parent–child dialogue associated with the child's development of coherent and flexible enactive procedural models for negotiating in relationships. Collaborative and flexible parent–infant dialogues have been termed *open communication* in the developmental attachment literature but this term is subject to misinterpretation. Coherent, or "open," dialogue is characterized, not by parental "openness" in the sense of unmonitored parental self-disclosure, but by parental "openness" to the state of mind of the child, including the entire array of the child's communications, so that particular affective or motive states of the child (anger, passion, distress) are not foreclosed from intersubjective sharing and regulation.

Attachment studies typically assess parental "sensitivity" as the aspect of parental behavior associated with infant attachment security (van IJzendoorn, 1994). However, it became clear in our own work on early interaction that what is required from the parent to merit this description is a continuing attempt to apprehend the infant's current subjective reality (affect state, current desired goal, and level of understanding) and an attempt to devise a response that acknowledges and comments or elaborates on that state ("You want the glass? No, you can't have the glass; it might break. Take this cup." "Maybe this block could be a house. Do you want this to be a house? What kind of house shall we make?") (Lyons-Ruth, Bronfman, and Atwood, 1999; Lyons-Ruth, Bronfman, and Parsons, 1999). Collaborative dialogue, then, is about getting to know another's mind and taking it into account in constructing and regulating interactions. The process of creating adequate intersubjective recognition in development requires close attention to the child's initiatives in interaction because, through these initiatives, the child communicates his or her local and general goals (motives) and their associated meaning structures. Without recognition of one person's initiatives or communications by another, no intersubjectivity or dyadic regulation is possible.

Observation of videotapes of parents and infants during the first year further reveals that the parent actively scaffolds the infant's ability to articulate and communicate his mental states somewhat ahead of the infant's ability to do so himself. Thus, the parent inducts the infant into the role of communicative partner (building on the

infant's preadapted ability to participate as a social partner) by responding carefully to infant nonlinguistic initiatives as communications and by taking the infant's turn in conversation until the infant can fill the turn himself, for example, to a 2-month-old: "Does that noise mean you're hungry? Maybe you're hungry. Let's see if you want this water? No? No water? How about juice? Ok, you like that!"

The goodness of fit of the parent's scaffolding activity depends on the parent's ability to develop a sense of the infant's current cognitive capacities, developed likes and dislikes, and store of past experiences. That this knowledge is difficult to attain, approximate at best, fraught with error, and subject to constant revision makes this a challenging process and one easily open to distortion and misattribution by the parent. Another's mind is a terrain that can never be fully known. The difficulty of knowing another's mind guarantees that communication will be fraught with error and require many procedures for disambiguating messages, detecting and correcting misunderstandings, and repairing serious communicative failures, "What's the matter? You don't want your bear? Do you want your blanket? No? Are your new teeth hurting? Maybe you're tired." Thus, empathy should not be viewed as a simple apprehension of one person's state by another but as a complex outcome of a number of skilled communicative procedures for querying and decoding another's subjective reality.

Developmental work, then, has given us systematic access for the first time to the details of collaborative and flexible or incoherent and inflexible verbal and nonverbal interactive processes between parent and child.

Developmental research on attachment relationships has also documented the features of developmental dialogue that are associated with flexibility and resilience in the child's later development. The convergence across studies and across different research traditions is unmistakable. Developmental communication systems that are open to the entire array of affective communications (e.g., Ainsworth et al., 1978); that include both participants' initiatives in a balanced, mutually regulated dialogue (Baldwin, Cole, and Baldwin, 1982); that are characterized by active negotiation and repairing of miscues, misunderstandings, and conflicts of interest (Tronick, 1989; Crockenberg, and Litman, 1990); and that are actively scaffolded by the developmentally more advantaged partner toward more flexible

and inclusive forms (e.g., Wood, Bruner, and Ross, 1976) are associated with positive developmental outcomes for the child. These outcomes include affectively positive interpersonal relationships and enactive procedural models for conducting relationships that are coherent, integrated, flexible, and open to new information (see Bretherton, 1988, for a review of this literature).

Based on these emerging studies of communication processes in early development, "coherent communication" in a developmental relationship can be described as having the following features:

1. Active structuring of dialogue around eliciting the child's current and emerging wants, needs, views, likes: Both the importance and the difficulty of knowing another's mind are explicitly acknowledged.
2. Active pursuit of repairs when misunderstanding occurs: Need for mutual contribution to regulation and repair is explicit.
3. Active bridging of dialogue to new levels of awareness by developmentally advantaged partner: Paradox that relationship is mutually regulated in the face of developmental inequality.
4. Active engagement and struggle with the child through transformational periods when awareness of self and others is being reorganized, with attendant recalibration of the extent of the child's initiative and direction of the relationship: Paradox that relationship initiatives are balanced in the face of inequality of power.

Attachment research has further demonstrated that attachment-related encounters in intimate social relationships are regulated by "internal working models" or enactive procedural representations of how to do things with others (van IJzendoorn, 1995, for review). At the adult level, these models are revealed through the verbal discourse of the adult, as research on the Adult Attachment Interview has described (Main, 1993). Because these models are revealed in verbal dialogue, however, does not mean that the models themselves are symbolically represented by the subject, even though they may be symbolically represented by the observing researcher or psychoanalyst. This research has further established that such models can be observed in operation in caregiver–infant transactions, begin to be

represented in implicit procedural form early in life, and are mentally reaccessed in new social encounters (see Bretherton, 1988, and Lyons-Ruth, 1991, for reviews). These models also tend to persist into adolescence and adulthood in the absence of major changes in close relationships (see Main, 1993). This work begins to make explicit the partial isomorphism of process and structure, of medium and message, of features of the relational dialogue, and features of the resulting enactive relational procedure.

Attachment research thereby provides general empirical support for the psychoanalytic construct of "internalized objects" while at the same time underscoring the early origins of these models in actual relational transactions. However, "internalization" is occurring at a presymbolic level, prior to the capacity to evoke images or verbal representations of "the object." Thus, the primary form of representation 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" (see also Lyons-Ruth, 1998).

Enactive Representation and the Implicit Procedural Unconscious

If "objects" are "internalized" from the earliest months of life, not simply as a way of coping with malevolent objects, as Fairbairn (1952) proposed, but as a process of normal development, then a language and a set of constructs are needed to capture how these objects are represented and how such representations change with development. An adequate theory also needs to retain a view of the individually idiosyncratic nature of life experience and the unique elaborations of enactive strategies, internal fantasy, and symbolic meaning that mark the individual. Can cognitive developmental science converge with psychoanalytic thinking to fashion a general theory of the development of enactive relational representation from the earliest months of life?

Both psychoanalytic theory and cognitive science agree that meaning systems include both conscious (e.g., verbalizable or attended to) aspects of experience and unconscious, or implicitly processed, aspects of experience. Implicit processing in modern

cognitive science is applied to mental activity that is repetitive and automatic, provides quick categorization and decision making, and operates outside the realm of focal attention and verbalized experience (e.g., Marcel, 1983; Rumelhart and McClelland, 1986; Kihlstrom, 1987). Although not discussed in the cognitive literature, implicit processing may be particularly relevant to the quick and automatic handling of nonverbal affective cues, which are recognized and represented early in infancy in complex social "proto-dialogues" (Trevarthen, 1980), and so have their origins prior to the availability of symbolic communication.

Cognitive–developmental researchers also view thought as involving both conscious and unconscious, or implicit, procedures (Fischer and Pipp, 1984). However, developmental researchers are less quick to equate implicit processing with more repetitive and superficial decision making. For example, Fischer and Pipp (1984) specifically argue against the equation of unconscious processing with the "developmentally primitive" unconscious of Freud, claiming instead that "unconscious thought does not remain static during childhood but demonstrates systematic developments that are structurally parallel to the developments in conscious thought (p. 89)."

The neuropsychology literature approaches the issue of different and parallel forms of mental processing from the study of brain-damaged adults and comes to a converging conclusion. As Schachter and Moscovitch (1984) point out, "The psychological and neurobiological reality of multiple memory systems is . . . consistent with a wide range of data from cognitive psychology, neuropsychology, physiological psychology, and we will argue, developmental psychology" (p. 175). They argue for the existence of "at least two distinct and dissociable forms of memory" (p. 174), variously termed procedural versus declarative memory (Cohen and Squire, 1980), "knowing how" versus "knowing that" (Cohen and Squire, 1980), perceptual versus autobiographical memory (Jacoby and Dallas, 1981), "memory in the wide sense" versus "memory in the narrow sense" (Piaget and Inhelder, 1973), or implicit versus explicit memory (Schacter and Buckner, 1998). The implicit form of memory described as "knowing how" refers to the acquisition of skills, maps, and rule-governed adaptive responses that are evident in behavior but remain unconscious, in that they are not represented in symbolic form and are rarely

fully translated into language; the explicit form of memory described as "knowing that" involves symbolic or imagistic knowledge that allows facts or experiences to be called into conscious awareness in the absence of the things they stand for. Not surprising to psychoanalysts, the domain of knowledge that is available to conscious awareness through symbolic representation constitutes but a small part of the individual's acquired adaptive knowledge base.

While implicit procedural and explicit declarative forms of knowing interpenetrate one another in normal adult functioning, studies of amnesic adults with a variety of neurological conditions, as well as studies of normal infants, demonstrate the potential dissociability of the two forms of knowledge. For example, amnesics' performances in completing fragmented versions of words benefitted from prior exposure to the word list as much as did normal subjects' performances. However, amnesics' ability to say whether they had seen a specific word before or had even seen the word list before was severely impaired. Implicit procedural knowledge was accrued in the absence of any conscious recall (declarative knowledge) of the learning experience itself. Similar learning effects in the absence of conscious recall occurred on even more complex tasks such as assembling a jigsaw puzzle, learning to apply a complex mathematical rule (the Fibonacci rule), or learning to solve the Tower of Hanoi puzzle (see Schachter and Moscovitch, 1984). Examples cited by Schachter and Moscovitch (1984) that are closer to the concerns of psychoanalysts include a patient of Claparède (1911) who refused to shake Claparède's hand but did not know why she refused. She was not able to recall that the day before she had been pricked with a pin hidden in Claparède's extended hand. In another case, an amnesic was told unusual stories about a series of presented pictures. The next day the patient could not recall that any stories had been told to him. However, he consistently chose titles for the pictures that reflected the unusual themes of those stories.

Cognitive psychologists continue to struggle with numerous issues involved in the more precise specification of these dissociable memory systems (see Anderson, 1982; Schachter and Buckner, 1998). For the purposes of this paper, however, these data make clear that implicit learning, operating outside conscious awareness, is fundamental to complex adult functioning, as well as to infant functioning.

In addition, complex new learning occurs in adulthood through implicit procedural mechanisms, new learning that is not mediated by translation of implicit knowing into symbolic or conscious form, even though words or images may be involved as part of the procedural memory. Particularly relevant to our concerns here, some processes that influence procedural knowing have little effect on declarative memory (such as modality of initial learning), and some processes influencing declarative memory have little effect on implicit learning (such as delay interval after initial learning and level of processing involved in initial learning). Based on all the above data, Schachter and Moscovitch argue for the relative independence of the two memory systems. The implications for our discussion is that change in implicit procedural forms of relational knowing may come about through somewhat different mechanisms than change in conscious declarative forms of knowing.

In recent psychoanalytic writing, the increasing participation of the analyst has been predicated partly on an increasing sense that we gain much more access to these implicit enacted knowings, one's own as well as the patient's, in a more participatory frame. This emerging sense of the implicit procedural unconscious is consistent with modern cognitive research, but its implications for prior models of the unconscious have not yet been explicitly worked out. Such implicit enacted procedures for being with others are central to therapeutic work but are not well captured by previous divisions between primary and secondary process, between ego and id, between verbal and nonverbal, or even by the construct of the dynamic unconscious. Implicit relational procedures are often neither conscious and verbalizable nor repressed in a dynamic sense. They are not reducible to unacceptable drives or impulses and do not have their origins or essence in fantasy. However, implicit relational knowing is likely to be visible in the structure of fantasied interactions, as well as in the enactive structure of real interactions. Seligman (1995) notes that Freud's preconscious may have prefigured this aspect of the unconscious. Stolorow, quoted in Seligman (1995), has advanced the notion of the "pre-reflective unconscious," and Sandler and Sandler (1994) distinguish between the "past unconscious" and the "present unconscious." The Sandlers also offer a careful discussion of Freud's usages of the terms *unconscious* and *preconscious*. An excellent synthesis of

the literature on procedural memory from a psychoanalytic viewpoint is also available in Clyman (1991).

Infant research, in particular, has shown us that, long before words are relevant, procedures for being with others are being acquired that vary widely along many dimensions, such as in the likelihood of engaging others in positive exchanges, in the affects that are exhibited or not exhibited to others, in the social and affective information that is elicited from others, or in the effectiveness of procedures for eliciting help or comfort from others. While these procedures develop in adaptation to particular caregiving partners, they are not necessarily equally effective in regulating internal physiological arousal (Spangler and Grossman, 1993; Hertsgaard et al., 1995; Gunnar et al., in press), in protecting exploration and mastery (Cassidy and Berlin, 1994), in adapting to the range of environments encountered in the peer group (Lyons-Ruth, Alpern, and Repacholi, 1993), or in relating to others in adolescence (Kobak and Sceery, 1988). In psychoanalytic work, paying close attention to all transactions in the hour is in keeping with the need to understand the multiple implicit procedural maps of the patient and their breadth, flexibility, and range of application or their discontinuities and inflexibilities. However, if development is not primarily about translating primary process into symbolic form, but about developing implicit adaptive procedures for being with others in a wide range of emotionally charged situations, then making the unconscious conscious does not adequately describe developmental or psychoanalytic change.

Dialogue and Defense

As Ainsworth, Main, and others have further demonstrated, procedural models guiding the early parent–child affective dialogue exhibit various kinds of deletions and distortions or "incoherencies," distortions that analysts have long understood from a one-person, intrapsychic model as defensive (Ainsworth et al., 1978; see Bretherton, 1988, for review). This literature makes clear that implicit two-person processes are integral to the developmental origins of some defenses. This developmental work, tieing nonverbal affective discourse to defensive structure, mirrors the current analytic interest in closely following the process of the two-person dialogue within the hour as it instantiates the deletions and distortions of both participants' implicit relational models.

In the case of less coherent parent–child dialogues, attachment studies have demonstrated that a particular character stance or a particular defensive strategy may constitute one component of a much broader interpersonal arrangement that has endured over a significant period of the patient's life. Thus, some defensive strategies are not best viewed as resulting from a particular intrapsychic conflict or a particular interpersonal perturbation confined to a specific developmental epoch. For example, developmental research has revealed that a child's tendency to suppress vulnerable feelings of anger or distress and to displace attention away from relationships and onto the inanimate world should not be viewed as an obsessional style resulting from control struggles in toddlerhood. Instead, for a sizable number of children (van IJzendoorn, 1994), this stance is reliably evident in the child's behavior by 12 months of age and is related to particular forms of parent–child affective dialogue over the first year of life, including parental suppressed anger and discomfort with close physical contact (Main, Tomasini, and Tolan, 1979) and parental mock surprise expressions to infant anger (Malatesta et al., 1989). These restrictions in parent–child dialogue are further foreshadowed by the parent's style of discourse in attachment-related interviews prior to the child's birth (see van IJzendoorn, 1994, for metaanalytic review).

Even in cases where a traumatic event at a particular developmental period has played a crucial pathogenic role, the continued physiological and intrapsychic effects of traumatic events are related to the quality of parent–child dialogue in relation to the painful event available subsequent to the trauma. For example, recent data tie excessive and sustained reactivity of the stress-responsive hypothalamic-pituitary-adrenal system to impaired collaborativeness in the parent–infant dialogue (Spangler and Grossmann, 1993; Hertsgaard et al., 1995; see Lyons-Ruth and Jacobvitz, 1999, for review). The collaborativeness of the ongoing parent–child dialogue, then, emerges as one potent mediator of whether particular aspects of traumatic experience will be segregated outside the process of ongoing regulation in the parent–child dialogue.

This research literature indicates that implicit two-person processes must be integral to any theory of the development of defenses. However, most theorizing has remained intrapsychically oriented. Attachment theorists have discussed defensive processes as processes that result in the distortion, exclusion, or lack of integration of information or affective experience, with a particular emphasis on the formation and maintenance of multiple inconsistent models of relational experience. From an attachment perspective, Bretherton (1991) cites Stern (1985), Tulving (1972), Craik (1943), and others who point to the potential for multiple models inherent in the representational and memory systems that store human experience.

Other approaches to this issue from both psychoanalytic and attachment theorists stress the role of conflict and intense affect rather than the availability of different modes of mental representation in leading to multiple incompatible models. For example, Main and Hesse (1990), discussing disorganized/disoriented attachment behaviors, stress the role of fear and conflict, in that fear aroused by the attachment figure leads the infant to both activate and inhibit behavioral approaches to the attachment figure when stressed. The simultaneous activation and inhibition postulated stems from the nature of the attachment behavioral system itself, which is normally activated in the presence of fear or threat but which must be simultaneously inhibited in the case where the attachment figure *is* the source of the threat. A similar process is envisioned in adulthood at a representational level, where mental approaches to attachment-related thoughts and feelings may continue to be both activated and inhibited.

Fonagy (1991) advances a somewhat different intrapsychic theory of multiple models derived from clinical object relations theory. In object relations theory, unintegrated models of idealized and devalued versions of self and other have been viewed as based on the defense of splitting, a defense linked to the presence of particularly malevolent representations of important others (Kernberg, 1976). In Fonagy's view, the child's awareness of the malevolence of the caregiver is too painful to tolerate and leads the child to inhibit the ability to reflect on the mental states of self and other, leading to unintegrated and inconsistent representations of central relationships. Fonagy (1991), more explicitly than others, also stresses the lowered developmental level of the resulting mental representations.

A more radical and social constructivist view of the defenses, including splitting, is inherent in recent attachment research, however. Attachment researchers have demonstrated more dramatically than any other group the interactive basis for the deletions and distortions prominent in many implicit relational strategies. If negative affects, particularly hateful ones, produce hostile attack, intense devaluation, shaming, or withdrawal by the parent, they may be excluded from further discourse. Exclusion of negative affects from interaction also excludes these affects from the integrated developmental elaboration and understanding of anger-related behaviors, affects, and experiences that might come from more balanced acceptance and inclusion in interaction and discussion.

Attachment research has consistently grounded defensive maneuvers in infancy, such as infant avoidance, in the behavioral and affective responses of the caregivers, responses based on their own implicit models of relationships. These interpersonal defensive maneuvers have been viewed as interactive and adaptive in origin rather than purely intrapsychic in origin. Recent research on infants with disorganized attachment behavior has also tied these conflicted forms of infant behavior to fearful and hesitant or hostile and frightening responses of the caregiver (see Lyons-Ruth, Bronfman and Atwood, 1999; Lyons-Ruth, Bronfman, and Parsons, 1999). These disorganized attachment behaviors in infancy also predict later forms of role-reversal with the parent during the preschool years (Main, Kaplan, and Cassidy, 1985). These findings point to the parent's difficulty in attending to and balancing the initiatives of the infant with those of the self, with the ensuing collapse of intersubjective space so that only one party's subjective reality is acknowledged. This collapse of intersubjective space in the interactions between parent and child may also lead to the impaired capacity of borderline patients to integrate conflicting representations and to mentally reflect on the subjective states of self and other, as noted by Fonagy (1991).

This view of defenses as partially grounded in the structure of exchanges with important others is also congruent with the increasing awareness among analysts that interactions between patient and analyst instantiate the defensive exclusions or contradictions of the patient's implicit procedural knowledge. Currently, mutual reflection on "enactments" in the therapy is seen as a rich source of insight

about these implicit procedural knowings, including the resort to defensive distortion or exclusion of information. Developmental research further establishes that many of the defensive deletions and distortions evident in enactments have "two-person" origins.

Part II: Enactive Relational Representation and the Process of Change

Because changes in the organization of meaning systems are what we are generally referring to when we talk about both developmental change and psychoanalytic change, accounting for changes in meaning systems is critical to both developmental and psychoanalytic theory. For developmental theory, in particular, change cannot be adequately described as simply making the unconscious conscious. Instead, new ways of being with others are being acquired. Yet no literature has grappled extensively with how "working models," "internalized objects," or "implicit procedural meanings" become either more articulated and complex over developmental time or reworked during psychoanalytic treatment. A sufficiently powerful model of change in implicit relational knowing is likely to require the synthesis of insights from both developmental science and psychoanalytic theory.

A Control Systems Model of Mind

What does current cognitive–developmental science have to offer a psychoanalytic theory of meaning? Findings from 30 years of cognitive–developmental research are converging with similar results from the neurosciences and from studies of adult cognition to yield the following general insights into the construction of meaning systems, insights that are also congenial to the clinical experience of mind and meaning.

1. The mind is naturally fractionated, with meaning systems often unintegrated with one another (e.g., Fischer and Granott, 1995).
2. Mental processing occurs at several levels in parallel, as well as in sequence (Marcel, 1983; Fischer and Granott, 1995).
3. All adapted activity expresses mental structure (Fischer, 1980).

4. All cognition is essentially re-cognition in that new learning automatically reorganizes old learning to some extent (Edelman, 1987; Freeman, 1990).
5. Meanings are co-constructed in interaction with the minds and artifacts of a particular culture (Vygotsky, 1962; Bruner, Olver, and Greenfield, 1966).
6. In domains of meaning with rich cultural investment (the provision of many minds and artifacts to assist in the mental articulation of a domain), meaning systems will develop through higher levels of organization, that is, will become articulated and integrated into higher-order coordinations and proceduralized to allow more elements into working memory more rapidly and completely than in domains without support (Bruner, Olver, and Greenfield, 1966; Fischer, 1980; Anderson, 1982).
7. Developmentally, constraints of working memory and processing speed set an upper limit on the level of organization in adaptive action that can be achieved, but up to this upper limit, level of organization realized will vary widely across domains, depending on the degree of support for elaborating the representational domain (Case, 1991; Fischer, 1980).
8. Even if an optimal level of complexity of thought can be demonstrated in a given domain, use of that optimal level may still vary widely with context (Fischer and Granott, 1995).

If these general features of thought are applied to implicit working models of relationships, we would expect to find that the flexible and integrated organization of implicit relational experience is particularly dependent on the quality and extent of participation by a relational partner. This dependence on the quality of the partner's participation also implies that implicit relational knowing is particularly vulnerable to fractionation and lack of integration among the implicit meaning systems governing relational behavior. That is, lack of mental integration may occur not only because of intrapsychic defensive processes, but also because of the absence of collaborative relationships within which to articulate and integrate relational understanding and ways of being. Areas of potentially conflicting enactive knowledge may remain unintegrated with one another, as occurs in splitting, and in addition, potentially conflicting symbolic and enactive knowings

may operate in parallel without integration across modes of representation.

Recent cognitive–developmental theory (Fischer, 1980; Case, 1991; Fischer and Granott, 1995) offers the most powerful current model for how meaning systems and their associated adaptive skills for doing things in the world change with development. Modern cognitive–developmental theory sees development as involving the construction of progressively more complex control (or meaning) systems. These control systems are properties of both the person and the environmental context in which they develop. Cognition, action, and emotion are all interrelated products of these control systems. The best current description of how an enactive control system changes emphasizes the gradual microprocess by which single developed skills, or enactive relational procedures, are coordinated with other single skills or procedures to form second-level coordinated thought structures, which are, in turn, coordinated with one another. For each procedure one must learn to achieve a particular outcome reliably over a set of environmental variations and then coordinate that procedure with a related procedure. For example, after a conflict with his mother, a 2-year-old might learn to calm his distress from a variety of intensity levels, using a variety of supports (thumb, blanket, parental hug, shift of attention) and then coordinate this enactive procedure with a second set of procedures for engaging in playful games with the parent, leading to a set of coordinated second-level control structures for "making up," for moving from distress in relation to the parent to a calm state and ultimately back to positive engagement and play. This enactive relational procedure might then be coordinated with procedures for interacting with playmates rather than parents, so that a coordinated procedural control system develops for making up with playmates after a conflict.

It is important to note that, although words are used for the first time in the service of enactive relational procedures during toddlerhood, the embedding of words into procedures does not make the organization of the procedure itself available to reflective thought or verbal representation. The 3-year-old may be able to verbalize meanings of "good" and "bad," but he cannot represent consciously or verbally that he inhibits his impulse to reach out for comfort to his father because his father's physical withdrawal and cold voicetone communicate disapproval of comfort-seeking. The organizational structure of most relational behavior remains unconscious and implicit even though the child's new words and understandings may be incorporated into these implicit procedures.

Fischer (1980) and Case (1991) both detail this developmental process of gradual coordination of more complex, integrated, and inclusive implicit procedures or control structures through a series of developmental levels. The reader should consult Fischer (1980) and Case (1991) for their detailed expositions of how particular domains of procedural knowing are assembled component by component, during the years from infancy to adulthood. These theories have extended the older Piagetian framework in a number of ways that deemphasize his monolithic and hierarchical stage structures, replacing them with a set of more varied and context-responsive "skills" or modular meaning systems. These modular meaning systems require environmental support but operate within the general constraints of memory capacity and processing speed available at a given age.

In contrast to older views, there is no simple uniform progression through a series of stages, and people do not operate at a particular level across tasks. The series of levels and sublevels outlined by Fischer (1980) or Case (1991) represent, not epochs of development, but an analysis of task complexity, of the level of implicit mental articulation needed to accomplish a set of adaptive actions. The level of complexity of a given child's or adult's control systems typically varies widely across tasks. Development is viewed as a process of developing concurrently along a number of pathways that may be only loosely or not at all coordinated by level of articulation achieved. Even along a given pathway, level of complexity of thought and action will vary with contextual factors from day to day. To quote Fischer, "People do not have integrated, fundamentally logical minds. Instead, we have many control systems that are naturally separate, although potentially we can develop coordination and integration of many of them" (p. 153). This view is clearly consistent with clinical experience, in that an individual's relational repertoire for doing things with others may be quite discrepant from the person's skills in other areas.

These emerging context-sensitive and modular views of the development of meaning are congenial to many of the clinical insights of

psychoanalysis. They emphasize the integral relations between meaning systems and adapted behavior; the fractionated and context-specific nature of both symbolic and procedural meaning systems, the importance of cultural partners in scaffolding or co-constructing representational systems to more flexible and inclusive forms; and the gradual, iterative, yet individually idiosyncratic process through which meaning systems become more articulated, integrated, and inclusive. More specifically than in the attachment literature, these researchers delineate the processing constraints on the elaboration of both procedural and symbolic meaning systems during particular developmental periods and delineate the gradual process through which components of a task or meaning domain are differentiated and systematically coordinated into more flexible and inclusive systems.

Although the language of cognitive science is often uncongenial to clinicians, a model of the slow articulation of a domain of meaning within a set of developmental constraints is likely to describe aspects of the construction of implicit and explicit relational knowing both during development and during psychoanalytic therapy. Contemporary neuroscience also describes mental organization as proceeding through a gradually accruing complexity of neuronal connections until a critical point is reached where higher level organization emerges spontaneously (Edelman, 1987). The neuroscience literature also stresses the individually idiosyncratic nature of the accruing neuronal organizations but the seemingly paradoxical convergence of these idiosyncratic pathways on species-typical behavioral outcomes. Somehow developmentally, we tend to arrive at a similar place through vastly different routes. These models of the increasing articulation and organization of both neuronal systems and relational procedures potentially provide support for a meaning-focused psychoanalytic enterprise from contemporary scientific views and create fertile ground for more collaborative dialogue across psychoanalytic and developmental disciplines.

Parallel Mental Processing

Recent awareness of the parallel nature of much cognitive activity and the sharp constraints on what can ever be the subject of sustained focal (conscious) attention has led to a more general realization that

thinking progresses to highly complex, formal modes through the development of enactive procedures that are not easily, and never completely, translated into a verbal, explicitly retrievable medium (e.g., Fischer and Granott, 1995; Marcel, 1983). This enactive dimension is most obvious in the domains that do not easily lend themselves to verbal expression, such as musical composition or performance, complex artistic or athletic skills, and spatial or architectural expertise. However, the increased complexity of implicit knowing that comes with repeated exposure or repeated doing is also intrinsic to the most symbol-laden domains as well, such as the writing of scientific papers or the analysis of literature.

Knowing how to proceed in intimate relationships may be another domain in which complex knowledge is constructed outside a predominantly verbal medium, in which procedures for skilled interaction, incorporating a range of subtle affective cues, develop through a series of more articulated and integrated coordinations largely outside the domain of verbalized knowledge and conscious awareness. Clearly, as a species, we still have a very sparse systematic verbalized knowledge base for understanding how human interaction "works," even though we enact it daily at highly skilled levels. Even in the analytic literature, there is often a large gap between insights systematized in the literature and the subtlety and complexity of what the analyst implicitly knows and does clinically. Implicit clinical knowing, then, also proceeds to high levels of complexity outside the medium of words, even though systematized, verbalized knowledge is highly valued in the field.

In order to emphasize that the structure of thinking is inherent in action, Fischer (1980) calls his cognitive–developmental theory a theory of skill development. In his view, cognition at every level is fundamentally about learning to control a range of actions, whether physical or mental actions, in the service of achieving a particular outcome in the world, over a specific set of variations in environmental input. For example, at the sensorimotor level, between 9 and 12 months, the infant learns how to coordinate his focus of attention with the caregiver's, by using a variety of vocal sounds and gestures to redirect her focus of attention to coincide with his, no matter what her physical position or current focus of attention may be (see Bretherton, McNew, and Beeghly-Smith, 1981). A related, but much more

complex, skill at the abstract level of thinking is to coordinate one's parenting and career identities over time with the parenting and career identities of one's spouse through joint negotiation and decision making (see Fischer, 1980). These examples point to the mentally organized structure of behaviors that are also imbued with strong affects serving basic survival needs. Both the cognitive–developmental and attachment research literatures, then, converge on the notion that implicit relational knowing is one realm where organized enactive or implicit procedural knowledge develops from the first months of life largely outside the arena of symbolic or verbalized knowledge.

Melvin Lewis (1995), in a related argument regarding amnesia and transference, also discusses the distinction between procedural and declarative memory and proposes a developmental shift hypothesis to account for infantile amnesia. According to his hypothesis, some early developmental structures, such as primary process and sensorimotor thought, are maintained as they are throughout development and would be manifested in preverbal, affective, sensory, and motoric memory patterns. In contrast, later memory functions, especially those involving language, would change extensively with development. He speculates that the concept of infantile amnesia as a result of repression may not be viable since nonverbal forms of memory can be recovered from infancy onward. He concludes, "The apparent lack of verbal access might have nothing at all to do with repression; it might simply be that early memories are encoded in a prelanguage form and that we have been looking for the wrong representation of very early memories—for words rather than for physiological responses, behavior and affect" (p. 410).

While his argument converges with the view advanced here that implicit relational representations are constructed from the first months of life, the model advanced here differs from this implied "developmental shift" view. In a developmental shift view, affective and behavioral representational systems that do not become more complex with development are contrasted with verbal systems that emerge during the second year and that *do* become more complex. A more powerful and general model is a parallel systems model, rather than a developmental shift model. In a parallel systems model, the affective and behavioral representations guiding interactions with

others continue to become more articulated and complex with development, with newly acquired verbal capacity incorporated into interactive strategies, but the strategies themselves not dependent on verbal articulation. This is clearly in keeping with the complexity of the transference phenomena that present clinically. In this view, affective and behavioral representations are not *pre*verbal; they are simply not primarily verbal.

Following Bretherton (1991), Stern (1995), and others, these implicit relational procedures can be described as organized around a variety of local and superordinate goals and as including both interactive procedures and their associated webs of cognitive and affective meanings. These multivalent relational schemes would include not only verbal or verbalizable "cognitive" meanings if these are available, but also a rich web of imagistic "fantasies" and affect-related physiological sensations and the implicit relational knowing of how these meanings and fantasies are related to social actions. The integral connections between cognition and "valuation," or feeling, which is required in this model, have also been emphasized by Damascio (1994) and Edelman (1987) on the basis of recent neuroscience research. Stern (1995) has also recently delineated the multidimensional nature of early relational schemes as experienced in parent–infant psychotherapy.

If representations of "how to do things with others" integrate semantic and affective meaning with behavioral/interactive procedures, then a particular implicit relational procedure may be accessed through multiple routes, and representational change may be set in motion by changes in affective experience, cognitive understanding, or interactive encounters, without necessarily assigning privileged status to a particular dimension, such as interpretation. Stern (1995) has made a related point in relation to parent–infant psychotherapy, where the therapist's intervention may be targeted toward the parent's representation of her own experience, at the therapist–parent transference relationship, or at the parent–infant interaction itself. Mobilizing change across more aspects of these multidimensional thinking, feeling, and doing schemes at once will presumably enhance the effectiveness of the change process, assuming appropriate pace and timing so as not to overload the patient.

Task Structure in the Relational Domain:
A Common Element in Developmental and Psychoanalytic Change

With the increasing influence of infant research, psychoanalytic theorists have struggled with the extent to which the parent–infant or parent–child dyad provides a useful analogy to the therapeutic dyad (e.g., Mitchell, 1988; Wolff, 1996). Following the work of Fischer and Case, I would propose that an essential common structuring element in developmental and psychoanalytic change is the task structure intrinsic to the process of getting to know another's mind. Both developmental and psychoanalytic change in how one conducts oneself in intimate relationships must be constrained by the series of differentiations and integrations required for the construction of collaborative procedures for acting in relationships. The continuing developmental construction of higher-order coordinations of mental entities that Case and Fischer have described in abstract terms have been systematically studied in relation to the child's progressively more complex ability to conceptualize the activity of other minds (see Hobson, 1993; Selman, 1980). The literature on the child's emerging "theory of mind" documents the child's evolving ability to think about thinking, including his own thinking. Self-reflective function, which Fonagy (1991) in particular has highlighted, is closely related to, but generally lags developmentally behind, reflection on the other's subjectivity (Landry and Lyons-Ruth, 1980).

Psychoanalytic discussions of representation usually involve the representation of subjective states, so the developmental emergence of a number of successive levels of "thinking about thinking" introduces a number of potential levels of "representation" of intersubjective events. Intersubjective awareness, then, is not best discussed in terms of whether conscious awareness or symbolic representation has been achieved per se. Instead, we must consider what level of "thinking about thinking" has been fluently achieved and procedurally integrated over which types of affective and relational contexts. Whether starting in early childhood or in adulthood, one must first elaborate an awareness of how one's own mental life is both similar to and different from that of others to elaborate further an understanding of how to make those similarities and differences explicit in dialogue

and then to construct procedures for negotiating with the other in the face of differences. The same series of understandings must be elaborated by the developing child.

The essential features of both the verbal and the implicit procedural meaning systems constituting the domain of relational knowing are still poorly described and understood in both the developmental, cognitive, and psychoanalytic literatures. Developmental work on the child's emerging theory of mind (e.g., Carpenter, Nagell, and Tomasello, 1998; Hobson, 1993), work on the relational deficits characterizing autistic individuals (e.g., Hobson, 1993), and research on children's social understanding (Selman, 1980) contribute some detail from the research literature. The rich body of psychoanalytic descriptive work on severe character disorders also offers the potential for a theory of how the domain of intersubjective knowing is elaborated or remains unelaborated, under normal and abnormal conditions (e.g., Fonagy, 1991). This body of work first needs to be freed of prior untenable developmental assumptions, however (e.g., Westen, 1990; Lyons-Ruth, 1991).

Psychoanalytic work on the organization of the intersubjective worlds of child and adult patients and developmental research on the construction of intersubjective understanding are complementary lenses refracting a common underlying domain of knowing. In the "common structure" view offered here, the parent–child relationship is not a metaphor for the adult–patient relationship or vice-versa. Instead, both offer unique, but converging, routes to describing how human beings coconstruct a set of procedures and understandings for negotiating the intersubjective field. Understanding how mind constructs the intersubjective field, whether during childhood or adulthood, is crucial to the further development of both psychoanalysis and developmental science. In this view both developmental and psychoanalytic change emerge from the dynamic interplay of the multiple constraints of intersubjective task structure, working memory capacity, and the quality and extent of participation of interacting partners. This complex constructivist view allows us to move away from a monolithic view of developmental sequence. It also allows us to see similarities in the processes of developmental and psychoanalytic change, not in terms of the adult's regression to or fixation at a

stage of infancy or childhood, but in terms of the similarities through which humans of all ages approach and progress through the mastering of the complex task domain of negotiating with other minds.

Unique Features of Relational Control Systems

Analytic thinkers and infant researchers would both call for several additions to these cognitive models of meaning construction, however. Both analytic theorists and infancy researchers would call attention to the special problems presented by the need to know and be known by another mind, a condition that is a prerequisite for the construction of meaning systems regarding how to be with others. The elaboration of notions of intersubjectivity, or how two minds interface with one another, is an intrinsically collaborative process that depends on one mind becoming reasonably well known to at least one other mind. This necessary extended intersubjective collaboration can create unique and idiosyncratic contexts in which interpersonal meaning systems are elaborated, unlike the regularities and multiple examples more characteristic of commerce with the physical world. The availability of a learning context for elaborating intersubjective meanings is then highly constrained by the frequency and particular quality of the partner's participation in what Tronick (1998) has referred to as "the dyadic expansion of consciousness" (see also Sander, 1995).

Psychoanalytic thinkers in particular would also call attention to the powerful motive systems and accompanying strong affects that impact the elaboration of intersubjective meanings more strongly than they impact the elaboration of concepts of the physical world. The segregation of meanings associated with powerful negative affects has been a central insight of psychoanalytic observation since its inception. To date, cognitive researchers have not attempted to develop a thorough analysis of the meaning systems that guide intimate relationships. The cognitive term *sensorimotor intelligence* itself fails to acknowledge the existence early in infancy of an affective communication system served by an elaborate expressive facial musculature that is unique to the human species (Izard, 1978). In addition to the increasingly complex sensorimotor coordinations that are assembled over the first 2 years, there are also increasingly complex affective and interpersonal coordinations that are co-constructed, as delineated particularly

in the attachment literature, as well as in related studies by Tronick, Sander, and Stern. These increasingly complex coordinations of interpersonal action and intersubjective awareness are likely to follow the microdevelopmental steps in the articulation of meaning systems explicated by Fischer and Case. That the first extended tutorial in intersubjective awareness is usually conducted with an attachment figure whose presence and participation are necessary for the child's survival further imbues these exchanges with powerful affects. How these affect systems organize, fragment, or distort the development of meaning systems has not been considered in any depth in the cognitive literature (but see Damasio, 1994).

Affective features, as well as cognitive features, are likely to be central to psychopathology, however. The *complexity* of one's verbal reasoning about others, and perhaps of one's implicit procedural knowing, has no simple relation to psychopathology. Verbal reasoning about others can be highly developed in the context of severe character issues and maladaptive behaviors (see work by Selman, 1980). Therapeutic work seems to be about identifying ways of proceeding, or assumptions about others, that are maladaptive outside the initial context of learning but may or may not be less complex. Instead, they may be more imbued with rage or fear, less integrated with other procedural knowings, less effective in modulating internal physiological stress responses, or more likely to involve fearful or hostile interpretations of others' behavior. Deconstructing complex, but maladaptive, ways of being with, while simultaneously co-constructing more adaptive but equally complex new ways of being together, is likely to involve a slow mutual journey through a series of intersubjective encounters that catalyze the construction of new control systems. A model that integrates motivational and affective processes with the increasing articulation and organization of relational control structures seems necessary.

Viewed developmentally, the domain of implicit relational knowing becomes more complex over normal development, largely through apprentice learning and participant observation rather than verbal instruction. Whether the gradual process of differentiation and coordination of components of meaning (or action) described in the developmental literature will prove useful to understanding the developmental construction or therapeutic reconstruction of implicit

relational knowing remains to be fully explored. However, the question of how the meaning systems comprising the domain of implicit relational knowing develop and change needs to be grappled with by both developmental and psychoanalytic theorists.

Conflict, Negative Affect, and Fragmented or Dissociated Enactive Procedures

Procedural models for being with others are organized at first according to the developmental level of understanding available at the time they are taking form and may or may not become reorganized over time in accord with later levels of understanding. So an implicit relational procedure, along with its associated meanings and values, may remain at the initial level of representation or may be only partially updated from time to time, leaving coexisting variations at succeeding developmental levels (probably the norm for most areas of experience), or may have been repeatedly reaccessed and in the process reconstructed over time so that developmentally earlier versions have been largely replaced (see Edelman, 1987). Many such implicit procedures for how to negotiate affectively charged exchanges with others are a part of what is being brought to the psychoanalyst.

From the perspective of normal development, lack of articulation and integration of either implicit or explicit representational systems can have many origins, including developmental limitations in meaning-making at a particular age, implicit rules of family engagement that exclude particular ways of relating, implicit rules that include procedural action but refuse verbal acknowledgment, traumatic experiences whose implications threaten other survival-necessary "ways of being with," and the usual disjunctions of human life where somewhat contradictory implicit procedures may evolve governing, for example, public versus private life, sibling versus peer relations, or same-sex versus opposite-sex interactions.

Conflict at the level of implicit procedural representation inheres in the tension between the goals and needs of the child and the responses of the varied caregiving environments that are encountered developmentally. While other forms of discontinuity or limitation in procedures may exist, the ones most relevant to psychoanalytic theory are those associated with imbalanced interpersonal interaction, need frustration, and negative affect. Inadequate response to central goals and needs of the child creates both negative affects and areas of exchange that become foreclosed to further negotiation, articulation, and integration. Thus, disruptions or imbalances in interpersonal transactions are initially isomorphic with discontinuities or inadequacies in relational procedures and are associated with experienced conflict around the frustration of central goals. Conflict among the child's competing goals per se (such as to preserve a good relationship with the parent or to insist on one's own way; to do away with father or to love father) are unlikely to result in lasting difficulties in and of themselves unless corresponding conflicts between the goals of parent and child interfere with their developmental resolution (Fischer and Watson, 1981).

When flexible mental and emotional access to most levels of experience has been available within a development-enhancing dialogue, the resulting relational control systems will be reasonably well integrated, with both interpersonally contested issues and internally contradictory goals and meanings struggled with and resolved *to the extent necessary* to negotiate the world. If many of the patient's goals have been overridden and excluded from further interaction, negative affects related to the frustration of those goals will remain unresolved while caregiver negative affects toward the pursuit of those goals will also be represented. These points of unresolved conflict become internalized as discontinuities in implicit procedures, discontinuities often marked by strong conflicting emotions. Likewise, if relational goals have been enacted in relationships in forms that conflict with what is acknowledged or have been enacted in contradictory forms whose contradictions are never confronted, the resulting implicit procedural representations will be segregated, fragmented, or contradictory, with little opportunity to update, articulate, and integrate implicit "ways of being with" as new developmental capacities become available (see Bretherton, 1988). Therapeutic work will then be occurring around the fault lines where interactive negotiations have failed, goals remain aborted, negative affects are unresolved, conflict is experienced, and implicit procedural representations have become segregated from one another.

Viewing "internalized objects" or "transferences" as relational control systems governed by implicit procedural models makes clearer that segregated or fragmented implicit procedural maps will not only be imbued with conflicted affects but are likely to be underdeveloped in various ways compared to procedures that have developed in relationships characterized by more coherent communication. Alternately, one can view procedures developed under conditions of more restricted communication, not as "underdeveloped," but as differently developed under conditions where barriers to self-expression and the associated segregation and fragmentation of relational control procedures are valued and enforced.

Removing affective barriers to new ways of being with others is only one aspect of the change process, however; new procedures that are more articulated, integrated, and adapted to current reality must be developed. In traditional theory, the work after initial "insight" is achieved has proceeded under the rubric of "working through." If relational knowing is as much implicit and procedural as symbolic, the work of elaborating new implicit procedures for being with others must occur at enactive as well as symbolic levels.

A final subtle shift occurs in adopting a representational systems model of mind in that we must struggle with the issue of creating new representational structures. If representational systems are always in a process of reconstruction with every activation (see Edelman, 1987; Freeman, 1990), then analytic work is always involved in the creation of the new and the reworking of the old simultaneously. While "making the unconscious conscious" or verbalized may be one part of this co-constructive process, developmental research, in particular, suggests that the emergence of new implicit relational procedures developmentally is not simply about putting unconscious motivations or implicit procedures into words, but about new forms of organization emerging as new forms of "being with" are scaffolded between parent and child.

Nonlinear Models of Change: Increasing Elaboration and Emergent Properties

Analytic theory and practice have always recognized both the slow, incremental processes of forming an alliance and working through, as well as the observed major shifts in organization presumed to be attendant on a successful interpretation. Edelman's (1987) theory of neuronal group selection also points to the importance both of the small incremental processes by which certain neuronal groups gain articulation at the expense of other potential pathways and of the relatively sudden emergence of a higher-order organization once the number of reciprocal and recursive feedback loops reaches a critical point. Dynamic systems theory also draws our attention to the sudden emergence of new forms of organization with increased articulation of the constituents of the system (Thelen and Smith, 1994). Edelman's theory of neuronal groups further indicates that the small elaborations that occur as a neuronal group is slowly constructed or reconstructed with use *are* the engine of change, with a higher-order organization emerging as a function of the critical mass of new and overlapping articulated elements attained.

Applying the lens of these theories of self-organizing biological systems, what may need more emphasis is the extended period of intersubjective encounters between patient and analyst that have increased the complexity and organization of some aspects of the intersubjective field at the expense of others. This idiosyncratic and slow process of elaborating some aspects of neuronal organization at the expense of others—or, at another level of analysis, of slowly creating new implicit relational procedures—is the work that creates competing and destabilizing mental and behavioral structures. Viewed from a self-organizing systems perspective, as increasingly articulated competing organization emerges, the old organization is destabilized, with an increasing subjective sense of creative disorder and internal flux (Thelen and Smith, 1994; see also Stolorow, in press). At this point of increasing instability, the analyst (and the patient as well) may be able to crystallize the shift in mental organization and awareness to a new, and often more complex, form by making the additional re-cognitions needed through interpretation. Once this state of instability and flux is achieved, however, the reorganizing re-cognitions might also come about through an emotionally salient series of transactions with the analyst, as loosely captured by the term *corrective emotional experience,* or through a powerful transaction between the two participants when the analyst is forced somewhat out of role, as described under the rubric of enactment. The more distal source of

change, however, is not the proximal crystallizing encounter or interpretation but the preceding long period of destabilizing patient–analyst encounters.

Such a model seems to capture well the feel of clinical work and is foreshadowed in much of previous analytic writing regarding the need to prepare for the interpretation. In the older literature, however, the focus was on elaborating the patient's symbolic representations via clarification and interpretation. The newer developmental and neuroscience literatures suggest that, in addition to conscious symbolic elaboration, patient and analyst must be working simultaneously at an implicit relational level to create increasingly collaborative forms of dialogue. Developmental research suggests that collaborative dialogue includes careful attention to the particular state of the other's intersubjective experience, open acceptance of a broad range of affects, active scaffolding to more inclusive levels of dialogue, and engaged struggle and intersubjective negotiation through periods when the other's mind is changing and new ways of relating are needed. Coherence of mind and perfectly collaborative communication are abstractions that will never be realized given the many simultaneous levels of human communication, the natural fractionation of representational systems, the constant process of new relational encounters, and the powerful affects that resist certain kinds of exchanges or insights. However, in developmental attachment studies, more inclusive, succinct, noncontradictory, and truthful forms of parent–child dialogue have been shown to yield more coherent internal working models of attachment and more flexible, integrated, and adaptive implicit relational procedures and to confer developmental advantages in "average, expectable" environments.

A corollary of this view of developmental process is that development is never "arrested" but takes different forms with different relational experiences. Thus, we must understand both the implicit and explicit relational meaning systems that *did* develop *and* the enactive relational procedures that *might have* developed under other circumstances and might serve the child or adult better in her current context. Patient and therapist are inevitably working simultaneously at affective, cognitive, and enactive levels to deconstruct the old, more limited, or more negatively toned procedures or meanings, while

simultaneously constructing more integrated, flexible, and hopeful ways of making meaning and being together.

In the process of normal development, implicit relational procedures are continually being modified through new forms of dialogue that are more collaborative and inclusive, forms that achieve more specific recognition of the other's subjectivity and that allow the elaboration of new expressions of agency and affect. For an adult patient, more collaborative and inclusive dialogue may involve partially translating previously implicit procedural knowing into words, while for the young child the work may operate entirely at the implicit level through interactive play that is largely noninterpretation-based (see Ablon, 1996). For example, the therapist might engage with the child's fear of aggressive interactions by permissive and assertive moves in collaborative play that are never raised to the level of interpretation. The degree of verbalized self-awareness that is useful would depend on the usual level of verbalized self-reflective function characteristic of a child of a given age. In this conception any sharp distinction between insight-promotion and "corrective experience" or "developmental help" is not primary as long as there is a psychoanalytically informed engagement around the organization of the child's or adult's implicit and explicit relational meaning systems.

This conception of therapeutic process as the simultaneous deconstruction of maladaptive control structures and the increasing articulation of competing control structures offers a more general conceptualization of the several levels of process that are coming together in a new emerging organization at a moment of therapeutic change. If representational change involves not only cognition or "insight" but also changes in affectively rich "ways of being with," a shift in organization must also involve a reorganization of the analyst's and patient's ways of being together. Therefore, moments of reorganization must involve a new kind of intersubjective meeting that occurs in a new "opening" in the interpersonal space, allowing both participants to become agents toward one another in a new way. This "opening" between the two, which in this conception is part of a state of destabilization and flux created by an emergent new organization, allows new initiatives and spontaneous interpersonal actions to be applied toward constructing a new or different intersubjective arrangement

(and representation). This new organization is not simply a product of the individual patient's intrapsychic work, however, but of the working out of new relational possibilities with the analyst. The analyst's specific participation as a new kind of relational partner is part of the "something more" that allows an integrated affective and relational change, in concert with the conscious insight that may or may not accompany the emergence of the new order. A more elaborated statement of this view of change in analytically oriented treatment is articulated in Stern et al. (1998).

Conclusions

A conceptual framework for understanding psychoanalytic and developmental change in implicit relational knowing is offered that is congruent with current developmental and neuroscientific research and congenial to the clinical "feel" of extended analytically oriented treatment. Three major shifts from previous analytic theory seem necessary to accommodate new research. First, developmental work makes clear that characteristics of the two-person dialogue make central contributions to the form of "internalized objects" or implicit relational procedures that are constructed by the child, as well as to the defensive deletions and distortions that mark those implicit procedures. Second, a theory of implicit or enacted procedural meaning is needed that is not isomorphic with previous conceptions of the dynamic unconscious. Third, a conception of how procedures for being with others become more articulated, adapted, and inclusive is needed that does not rely solely or primarily on translating procedural knowing into symbolic form. In summary, the analytically central concepts of motivation, affect, conflict, and defense need to be integrated with a theory of the development of implicit relational knowing to account more fully for both clinical and developmental phenomena.

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