Projective Identification, Unconscious Communication, and the Right Brain

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Projective Identification, Unconscious Communication, and the Right Brain
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Learning Objectives

This is an intermediate to advanced level course. After completing this course, mental health professionals will be able to:

- Describe and apply a clinical model of how projective identification is unconsciously communicated within the therapeutic alliance.
- Explain how right brain circuits are activated in stressful transference-countertransference heightened affective moments.
- Utilize a clinical model for increasing receptivity to the patient's unconscious communications.
- Discuss how the clinician's involvement in rupture and repair can promote the patient's capacity for affect regulation.

Foreword

We are now in a period in which psychoanalysis and science are converging to produce more

powerful explanatory models of the mind. This rapprochement may allow for a fresh approach to certain fundamental, yet heretofore seemingly impenetrable, questions of human experience. A particularly intriguing problem that has been of interest to a number of different disciplines is the matter of how and why the mind first develops, and then continues to become more complex. If it is true that for most of this century this question has seemed to be beyond the province of scientific inquiry, it should be noted that even within psychoanalysis the early development of the mind was hardly addressed, if almost avoided, by Freud. Perhaps more than any other of the psychoanalytic pioneers, it was Melanie Klein who established the formal theoretical and clinical explorations of the primitive mind. To this date, however, the findings of experimental science have offered little validation for many of Klein's hypotheses. In return, it should be noted, many of the followers of Klein have not been exactly inarticulate in expressing their antipathy for science.

Despite the controversies about Klein's theoretical constructs, her clinical concepts have offered valuable clues about working with developmentally disordered patients and primitive domains of the mind. This is true for perhaps her most important discovery, the clinically relevant – yet theoretically enigmatic – process of projective identification. Klein (1946) defined projective identification as a process wherein largely unconscious information is projected from the sender to the recipient. Although this primitive process of communication between the unconscious of one person and the unconscious of another begins in early development, it continues throughout life. This phenomenon also refers to a primitive unconscious defense mechanism that is a central focus of the treatment of child and adult developmental psychopathologies.

Introduction

Psychoanalysis has been called the science of unconscious processes. Freud's major contribution to science was to emphasize the central importance of a continuously active unconscious mind in everyday life functions. Adaptive interactions with other humans take place on both conscious and unconscious levels. In his work, Freud began to model the state of mind of "evenly suspended attention" in which one could receive the unconscious communications of others. I suggest that if Freud (1912) was describing how the unconscious can act as "a receptive organ," Klein's concept of projective identification attempts to model how an unconscious system acts as a "transmitter," and how these transmissions will then influence the receptive functions of another unconscious mind. This clearly implies that unconscious systems interact with other unconscious systems, and that both receptive and expressive properties determine their communicative capacities.

In recent clinical work, B. Joseph (1997, p. 103) stresses that "projective identification is, by its very nature, a kind of communication," a theme also emphasized by Alvarez (1997) and Mason (2000). Morrison (1986) writes that it is "a communication to the recipient of what the unconscious fantasy *feels* like" (p. 59). Other current authors are asserting that projective identification involves the projection of *affects* associated with self and object representations (Adler & Rhine, 1992). Ogden (1990a) concludes, "In projective identification, the projector by means of actual

interpersonal interactions with the `recipient' unconsciously induces *feeling states* in the recipient that are congruent with the 'ejected' feelings" (p. 79).

These clinical observations bear upon a long-debated issue concerning the specific nature of what is projected in this primitive communicative process. A commonly held belief is that Klein's sole emphasis was on the development of phantasy, on unconscious cognitions generated within the infant's mind. This seems to be inconsistent with current developmental research, which reveals that the infant's states are less cognitively complex and more bodily-based and sensoriaffective. Yet Brody (1982) asserts that "Melanie Klein contributed to psychoanalytic thought when she described the intensities that *affects* can reach during infancy" (my italics). Although most readers are familiar with her work on envy and gratitude, in 1943-44 Klein published, "On observing the behavior of young infants" and "Some theoretical conclusions regarding the emotional life of the infant." And very recently, in an article entitled, "A new look at the theory of Melanie Klein", Stein (1990, p. 508) proposes that: "The common thread running through all mental development, according to Klein, may be said to be that of *"regulation of feelings*" (my italics).

A major conclusion of my ongoing work on the "regulation of feelings," or "affect regulation" (Schore, 1991; 1994; 1996; 1997a, b, c; 1998a, b; 1999a; 2000a, b, c, d, f; 2001 a, c, d, 2002 a) is that "primitive mental states" are much more than early appearing "mental" or "cognitive" states of mind that mediate psychological processes. Rather, they are more precisely characterized as *"psychobiological states*." Thus, those of us with a developmental framework are exploring not primitive states of mind, but primitive states of "mind-body." This developmental psychobiological perspective also suggests that affective states are transacted within the mother-infant dyad (Feldman, Greenbaum, & Yirmiya, 1999), and that this highly efficient system of somatically driven, fast-acting emotional communication is essentially nonverbal (Schore, 1997a). Current developmental research thus supports Grotstein's (1981) speculation, more than twenty years ago, that the state in which the therapist receives the projective identification is identical to maternal receptivity.

Thus, both clinical and developmental models of projective identification are now stressing the critical role of the communication of internal affective states and process, rather than cognitions and content. This conception fits with a general trend within psychoanalysis, articulated by Kantrowitz (1999, p. 72), who discusses the centrality of "intense affective engagements" and concludes, "It is in the realm of preconscious communication that the interwovenness of intrapsychic and interpersonal phenomena become most apparent." With respect to the communications embedded in projective identification, Ryle (1994, p. 107) points out that this mechanism is essentially concerned with "the relationship between intrapsychic and interpersonal phenomena and with indirect forms of communication and influence."

Indeed, projective identification, a process that mediates what Loewald (1970) calls the transmission of "intrapsychic externalizations," is being seen as a "bridge concept" between

classical and interpersonal psychoanalysis (Migone, 1995). Even more than this, the concept is now linking developmental psychoanalysis with developmental psychology. An entire issue of the journal *Psychoanalytic Dialogues* (Seligman, 1999) is devoted to a "Symposium on projective identification revisited: Integrating clinical infant research, attachment theory, and Kleinian concepts of phantasy." Clinicians and theoreticians are also now looking into the developmental sciences, as it has been suggested that a deeper understanding of projective identification may come from "the laboratories of infant researchers" (Stolorow, Orange, & Atwood, 1998, p. 723).

Taking this even further, I will argue here that Klein's seminal concept links clinical psychoanalysis with not only developmental psychoanalysis and psychology, but also with developmental neuroscience, especially affective neuroscience. In recent articles (Schore, 1997c; 1999; 2000a, b, 2002 a), I have proposed that the time is right for a rapprochement between psychoanalysis and neurobiology, and that this integration can lead to a deeper understanding of clinical phenomena. This is especially true of projective identification, which writers now describe as operating "in some mysterious way that we cannot begin to comprehend scientifically" (Sands, 1997, p. 653). Towards that end, in this course I will suggest that very current findings from studies of the neurobiology of emotional development are particularly relevant to projective identification, an early appearing process that involves a "mutuality of *emotional* response" (Migone, 1995).

There is now a surge of research on emotional behavior, and an increasing number of studies on the psychobiology of affective states and the neurobiology of the emotion processing right brain. The early maturing right hemisphere is dominant for the first three years of life (Chiron et al., 1997) and is specialized for the processing of emotional information (see Schore, 1994; 1998a; 1999). This is due to the fact that this cortex, more so than the left, is anatomically connected into the limbic system, the brain network which "derives subjective information in terms of emotional feelings that guide behavior" (MacLean, 1985, p. 220). In fact, this hemisphere plays an essential role in the nonconscious appraisal of the positive or negative emotional significance of social stimuli via a mechanism similar to Freud's pleasure-unpleasure principle (Schore, 1999a). The right hemisphere is dominant for the perception of nonverbal emotional expressions embedded in facial and prosodic stimuli (Blonder, Bowers, & Heilman, 1991; George et al., 1996), even at unconscious levels (Wexler, Warrenburg, Schwartz, & Janer, 1992), for nonverbal communication (Benowitz et al., 1983), and for implicit learning (Hugdahl, 1995).

In parallel work, current psychophysiological studies are focusing an intense interest on the implicit perception of affective information transmitted by faces (Niedenthal, 1990), and in the distinct dynamic properties of "nonconscious" affect, which is relatively diffuse, more readily displaced, and yields stronger or less adulterated affect (Murphy, Monahan, & Zajonc, 1995). This "automatic emotion" operates in infancy and beyond at nonconscious levels (Hansen & Hansen, 1994); such early automatic reactions shape the subsequent conscious emotional processing of a stimulus (Dimberg & Ohman, 1996). A body of research indicates that emotional face-to-face communications occur on an unconscious level (Dimberg, Thunberg, & Elmehed, 2000). I suggest

that projective identification is a prime example of the "transmission of nonconscious affect" (Murphy et al., 1995, p. 600).

An integration of current developmental studies of infant-mother emotional communications, psychophysiological data on affective processing, and neurobiological research on the essential role of the right brain in emotional communications can offer us a deeper understanding of the mechanism of affective communications within projective identification. These right brain-to-right brain communications embedded within the attachment bond represent what Bion (1959) called "links" between mother and infant. The neuroscientist Robert Ornstein (1997) calls the unconscious right brain, "*the right mind*," and so Bianchedi's assertion that "the mother's mind functions as a link" (Panel Report, 1996) is describing the link provided by *the mother's right mind*.

This rapidly expanding body of interdisciplinary studies can serve as a source pool for heuristic models of not only normal emotional development, but also of how disorganizing forces in the early social environment can interfere with maturational processes. The early social environment can positively and negatively influence the emergence of the early developing "primitive" (Tucker, 1992) right brain. Indeed, this hemisphere is dominant for affect regulation, and for generating coping strategies that support survival and enable the individual to cope with stresses and challenges (Wittling & Schweiger, 1993; Schore, 1994; Sullivan & Gratton, 1999). In contemporary psychodynamic models, defense mechanisms are defined as forms of emotional regulation strategies for avoiding, minimizing, or converting affects that are too difficult to tolerate (Cole et al., 1994). There is now agreement that intrapsychic psychological defenses are best characterized as a subset of coping mechanisms (Rutter, 1987), and that the development of coping responses is dependent upon early experience (Levine, 1983).

Currently, there is a great deal of interest amongst clinicians in intense, primitive affects such as terror and rage. However, in recent work I have suggested that we must also deepen our understanding of the early etiology of the primitive *defenses* that are used to cope with and to autoregulate traumatic, overwhelming affective states. An interdisciplinary approach can thus model how developing systems organize primitive defense mechanisms, such as projective identification and dissociation to cope with interactive forces that induce intensely stressful states that traumatically disorganize the infant's homeostatic equilibrium (Schore, 2001f). Since these early events are imprinted into the maturing brain (Matsuzawa et al., 2001), where states become traits (Perry et al., 1995), they endure as primitive defense mechanisms.

In two seminal papers, Klein conjectured that defensive projective identification is associated with the massive invasion of someone else's personality (1955) and represents an evacuation of unwanted parts of the self (1946). The use of a unique and restricted set of defenses in severely disturbed personalities has been long noted in the clinical literature. Indeed, a primary goal of treatment of such patients is to help them replace excessive use of projective identification with more mature defensive operations. Boyer describes a group of patients who have experienced an

early defective relationship with the mother that results in a grossly deficient ego structure. Their excessive use of projective identification:

> *...very heavily influences their relationships with others as well as their psychic equilibrium. Their principal conscious goal in therapy is to relieve themselves immediately of tension. Often they greatly fear that the experience of discomfort is intolerable and believe that failure to rid themselves of it will lead to physical or mental fragmentation or dissolution (1990, p. 304).*

In writings on the "costs" of the characterological use of projective identification, Stark describes,

> *Those patients who do not have the capacity to sit with internal conflicts will be in the position of forever giving important parts of themselves away, leaving themselves feeling internally impoverished and excessively dependent upon others (1999, p. 269).*

The following chapter is a continuation of a series of contributions directed towards elucidating the mechanisms that link early interpersonal processes with the organization of intrapsychic unconscious structural systems (Schore, 1994; 1996; 1997a, b; 1998a, b; 1999a; 2000b, c; 2001a; 2002 a). Specifically, I am proposing that knowledge of the experience-dependent maturation of the right brain ("right mind") offers us a chance to understand more deeply not just the contents of the unconscious, but its origin, structure, and dynamics. In these works, I am attempting to demonstrate the power of regulation theory and a neuropsychoanalytic perspective to describe the covert mechanisms that underlie a variety of essential developmental and clinical phenomena.

As opposed to the customary strategy of presenting material from a specific case in order to elucidate a general clinical principle, this approach attempts to model common fundamental mechanisms of unconscious intrapsychic and interpersonal phenomena, and then apply them to the therapeutic context of a specific case. This work specifically attempts a deeper exploration of the nonverbal, nonconscious realm, and therefore focuses on process more than verbal content. Models of the "hidden" mechanisms by which rapidly appraised alterations in the external social environment elicit patterns of dynamic changes of internal psychobiological states can offer a deeper understanding of the fundamental fast-acting mechanisms that occur within moment-to-moment interactions of the co-constructed therapeutic alliance.

Affect and its regulation *and* dysregulation play a central role in the infant-caregiver and patient-therapist relationship. Affect dysregulation is associated with stresses within the therapeutic alliance; it is, therefore, important to understand the etiology and operations of early developing

yet enduring defense mechanisms that are mobilized by relational stress. Depending upon the attachment history, these coping strategies can be both adaptive and maladaptive, and therefore critical elements of psychopathogenesis. Clinical models derived from this psychoneurobiological perspective are targeted towards expanding psychoanalytic techniques to the more severe psychopathologies of both childhood and adulthood. Therapeutic regulation, and not interpretation and insight, is the key to the treatment of developmentally disordered patients who are not "psychologically-minded." Fifty years ago, Hans Loewald stressed that "a better understanding of the therapeutic action of psychoanalysis may lead to changes in technique" (1960, p. 222).

Therefore, in the following, I will describe projective identification as an early organizing unconscious coping strategy for regulating right brain-to-right brain communications, especially of intense affective states. Since affects are psychobiological phenomena and the self is bodily-based, the coping strategy of projective identification represents not conscious verbal-linguistic behaviors but unconscious nonverbal *mind-body communications*. This information from developmental affective neuroscience and neuropsychoanalysis describes the fundamental psychoneurobiological mechanisms that mediate the therapist's capacity to access unconscious communications in order to know the patient "from the inside out" (Bromberg, 1991).

I will then apply the model to a number of clinical issues, keeping in mind Sander's dictum that in therapeutic exploration, "it is not the past we seek but the logic of the patient's own state regulating strategies" (in Schwaber, 1990, p. 238). It has recently been suggested that the nature of (neuro) development is "the great frontier in neuroscience where all of our (psychoanalytic) theories will be subject to the most acid of acid tests" (Watt, 2000, p. 191). The work presented here not only supports Klein's concept, it highlights the fundamental role of projective identification in both development and psychoanalytic treatment.

Current Updatings of Clinical Conceptions of Projective Identification

Klein originally described projective identification as the projection of an unwanted part of the self onto an important other, together with identification of that part with the other. This is usually interpreted to mean the projecting out, in a controlling way, of "bad" *negative* parts that could be dangerous to the self onto another person. However, a number of authors have recently emphasized the fact that Klein also spoke about the role of projective identification in the child's *positive* relationship with the mother, stating that this process also involves the projection of a much-valued part of the self into another. Muir (1995) notes, "It was described initially as a defensive process but later she indicated that it could be seen as a fundamental necessary and normal process in early ego development." (p. 247). Leiman (1994) points out that projective identification is involved in the "negative sphere of experience" *or* the "positive sphere," the latter expressed in Winnicott's (1971) transitional experiences and in the origin of play. Likierman (1988)

writes on “maternal love and positive projective identification.” In addition, Sandler and Sandler (1996) discuss states of “primary identification,” of moments in interpersonal interactions when the boundary between self and object is lost. They argue that this is the essential basis of the process of projective identification, that it occurs in a “reciprocal love relationship,” and is a significant basis for empathy.

These very current conceptions represent an extension of Klein’s (1946) original assertion that the processes associated with projective identification are “of vital importance for the normal development as well as for abnormal object relations.” But it was Bion who emphasized the central role of this mechanism in all early developmental phenomena. In a far-sighted work, Bion (1962) described that, when mother and infant are adjusted to each other, the infant behaves in such a way that projective identification is a “realistic” rather than defensive phenomenon, and this is its normal condition and function. This idea continues in the current literature, where the emphasis is on the adaptive aspects of projective identification, and on more than just the valence or the content of the projected material, but rather on the underlying process of the communication of states.

A conception of mother and infant adjusting to each other’s communications describes a model of mutual reciprocal influence. This clearly suggests that projective identification is not a unidirectional, but a bidirectional, interactive process. The interpersonal component of projective identification has been advanced by clinical theoreticians such as Grotstein (1981) and Ogden (1979), who states, "Projective identification does not exist where there is no interaction between projector and recipient." Scharff (1992) refers to the “forgotten concept of introjective identification,” and describes the coupling between the linked processes of projective *and* introjective identification. Following these leads, Ryle (1994) refers to projective identification as a particular form of “reciprocal role procedures” that organize interactions with others, predict the role of the other, and combine action with affect, expectation, and communication. Again, the concept moves from a monadic, one-way ejection of intrapsychic contents to a dyadic intersubjective communicative process.

Expanding upon this interactional principle, Muir (1995) integrates Klein’s work with Mahler’s and Bowlby’s developmental models. In an important contribution, he demonstrates that projective identification represents a medium of “psychobiological connection,” and that, indeed, it is the vehicle of the communication of positive symbiotic states and the transmission of attachment patterns. Muir contends that instead of just ridding oneself of unwanted parts into another person, this transpersonal process of projection of valued parts of the self is also used developmentally by the infant to induce nurturance and relationship behavior in the caregiver. These ideas are very similar to my own work, which indicates that psychobiologically regulated affect transactions that maximize positive and minimize negative affect co-create a secure attachment bond between mother and infant (Schore, 1994; 1996; 1999d; 2000b,f; 2001a). They also are concordant with attachment researchers who are now defining the central role of the

attachment relationship – a mechanism that continues in dyadic interactions throughout the lifespan – as "*the dyadic regulation of emotion*"" (Sroufe, 1996), a concept that mirrors Klein's lifelong interest in *"the regulation of feelings*" (Stein, 1990).

Current developmental models thus emphasize the fact that projective identification, both in the developmental and the therapeutic situations, is not a unidirectional, but a bi-directional process in which both members of an emotionally communicating dyad act in a context of mutual reciprocal influence. Although projective identification arises in the emotional communications within the mother-infant dyad, this "primitive" process plays an essential role in "the communication of affective experiences" in all later periods of development (Modell, 1994). These communications, however, have unique operational properties and occur in specified contexts. Authors are emphasizing that projective identification constitutes a mode of "primitive joint action" mediated by nonverbal signs (Leiman, 1994). Migone (1995, p. 626) holds that instances of projective identification occur in "intimate or close relationships, such as the mother-child relationship or the patient-analyst relationship."

Developmental Studies and the Origin of Dissociation and Defensive Projective Identification

The ontogeny of both adaptive and defensive projective identification is deeply influenced by the events of the first year of life. Developmentally, "realistic" or "adaptive" projective identification is expressed in the "split-second world" (Stern, 1985) of the mother-infant dyad in the securely attached infant's expression of a "spontaneous gesture," a somato-psychic expression of the burgeoning "true self," and the attuned mother's "giving back to the baby the baby's own self" (Winnicott, 1971). This developmental mechanism continues to be used throughout the lifespan as a process of rapid, fast acting, nonverbal, spontaneous emotional communications within a dyad (Schore, 1994, 1997a).

As opposed to the interactive scenario of a secure attachment in which the caregiver contingently responds to the child's projective identifications, the insecurely attached child is often unable to induce affect regulating responses and engage in empathic mutual regulatory processes because the other is not sufficiently attuned to the child's state and, therefore, unable to receive the infant's emotional communications (Schore, 1994, 1996, 1997b, 2001b). This prevents the establishment of a dyadic system in which the infant can safely project "valued" parts of the self – in other words, aspects of adaptive projective identification – into the mother. The insecurely attached organizations of developmental personality disorders thus have a greater tendency to use defensive rather than adaptive projective identification. Doucet writes:

> *I consider that projective identification works in two ways: a normal way, in which the analyst-mother takes into herself a part of the patient-child's emotional identity in*

> *order to return it to him in a detoxified and hence assimilable form, and a pathological way in which the negative aspects are so plentiful that projective identification operates to excess. (1992, p. 657).*

More specifically, "primitive" personalities encode early traumatic experiences of being used as what Robbins (1996) calls "a projection screen for repudiated elements of parental identity, rather than having the parent act as a mirror for integration, and differentiation of nascent aspects of itself" (p. 764). These "negative maternal attributions" (Lieberman, 1997) contain an intensely negative affective charge, and therefore rapidly dysregulate the infant. According to Tronick and Weinberg:

> *When infants are not in homeostatic balance or are emotionally dysregulated (e.g., they are distressed), they are at the mercy of these states. Until these states are brought under control, infants must devote all their regulatory resources to reorganizing them. While infants are doing that, they can do nothing else (1997, p. 56).*

In fact, current developmental research is elucidating the effects of traumatic affect on the infant, and these studies are directly relevant to an understanding of the origins of projective identification (Schore, 1998c,d; 1999b,c; 2000d; 2002b). Perry et al. (1995) demonstrate that the infant's psychobiological response to trauma is comprised of two separate response patterns: hyperarousal and dissociation. These two patterns are extreme forms of, respectively, Bowlby's (1969) protest and despair responses to attachment ruptures. These dual responses also represent activation of the two components of the autonomic nervous system (ANS) – first, the energy-expending sympathetic branch, and then, the energy-conserving parasympathetic branch (see Schore, 1994). The ANS has been called "the physiological bottom of the mind" (Jackson, 1931).

In the initial stage of threat, hyperarousal – an alarm reaction – is initiated by the sympathetic nervous system, and a distress response, in the form of crying and then screaming, is expressed. This communication of negative affect also serves as an intense bid for interactive regulation. This dyadic transaction is described by Beebe as "mutually escalating overarousal":

> *Each one escalates the ante, as the infant builds to a frantic distress, may scream, and, in this example, finally throws up. In an escalating overarousal pattern, even after extreme distress signals from the infant, such as ninety-degree head aversion, arching away...or screaming, the mother keeps going (2000, p. 436).*

But a second, later forming, longer lasting reaction is seen in dissociation, a parasympathetic response of the ANS, in which the child disengages from stimuli in the external world and attends to an “internal” world. Traumatized infants are observed to be “staring into space with a glazed look.” The traumatized child’s dissociation in the midst of fear or terror involves numbing, avoidance, compliance, and restricted affect, mediated by high levels of behavior-inhibiting cortisol, pain-numbing endogenous opioids, and especially high levels of parasympathetic vagal activity in the baby’s developing brain (Schore, 2001b). If early trauma is experienced as “psychic catastrophe” (Bion, 1962), dissociation is “the escape when there is no escape” (Putnam, 1997), “a last resort defensive strategy” (Dixon, 1998).

This primary regulatory process of conservation-withdrawal (see Schore, 1994; 2001b) occurs in helpless and hopeless stressful situations in which the individual is hyperinhibited, and therefore immobile in order to avoid attention by becoming "unseen,” and it allows the infant to maintain homeostasis in the face of an internal state of accelerating hyperarousal. The dissociation from both contact with the external social environment and from the child’s subjective physical experience is experienced as a discontinuity in what Winnicott (1958) calls the child's need for “going-on-being” and Kestenberg (1985) refers to as a “dead spot” in the infant's subjective experience. The result is the constricted state of consciousness that is characteristic of dissociation.

I suggest that an infant with an early history of “ambient” (Mordecai, 1995) or “cumulative” trauma (Khan, 1964) must excessively utilize defensive projective identification in order to cope with all-too-frequent episodes of interactive stress that disorganize the developing self. The startled, traumatized infant’s sudden state switch from sympathetic hyperarousal into parasympathetic dissociation is also reflected in Porges’ characterization of “the sudden and rapid transition from an unsuccessful strategy of struggling requiring massive sympathetic activation to the metabolically conservative immobilized state mimicking death” (1997, p. 75).

Furthermore, in the first stage of trauma, hyperaroused terror and screaming are triggered by “negative maternal attributions”, which is equated with Spitz’s (1965) "psychotoxic" maternal care, manifest in an overdose of affective stimulation, and Klein’s (1955) “massive invasion of someone else’s personality”. The second stage, the dissociative strategy to counter-regulate the hyperarousal, is expressed by “staring into space,” and represents the mechanism that drives what Klein (1946) describes as an “evacuation” of the self. These dual mechanisms are described in a child therapy case by B. Joseph, “when projective identification was operating so powerfully,” the patient “started to scream,” and then “stared through the window with a vacant, lost expression” (1997, p. 104).

In other words, the sudden, discontinuous, counter-regulatory switch from an active state of sympathetic energy-expending, emotion amplifying autonomic hyperarousal into an enduring

passive state of parasympathetic energy-conserving, emotion-dampening hyperinhibition underlies the rapid onset of dissociation and represents the mechanism of projective identification as it operates in real time. The stressed child, with only primitive abilities to cope with the overwhelming arousal induced by relational trauma and at the limit of his fragile regulatory capacities, experiences intense affect dysregulation, projects a distressing emotional communication, and then instantly dissociates. States of autonomic hyperarousal are subjectively experienced as pain, thus this strategy represents a psychobiological mechanism by which psychic-physical pain is instantly inhibited.

In these traumatic moments of marked discontinuities in the caregiver-infant relationship, the child's attempts to use other-directed regulatory behaviors (such as crying, expressions of fear) are often met with continuing dysregulation by the misattuning caregiver (in other words, further abuse). The behaviors, therefore, must be inhibited; so, for adaptive goals, the infant must resort to an autoregulatory strategy to modulate overwhelming levels of distress. Furthermore, this rapid shift from a mode of interactive regulation into a long-lasting mode of autoregulation, which the infant must access in order to maintain homeostatic equilibrium during traumatic assaults, is imprinted into the maturing limbic system (Schore, 1996; 1997b; 2001b). It therefore endures as a basic strategy of affect regulation, a characterological disposition to use defensive projective identification under conditions of interpersonal stress.

What is maladaptive about the psychic-deadening defense of dissociation is not only that the individual shifts into dissociation at lower levels of stress, but also that it finds difficulty in exiting the state of conservation-withdrawal. Once dissociated, he stays in this massive autoregulatory mode for longer periods of time, intervals when the individual is shut-down to the external environment, totally closed and impermeable to attachment communications, interactive regulation, and not incidentally, verbal interventions. Grotstein wrote that "the phenomenon of dissociation…is more widespread and universal than has hitherto been thought" (1981, p. 111).

There is a long history, dating back to Janet (1889), on the link between early trauma and dissociation. In a recent developmental study, Ogawa et al. (1997) offer evidence to show that early trauma, more so than later trauma, has a greater impact on the development of dissociative behaviors. Current brain research not only supports this connection, but also deepens our understanding of why individuals exposed to early trauma tend to use dissociation at later points of stress. There is now a growing body of evidence that indicates that the massive caregiver misattunement of abuse and neglect induces not only intense attachment ruptures but also severe dysregulation of the infant's nascent, fragile psychobiological systems (Perry et al, 1995; Karr-Morse & Wiley, 1997; Schore, 1997b; de Bellis et al., 1999), especially in the early developing right hemisphere (Henry & Wang, 1998; Rotenberg, 1995; Schore, 1997b, 2001b; Raine et al., 2001). Furthermore, the primitive avoidant strategy of dissociation that is accessed in order to cope with this trauma (Liotti, 1992) is known to lead to permanent alterations in the maturing brain (Schore, 2001b; Weinberg, 2000). These events, stored in implicit-procedural memory, thereby

increase the use of dissociation in later life (Siegel, 1996).

In the clinical literature, Stolorow and Atwood (1992) speak of “affect-dissociating defensive operations,” rooted in early derailments, in which central affect states are walled off because they evoked “massive malattunement” from the caregiving surround. They also assert that psychopathological phenomena unfold within an “intersubjectve field that includes the analyst as a codetermining influence” (p. 189). I suggest that the mechanism of defensive projective identification is overtly expressed in a treatment context that resembles an early interactive derailment of an insecure attachment. This occurs in an affective transaction when the therapist exhibits a massive malattunement of the patient’s disorganizing state. In this interactive context, high levels of dysregulated affect, codetermined by both members of the dyad, are rapidly amplified within the intersubjective field. This interactive stress will trigger, in real time, the patient’s dissociating defensive operations and the primitive avoidant defense mechanism of defensive projective identification.

Projective Identification As Right Brain To Right Brain Transference-Countertransference Communications

In the developmental context, the mother of the securely attached infant psychobiologically attunes her right hemisphere to the output of the infant’s right hemisphere in order to receive and resonate with fluctuations in her child’s internal state. This bond of unconscious emotional communication, embedded in adaptive projective identifications, facilitates the experience-dependent maturation of the infant’s right brain. Neuroscientists are now writing that:

> *Spontaneous communication employs species-specific expressive displays in the sender that, given attention, activate emotional preattunements and are directly perceived by the receiver...The “meaning” of the display is known directly by the receiver...This spontaneous emotional communication constitutes a conversation between limbic systems...It is a biologically-based communication system that involves individual organisms directly with one another: the individuals in spontaneous communication constitute literally a biological unit (Buck, 1994, p. 266, my italics).*

Buck (1994) emphasizes the importance of specifically the right limbic system, and localizes this biologically-based spontaneous emotional communication system to the right hemisphere, in accord with other research that indicates a right lateralization of spontaneous gestures (Blonder et al., 1995), the control of spontaneously evoked emotional reactions (Dimberg & Petterson, 2000), and emotional communication (Blonder et al., 1991).

In earlier writings, I have provided interdisciplinary data that indicates that the “transfer of affect”

within the intersubjective field of the caregiver and infant and patient and therapist represents transactions between the right hemispheres of the members of these dyads (Schore, 1994; 1996; 1997a; 1998a; 2000b, c; 2002 a). It is now established that the "primitive affect system" (Gazzaniga, 1985), what Krystal (1978) calls the "infantile nonverbal affect system," is located not in the linguistic left hemisphere, but in the right brain ('the right mind') of both infants and adults. This "primitive" hemisphere is dominant for the processing of nonverbal affects at unconscious levels (Wexler et al., 1992). The right brain is also involved in the reciprocal interactions that occur within the mother-infant regulatory system (Taylor, 1987), an essential interactive mechanism that induces the dominance of the right hemisphere for a sense of an emotional and corporeal self (Devinsky, 2000).

I suggest that the primitive mechanism of projective identification is an affect regulating strategy that is used in spontaneous right brain-to-right brain communications, a preverbal bodily-based dialogue between right lateralized limbic systems, especially in intensely emotional contexts. This model supports Bion's (1967) assertion that projective identification is the most important form of interaction between patient and therapist, and aligns with Stark's (1999) proposal that it takes place all the time within families and couples. Current neurobiological studies indicate that "while the left hemisphere mediates most linguistic behaviors, the right hemisphere is important for broader aspects of communication" (Van Lancker & Cummings, 1999, p. 95). Moreover, psychophysiological studies now demonstrate that:

> *...long sequences of interactions between people may be partly determined by nonconscious perceptions and automatic responses on the part of both the sender and receiver. Their conscious understanding of what is going on in the interaction that they can formulate verbally, on the other hand, may be quite independent of this basic level of interaction (Dimberg & Ohman, 1996, p. 177).*

These authors specifically implicate right hemispheric processes in these events.

Due to its central role in unconscious functions and primary process activities, psychoanalysis has been intrigued with the unique operations of the right brain for the last quarter of a century (e.g., Galin, 1974; Hoppe, 1977; McLaughlin, 1978; Miller, 1986; Watt, 1986). Most neuropsychological studies of "the minor hemisphere" have focused solely on motor behaviors, visuospatial functions, and cognition, but only recently have neuroscientists delved into the fundamental activity of the right brain in the recognition of facially-expressed nonverbal affective expressions (Kim et al., 1999; Muller et al., 1999; Nakamura et al., 2000; Narumoto et al., 2000). This research demonstrates that the right hemisphere is specialized for both the receptive processing (Blair et al., 1999) and expressive communication (Borod, Haywood, & Koff, 1997) of facial information during spontaneous social interactions, such as in "natural conversation" or within "interpersonal family

communication" (Blonder et al., 1993). This hemisphere is also dominant for evaluating the trustworthiness of faces (Winston et al., 2002).

Furthermore, according to Adolphs et al., "recognizing emotions from visually presented facial expressions requires right somatosensory cortices;" in this manner, "we recognize another individual's emotional state by internally generating somatosensory representations that stimulate how the individual would feel when displaying a certain facial expression" (2000, p. 2683). These right lateralized operations thus allow for the adaptive capacity of empathic cognition and the perception of the emotional states of mind of other human beings (Voeller, 1986; Perry et al., 2001; Schore, 1994; 1996; 2001a).

The right brain processes information in a holistic fashion, and it can appraise facially expressed emotional cues in less than 30 milliseconds (Johnsen & Hugdahl, 1991), far beneath levels of awareness. Because the unconscious processing of affective information is extremely rapid (Martin et al., 1996), the dynamic operations of these processes cannot be consciously perceived. It is for this reason that brain research offers valuable data to psychoanalysis, "the science of unconscious processes" (Brenner, 1980). Psychoanalytic research highlights the importance of facial indicators of transference processes (Krause & Lutolf, 1988), which are quickly appraised from the therapist's face in movements occurring primarily in the regions around the eyes and from prosodic expressions from the mouth (Fridlund, 1991).

Since the transference-countertransference is a reciprocal process, facially communicated "expressions of affect" that reflect changes in internal state are rapidly communicated and perceptually processed within the affectively synchronized therapeutic dialogue. This finding is relevant to the "reciprocal process," described by Munder Ross, in which the therapist has access to "the subliminal stimulation…that emanates from the patient" (1999, p. 95). In fact, these very same spontaneously communicated and rapidly perceived visual and auditory cues are a central component of the nonverbal communication in the psychoanalytic process and represent "the intrapsychic edge of the object world, the perceptual edge of the transference" (Smith, 1990, p. 225).

In earlier work (Schore, 1994) I described this "perceptual edge of the transference":

> *It is now thought that critical "cues" generated by the therapist, which are absorbed and metabolized by the patient, generate the transference (Gill, 1982), an "activation of existing units of internalized object relations" (Kernberg, 1980). In recent theorizing on the neurobiological underpinnings of this process, Watt (1986) proposes a "field effect" model, in which the activation of internalized object relations (unconscious, preverbal internal working models) is triggered by the patient's perception of aspects of the interpersonal field" that are external analogues of existing affect-laden self and*

> *object internal images (representations). More specifically, the transference crystallizes around perceived expressions of the therapist's personality, therapeutic style, and behavior - in particular his/her "facial expression" and "perceived tone of voice." Transference activation is intensified by "precipitating stresses in the environment that present some formal analog to the stored internal images" (p. 57), and the patient is especially sensitive to (biased towards) perceiving aspects of the treatment situation which resemble "the parent's original toxic behavior.*

The patient, according to Watt, is very "attuned" to alterations in the "bipersonal field" (Langs, 1976) which excite an emotional resonance within enduring internal object images…This input generates "a series of analogical comparisons between distortions by the therapist ("misalliance") and the empathic failures and distortion of parents" (p. 61). Watt presents a number of persuasive arguments to show that the analogical cognition of the transference is organized by the analogical processing of the right hemisphere (Schore, 1994, p. 450).

In describing the clinical correlates of this mechanism, psychoanalytic observers have noted:

> *In the treatment situation, the analyst is unconsciously scanned for whatever characteristics might be gleaned that support a view of him or her as similar to some internally pressing representation, owned or disowned by the patient (Kantrowitz, 1999, p. 68).*

The activation of a “malignant transference reaction,” manifest in rapid emotional activation and instability (McKenna, 1994), represents the expression of a spontaneous emotional expression of distress. The patient’s distress communication, even though it may be extremely brief, is in turn perceived implicitly by the clinician as a countertransferential response. De Paola (1990) describes a "special kind of communication that comes from the unconscious and is perceived unconsciously; this communication is reached through our countertransference feelings, aroused by the projective communication" (1990, p. 334). Again, in previous writings on the psychophysiology of countertransference, I stated:

> *Countertransferential processes are currently understood to be manifest in the capacity to recognize and utilize the sensory (visual, auditory, tactile, kinesthetic, and olfactory) and affective qualities of imagery which the patient generates in the psychotherapist (Suler, 1989). Similarly, Loewald (1986) points out that countertransference dynamics are appraised by the therapist's observations of his own visceral reactions to the patient's material (Schore, 1994, p. 451).*

These data support Racker's (1968) assertion that every transference situation provokes a countertransference situation, Ogden's (1979) proposal that projective identification involves an interaction between projector and recipient, and Scharf's (1992) description of an alteration between "projective" and "introjective processes."

The reciprocal affective transmissions that occur between the interpersonal and intrapsychic spheres – the realms of a "two-person" and a "one-person" psychology – are fast acting; these transactions occur within the temporal domain of microsecond reactions. Thus, in the clinical context, although it appears to be an invisible, instantaneous, endogenous unidirectional phenomenon, the bidirectional process of projective identification is actually a very rapid sequence of reciprocal affective transactions within the intersubjective field that is co-constructed by the patient and therapist.

More specifically, the disorganized and chaotic somatic components of dysregulated biologically "primitive emotions" are involved in projective identification. These biologically primitive emotions – excitement, elation, rage, terror, disgust, shame, and hopeless despair – appear early in development, are correlated with differentiable autonomic activity, arise quickly and automatically, and are processed in the right brain (Schore, 1994). This particular class of "primary" emotions are the "nonverbal" emotions in which Klein was interested; they are specifically expressed in the rapid events of projective identification.

Right hemisphere attachment trauma and defensive projective identification

The right hemisphere is specifically impacted by early attachment experiences; in fact, these object-relational affect communicating experiences facilitate its maturation (Henry, 1993; Schore, 1994; 1996; 1998a, b; 2000a, b; 2002a). In face-to-face interactions, the child uses the output of the mother's emotion regulating right cortex as a template for the imprinting, the hard wiring of circuits in his own right cortex that will come to mediate his expanding capacities. In other words, the regulated emotional transactions of adaptive projective identification that promote a secure attachment have potential structure-inducing effects. They mediate "between intrapsychic and interpersonal phenomena" (Ryle, 1994) by acting as a medium for the transmission of "intrapsychic externalizations" (Loewald, 1970), thereby allowing for the organization of internal structural systems involved in the processing, expression, and regulation of emotionally charged information.

On the other hand, a history of cumulative relational trauma, or of frank abuse and neglect, represents a growth-inhibiting environment for the maturation of the right brain (Schore, 1997b; 2001b). The insecurely attached infant's all-too-common stressful experiences with a caregiver who chronically initiates, but poorly repairs, intense and long-lasting dysregulated states are incorporated in right brain long-term autobiographical memory (Fink et al., 1996) as a pathological internal object relation – an interactive representation of a dysregulated-self-in-interaction-with-a-

misattuning-object (Schore, 1997a, b). In a very recent overview, Gaensbauer concludes:

> *The clinical data, reinforced by research findings, indicate that preverbal children, even in the first year of life, can establish and retain some form of internal representation of a traumatic event over significant periods of time (2002, p. 259).*

This early representation includes "nonverbal presymbolic forms of relating" that "protect the infant from trauma and continue to be used by patients to avoid retraumatization" (Kiersky & Beebe, 1994, p. 389) through the right brain defensive regulatory strategies of dissociation and projective identification. Experiences of early relational trauma (Schore, 2001b) restrain the manner in which coping responses occur at later points of stress:

> *The experience is then structure-bound, the present situation or certain aspects of it evoking only an already formed experience pattern with a fixed unchangeable repetitive structure. In that case, the experience is a "frozen whole" (Gendlin, 1970), and...the person experiences the same thing over and over (Vanaerschot, 1997, p. 144).*

These representations, a primary source generator of Freud's repetition compulsion, are stored in the early developing, "holistic" (Bever, 1975) right hemisphere (Schore, 1994).

Neuroscientists describe "early emotional learning occurring in the right hemisphere unbeknownst to the left; learning and associated emotional responding may later be completely unaccessible to the language centers of the brain" (R. Joseph, 1982, p. 243). From this realm that stores split-off parts of the self also comes projections that are directed outwards into the therapist. McDougall (1978) asserts that the patient who has suffered preverbal traumas transmits "primitive communications" that induce countertransferential emotional states in the analyst. Similarly, Modell states that in projective identification, "affects that are associated with the patient's past traumatic relationships are...projected onto the therapist, so that these affects are also experienced by the therapist" (1993, p. 148). A clinical study indicating that repression of traumatic events, intrusive imagery, and recollection of traumatic memories is related to right hemisphere functioning (Brende, 1982) is supported by current neuroimaging studies showing the preeminent role of right hemispheric activity as traumatic emotional memories are activated (Rauch et al., 1996) and recalled (Schiffer et al., 1995).

It is well known that the infant's attachment system is activated when he is under stress, and this occurs even when the caregiver is the source of traumatic stress. Krystal (1978) notes that psychic trauma is the outcome of being confronted with overwhelming affect which produces "an

unbearable psychic state which threatens to disorganize, perhaps even destroy all psychic functions" (p. 82). This means that, during the interpersonal transmission of a stressful state, the child is also bidding the mother to interactively regulate this stress. So at the "heightened affective moment" of the defensive projective identification, the child in the developmental context – as well as the patient in the therapeutic context – due to a failure of interactive regulation, is in a dysregulated, and therefore unbearable, state. Ogden (1990b) describes how the projector (the patient) induces a feeling state in the other (the therapist) that corresponds to a state that the projector is unable to tolerate.

Because the right hemisphere is deeply connected into the limbic system (R. Joseph, 1996; Tucker, 1992) and the autonomic nervous system (Spence, Shapiro, & Zaidel, 1996), it is centrally involved in controlling vital functions supporting survival and enabling the individual to cope with stresses and challenges (Wittling & Schweiger, 1993). Defensive projective identification, an early forming right brain survival mechanism for coping with interactively generated overwhelming traumatic stress, is activated in response to subjectively perceived social stimuli that potentially trigger imminent dysregulation. I suggest that at the moment of the projection, the patient's disorganizing right brain (fragmenting self) switches states from a rapidly accelerating, intensely dysregulated, hyperactive distress state into a hypoactive dissociated state.

In developmental psychoanalytic writings, Seligman (1999, p. 143) postulates that projective identification arises in a developmental context "of asymmetrical influence, with both internal-structural and behavioral communicational aspects, in which one person pressures another to experience as part of herself something that the first person cannot accept within his own self-experience". Ryle (1994, p. 111) notes that the "force" of the projective identification "will be greatest where the reciprocal role pattern concerned carries a high affective charge and where the projector's sense of self is precarious."

In the developmental psychopathology literature Sroufe and his colleagues conclude:

> *The vulnerable self will be more likely to adopt dissociation as a coping mechanism because it does not have either the belief in worthiness gained from a loving and responsive early relationship or the normal level of defenses and integration that such a belief affords (Ogawa et al., 1997, p. 875).*

Developmentalists have also pointed out that "extreme" projective identification is associated with insecure attachments (Murray, 1991). Thus, for the rest of the lifespan, early forming self pathologies, who manifest right hemispheric impairments (Schore, 1997b; 2001b), overuse primitive defenses such as dissociation and defensive projective identification.

The Nature of the Receptivity Required for Processing Adaptive and Defensive Projective Identifications

Developmental researchers studying the spontaneous affective transactions within the mother-infant dyad now refer to:

> *…a mutual mapping of (some of) the elements of each interactant's state of consciousness into each of their brains. This mutual mapping process may be a way of defining intersubjectivity (Tronick & Weinberg, 1997, p. 75).*

These authors contend that the infant's limbic system is centrally involved in dyadic emotional communications because, for the rest of the life span, the right brain, which is more connected into the limbic system than the later developing left, is especially involved in unconscious activities and spontaneous emotional communication. Since this hemisphere is dominant for "*subjective* emotional experiences" (Wittling & Roschmann, 1993), the interactive "transfer of affect" between the right brains of the members of the mother-infant and therapeutic dyads is thus best described as "*intersubjectivity*". Furthermore, the co-created dyadic amplification of state and alteration of consciousness that spontaneously occur in moments of intersubjective resonance of two "right minds" facilitate the co-creation of what Ogden (1994) calls, "*this third subjectivity*," "the analytic third," and the "unique dialectic generated by/between the separate subjectivities of an analyst and analysand within the analytic setting" (p. 64).

Psychoanalysis has long been intrigued yet baffled by the mechanism of intersubjective unconscious communication. I suggest that just as the left brain communicates its states to other left brains via conscious linguistic behaviors, so the right nonverbally communicates its unconscious states to other right brains *that are tuned to receive these communications*. Freud (1912, p. 115) asserted that the therapist should "turn his own unconscious like a receptive organ towards the transmitting unconscious of the patient…so the doctor's unconscious is able…to reconstruct [the patient's] unconscious." He called the state of receptive readiness "evenly suspended attention." Sandler (1976) described the clinician's "free floating responsiveness."

Bion (1962, p. 36) referred to "reverie,… "that state of mind which is open to the reception of any 'objects' from the loved object and is therefore capable of reception of the infant's projective identifications whether they are felt by the infant to be good or bad". It is now thought that the mother's reverie processes the preverbal material contained in the infant's projective identifications (Bion, 1959, 1962; Grotstein, 1981), and that "reverie is a unique experience of the therapist and is connected with countertransference" (Vaslamatzis, 1999, p. 433). Marcus has written, "The analyst, by means of reverie and intuition, listens with the right brain directly to the analysand's right brain" (1997, p. 238).

In pioneering integrations of psychoanalysis and neuroscience Miller speculated:

> *...it is tempting to conceive of the role of the psychoanalyst in trying to understand the analysand's unconscious dynamics as including temporary suspension of left hemisphere rational-semantic cognition in order to foster a more psychodynamically meaningful "right hemisphere-to-right hemisphere" interface between therapist and patient (1986, p. 139).*

In other words, in a state of "regressive openness and receptivity" (Olnick, 1969), the therapist's right brain countertransferential affective-receptive is tuned to the patient's right brain transferential affective-expressive communications. Recall that the right brain plays a central role in the empathic perception of the emotional states of other humans (Voeller, 1986; Schore, 1994; Miller et al., 2001). Earlier clinical research demonstrates that more empathic therapists show a greater right frontal electrophysiological activation (Alpert et al., 1980).

Heimann, perhaps the first psychoanalyst to redefine the concept of countertransference, wrote:

> *...the analyst's emotional response to the patient within the analytic situation represents one of the most important tools for his work. The analyst's countertransference is an instrument of research into the patient's unconscious (1950, p. 74).*

More recently, Tansey and Burke (1989, p. 41) have asserted, "we view countertransference as an umbrella term encompassing the concepts of projective identification, introjective identification, and empathy."

In the current literature, clinicians observe that in projective identification, "the receptive potential must already be present in the second person that has been perceived (out of awareness) by the initiator" (Park & Park, 1997, p. 144). Hammer describes the receptive state in which the clinician can empathically resonate with the patient's unconscious communications:

> *My mental posture, like my physical posture, is not one of leaning forward to catch the clues, but of leaning back to let the mood, the atmosphere, come to me - to hear the meaning between the lines, to listen for the music behind the words. As one gives oneself to being carried along by the affective cadence of the patient's session, one may sense its tone and subtleties (1990, p. 99).*

This description reflects the fact that the prosodic elements of communication such as rhythm, force, and tonality, more so than the linguistic elements of language, carry the affective messages within projective identifications. Right cortical mechanisms are specifically involved in communicative pragmatics (van Lancker, 1997), and in the perception of emotional words (Borod et al., 1992) and prosodic stimuli, the emotional tone of the voice (Ross, 1984).

The right hemisphere is specialized to process new information by comparing it directly with context information (Federmeier & Kutas, 1999). Kantrowitz offers a clinical example of "a transmission of one unconscious to another" within a therapeutic context:

> *A patient mildly complains that her husband is urging her to dress in a more sexy manner. She rather likes the idea, doesn't really mind the slight pressure, but...Here the analyst, sensing the patient's state and the quality and extent of her discomfort, spontaneously speaks the line of the sentence left unspoken: "Where will it end?" The patient sighs, "Exactly," and then elaborates, with greater nuance and detail, the worries that are stirred, the memories revived.*

Responses of this sort have referents that are recognizable. What had been registered that led me to complete my patient's thought in this manner? I had a context greater than the words recorded here, from which my response immediately emerged. My detailed knowledge of my patient meant not only that I had much more information than was provided by the moment, information enabling me to contextualize her material, but that I also was familiar with the *forms and nuances of her expression of affect*. I had been attuned to a *certain tone and timbre in her voice* suggestive of tension, anxiety, possibly excitement. But none of these thoughts were consciously present when I spoke. Only in retrospect, on reflection, could I account for what seemed at that moment to be my spontaneous completion of her thought. At that time, my comment might have been described simply as empathic (Kantrowitz, 1999, p. 74, my italics).

Recall Klein's (1946) original definition of projective identification as a process wherein largely unconscious information is projected from the sender to the recipient.

The psychological orientation that allows for a receptivity to defensive projective identification is usually described in terms of a capacity to receive the patient's disavowed negative states. It is important to note that, for certain personalities, positive states need to be disavowed; this points to the important function of adaptive projective identification in the treatment of preoedipally disordered, insecurely attached patients, especially those who present with anhedonic symptomatology. Seinfeld (1990, p. 11) underscores the long-term psychopathogenic effects of "the lack of actual positive experiences in the patient's early life that would serve as *receptors* for the taking in of later positive relations" (my italics). The internalization of positive relations is

required for the co-construction of the positive transference. This suggests that the positive affective transferential-countertransferential communications embedded within projective identifications may act as a primary interactive mechanism by which the therapeutic alliance is forged.

The central role of bodily states in projective identification

In the early stage of treatment, the therapist is consciously attending to the patient's verbalizations in order to objectively diagnose and rationalize the patient's dysregulating symptomatology. However, she is also listening and interacting at another level – an experience-near subjective level, one that processes socioemotional information at levels beneath awareness. The attuned, intuitive therapist, from the first point of contact, is learning the moment-to-moment rhythmic structures of the patient and is relatively flexibly and fluidly modifying her own behavior to fit that structure. In order to do this, "the analyst must have the ability to allow a certain 'fluctuation' of his internal objects in order to leave them free to entangle with the patient's dominant projected object or object of the moment" (de Paola, 1990. p. 328). In fact, the clinician's empathic reception of, and resonance with, changes in the patient's inner states is a major focus of the initial stage of treatment (one that may last for a long period of time with some patients); it literally determines whether a therapeutic alliance may form.

The therapeutic alliance has classically been defined by Zetzel (1956) as the patient's attachment to the therapist. The therapist's facilitating behaviors combine with the patient's capacities for attachment to permit the development of the alliance. Importantly, it emerges from the positive aspects of the mother-child relationship. In Muir's (1995) terms, the "psychobiological connection" that mediates attachment bond formation is embedded within a system of adaptive interactive projective identification. This allows for the communication of positive states by the patient and the elicitation of relationship behavior in the therapist. The clinician's receptive orientation allows for a condition of resonance within the intersubjective field; the crescendos and decrescendos of the empathic clinician's psychobiological state is in resonance with similar crescendos and decrescendos of the patient's state.

In physics, a property of resonance is harmonic sympathetic vibration, which is the tendency of one resonance system to enlarge and amplify through matching the resonance frequency pattern of another resonance system. The therapist's empathic ability to receive, resonate with, and amplify the patient's often "shimmering," transient states of positive affect facilitates the interactive generation of higher and more enduring levels of positively valenced states than the patient can auto-generate (Schore, 2000c). Reciprocal transactions within a dyadic system of adaptive projective identification thus interactively generate amplified levels of dynamic "vitality" (Stern, 1985) affects, the positive states that drive an attachment bond, facilitate the co-construction of the positive transference, and fuel hope. These moments of intersubjective resonance also facilitate dyadically expanded states of consciousness in both the mother-infant

and patient-therapist intersubjective fields (Tronick et al., 1998). Loewald (1986) describes “resonances between the patient’s and the analyst’s unconscious,” and Sander (1992) states that “moments of meeting” between patient and therapist occur when there are “matched specificities between two systems in resonance, attuned to each other.”

Empathy, defined as "the ability to sample other's affects…and to be able to respond in resonance to them" (Easser, 1974), has long been considered to be a critical element of an effective therapeutic alliance (Bohart & Greenberg, 1997). The co-creation of the alliance is a central task of the early treatment:

> *The empathic character of a therapeutic interaction is determined by letting the empathic-resonance process develop within the therapist and then by tuning into the client’s experience to check for an ultimate test of accuracy to see how close the therapist is. The criterion of accuracy of the therapist’s responses is the...degree to which the response carries the client’s experiencing a little forward (Vanaerschot, 1997, p. 148).*

According to Kantrowitz (1999, p. 70), when the patient and analyst are able to overcome resistance to engagement, an “intense affective engagement takes place”:

> *When patient and analyst are affectively engaged, when the patient has come to trust in the analyst’s basic benevolence, and when in this context the patient feels safe enough to lessen defenses, the modification of intrapsychic organization becomes possible (p. 69).*

As a result, the patient establishes what Kohut (1984) calls an "archaic bond" with the therapist, and thereby facilitates the revival of the early phases at which his psychological development has been arrested. The emotional bond between the patient and therapist, manifested in the working alliance, promotes the exploration of the individual's internal experiences and affective states (Bordin, 1979). This strongly felt bond enables the patient to confront inner states associated with frightening aspects of the self (Jaenicke, 1987). This safe interpersonal context sets up a condition in which trauma and the coping mechanism to deal with trauma, defensive projective identification, can be openly expressed, and therefore amenable to change.

A cardinal tenet of developmental projective identification is that the infant projects parts or the whole of its emerging self “into the mother’s body.” Like the empathic mother who aligns with her infant in order to regulate and be regulated by his internal state, the clinician’s body is a primary instrument for psychobiological attunement and the reception of the transmission of

nonconscious affect. Aron describes:

> *Gradually, patient and analyst mutually regulate each other's behaviors, enactments, and states of consciousness such that each gets under the other's skin, each reaches into the other's guts, each is breathed in and absorbed by the other...Where the patient is not capable of using symbolic or metaphoric thought, the analyst may receive communications only nonverbally often in the form of bodily communications, a change in the climate, the air (mediated by the breath), a change in the feel of things (mediated by the skin). [T]he analyst must be attuned to the nonverbal, the affective...to his or her bodily responses (1998, p. 26).*

Bromberg (1991) speaks of the patient's unarticulated wish that the therapist know her "from the inside out."

In a similar vein, Wrye (1998) concludes that the therapist's use of projective identification increases the permeability of her ego boundaries so that she can attain a closer state of attunement to the patient. Sands offers the clinical observation that, via projective identification:

> *[T]he patient and I succeeded in co-creating in me a state in which I could "get" something viscerally about the pathogenic interactions of his childhood that he unconsciously needed me to understand (1997, p. 254).*

Since affects are psychobiological phenomena and the self is bodily-based, projective identification represents not linguistic but *mind-body communications*. According to Basch (1976), "the language of mother and infant consist of signals produced by the autonomic, involuntary nervous system in both parties" (p. 766). Basch (1992) also points out the direct parallel of this to projective identification, which is manifest in "a situation in which the patient subtly causes the therapist to resonate autonomically with the patient's unconscious affect-laden fantasies" (p. 179).

The ensuing amplification of the patient's autonomic state is thus subjectively experienced by the clinician as what Damasio (1994) calls "somatic markers" – "gut" feelings that are experienced in response to both real and imagined events, including threatening stimuli. Somatic markers have been described in the psychotherapy literature as the felt sense (Gendlin, 1970), a bodily based perception of meaning (Bohart, 1993). In very recent psychoneurobiological models, the felt sense is defined as "the sum total of all sensations from all sense organs, both conscious and subliminal at any given moment" (Scaer, 2001), and thus incorporates the moment-to-moment output of the cumulative sympathetic and parasympathetic components of the ANS. In the psychoanalytic

literature, the concept of somatic marker is the equivalent of Freud's (1915) concept of drive, "the psychical representative of the stimuli originating from the organism and reaching the mind."

In other words, the empathically resonating therapist's matching of the rhythmic crescendos and decrescendos of her psychobiological state with the patient's represents the psychobiological attunement of her felt sense to the patient's felt sense. The key to working with dissociated affect is the co-creation of a stronger signal of the felt sense – the therapist serves as a source of autonomic feedback of the patient's dissociated unconscious affect.

The therapist's detection of his countertransferential interoceptive responses that resonate with the patient's autonomic responses to threatening stimuli is especially important to the reception of defensive projective identifications. These are registered in the therapist's right brain, since this hemisphere, dominant for the corporeal self (Devinsky, 2000), contains the most comprehensive and integrated map of the body state available to the brain (Damasio, 1994); processes the autonomic correlates of emotional arousal (Wittling & Roschmann, 1993); plays a special role in the perception of the affective qualities of somatic signals coming from the body (Galin, 1974); decodes emotional stimuli by "actual felt [somatic] emotional reactions to the stimuli, that is, by a form of empathic responding" (Day & Wong, 1996, p. 651); and is dominant for attentional processes (Heilman et al., 1977; Coule et al., 1996) and the therapist's autobiographical memory (Fink et al., 1996). According to Gabbard (2001), countertransference:

> *…is determined by the fit between what the patient projects into the therapist and what preexisting structures are present in the therapist's intrapsychic world (2001, p. 990).*

These intrapsychic structures are located in the therapist's right brain.

Isakower (in Balter et al., 1980) describes the therapist's state of "evenly hovering attention" which shifts between what comes from the outside (from the patient) and what is emerging from inside (visual, auditory, and bodily images within the therapist). This bears upon the matter of "somatic countertransference" (Dosamentes-Beaudry, 1997). Clinical observers have noted, "Perhaps the most striking evidence of successful empathy is the occurrence in our bodies of sensations that the patient has described in his or hers" (Havens, 1979, p.42), and that psychotherapeutic resonance is expressed in "specific sensations and/or feelings kinesthetically perceived by the therapist" (Larson, 1987, p. 322). In fact, Parker Lewis (1992) points out that the therapist's use of her body is especially involved in the reception of right-brain-to-right brain transferential projections of split-off parts of the self. Lewis asserts that this mechanism specifically mediates defensive projective identification. Feldman (1997, p. 236) describes an example of the awareness of his bodily sense and the patient's emotional state at the moment of the reception of the

projection: “There was a tense and expectant silence and I felt aware of a *pressure* to respond quickly to what she had brought. When I did not do so, she commented that the silence seemed rather *ominous”* (my italics).

Alvarez articulates the clinical principle that “patients have the right to bring us the bad objects in their emotional baggage and explore them and experience them with us” (1999, p. 214). The clinician’s task of receiving and containing defensive projective identifications is obviously more difficult than adaptive projective identifications. This is because resonating with the dissociated, negatively affectively charged chaotic bodily states of personalities manifesting “primitive emotional disorders” is, indeed, no easy matter. Boyer points out:

> *The range of experiences the analyst must be able to tolerate, understand, and interpret meaningfully extends from feeling like an excluded object whose interventions, if acknowledged, are treated by the patient as evidence of the analyst’s madness, to reacting to the patient’s fusional regression and dependence as though the analyst is an extension of his mind and/body, and to his sometimes startling somatic displays (1990, p. 306).*

As Feldman (1997) observes, “if the analyst is receptive to the patient’s projections, the impact of the patient’s disturbing unconscious fantasies that concern the nature of the relationship with the patient inevitably touch on the analyst’s own anxieties” (p. 235). Grinberg states:

> *...with regressive cases and borderline patients...it would be necessary to be more disposed to receive and contain the patient’s projections for as long as required. The receptive attitude of the analyst reveals itself by consenting to be invaded by the projections of the analysand’s psychotic anxieties and fantasies and contain them so as to feel, think, and share the emotions contained in such projections with him, as they were part of his own self, whatever their nature may be (murderous hate, fear of death, catastrophic terror, etc.) (1995, p. 104).*

In other words, resonating with, and then internally amplifying, the patient’s negatively valenced primitive affective state triggers disequilibrium within the therapist’s right brain, the hemisphere that is specialized for generating physiological responses to emotional stimuli (Spence et al., 1996). There is now convincing evidence in the neurobiological literature to show that the right hemisphere is specialized for coping with stress (Wittling & Schweiger, 1993) and for processing negative affect (Otto et al., 1987; Schore, 1997b; Davidson, 1998; Gainotti, 2001). Furthermore, the experience of strong sustained negative emotion causes interference with normal right

hemisphere functioning (Ladavas et al., 1984; Hartikainen, Ogawa, & Knight, 2000); this aversive subjective emotional experience would accompany the reception of a defensive projective identification. In a striking metaphor of projective identification, Rosenfeld (1971) describes the patient's fantasy of "worming his way into the analyst's brain." Clinical studies show that the therapist's technical competence may specifically deteriorate when the patient attempts to transform the therapist into someone "bad" (Gorney, 1979).

The Therapist's Deflection of Projected Negative States and the Intensification of Interactive Dysregulation

How the therapist, who is now also experiencing a stress state, responds to the patient's defensive projective identification becomes an essential factor in the treatment. In recent writings on the therapeutic process, Binder and Strupp (1997, p. 121) concluded, "…negative process is a major obstacle to successful treatment, and…its pervasiveness has been underestimated." The clinician's ability to recognize and regulate the negative affect within himself has been described as the most difficult part of treatment (Ellman, 1991).

This task is difficult because the experience of traumatic pain is stored in bodily-based implicit-procedural memory in the right brain (Schore, 2001c), and therefore communicated at a nonverbal, psychophysiological level, not in the verbal articulation of a discrete subjective state. As Sands points out:

> *The material [embedded in projective identification] may remain unsymbolized because it was encoded under traumatic conditions or because it pertains to a preverbal period of life. Whatever the reason, because such experience remains in somatosensory or iconic form, it must be communicated in like manner (1997, p. 702).*

Bion (1977) suggests that therapeutic "containing" is required because the mother's capacity to contain the child's distressing emotions was insufficient, and they were therefore returned to the child little changed and difficult to integrate. Importantly, the mother herself could not provide a model for the child's containment of his own feelings; the therapist must do this. It should be emphasized, however, that:

> *The task of receiving, containing, and processing the patient's dissociated early experience and returning its content to him in a more benign form is not an easy one because emotionally intense resistances against the containment of patient's toxic material are mobilized within the therapist (Dosamantes, 1992, p. 361).*

As Gill (1994) points out, “an analyst who is ever alert to his (or her) participation in the process may be under as much, if not more, stress than the patient.”

The key here is whether the therapist can autoregulate the negative state enough to act as an interactive affective regulator for the patient. If he blocks his own negatively valenced somatic markers (for example, by defensively shifting out of the right brain state into a left brain state), he cuts off his empathic connection to his own and therefore to the patient’s pain. Frequently, because the clinician is now in a left hemispheric dominant state, he will quickly present a verbal interpretation (Brenman Pick, 1985), typically a communication of a resistance analysis that “paradoxically” intensifies into an enactment. Ryle notes that:

> *When projective identification is conceived of as an expression of innate destructive forces or as a motivated defense against them, and when it is interpreted as such, the interpretation is often sensed as critical, and coming from the powerful position of the analyst, can easily be subsumed as an aspect of an existing critical or persecutory role in the patient’s system, serving to reinforce that system (1994, p. 111).*

Furthermore, Spezzano describes:

> *The analyst is limited in her ability to make use of the unconscious affective communications of the patient by her ability to hold them in herself - to hold especially those particular blends of disturbing affects that the patient is forced to project, enact, or crumble under and to hold them long enough to be able to identify them, think about them, and say something useful on the basis of them - rather than simply projecting them back between the lines of a resistance interpretation or warding them off through a prolonged blindness to or enactment of them (1993, p. 212).*

Plakun (1999) observes that the therapist’s “refusal of the transference,” particularly the negative transference, is an early manifestation of an enactment. It is important to note that the clinician’s “refusal” or “deflection” of the patient’s projected negative state is a spontaneous behavior that is perceived by the patient, albeit through a negatively biased subjective lens. The therapist’s verbal interpretation is often accompanied by spontaneous disgust such as a contemptuous facial expression and/or a sarcastic tone of voice. Although this negative affective expression is brief and unconscious to the clinician, it is detected by the patient’s right hemisphere.

Psychophysiological studies of emotion communication demonstrate that human vocal affect expressions of anger elicit electromyographically detectable changes in the receiver’s facial affect

expressions (Hietanen, Surakka, & Linnankoski, 1998), and so the therapist's face briefly mimics the state changes induced by the patient's negative communication. Thus, the patient in a face-to-face context implicitly detects the therapist's countertransferential visually expressed aversive response, and even in non-face-to-face contexts, perceives alterations in the analyst's tone of voice to his negatively valenced affective communications. Moreover, neurobiological research demonstrates that aberrant early social experiences alter the ability to efficiently process facial expressions of emotion, and that such individuals over interpret signals as threatening and over identify anger (Pollak & Kistler, 2002). This may mediate the transference process, which can be defined as a selective bias in dealing with others that is based on previous early experiences and that shapes current expectancies (McLaughlin, 1981).

The interaction of these two nonconscious mechanisms may account for the synergistic effects of the therapist's transient countertransferential "mindblindness" and the patient's negatively biased transferential expectation – the co-creation of an enactment. Furthermore, Feldman (1997) notes that the fulminating negative state "may evoke forms of projection and enactment by the analyst, in an attempt at restoring an internal equilibrium, of which the analyst may initially be unaware" (p. 235). This maneuver of the stressed therapist is, however, expressed in gestures and body language, behaviors that play a prominent role in the unconscious interpersonal communications embedded within the enactment (Frayn, 1996). It is now well established that enactments are fundamentally mediated by nonverbal unconscious relational behaviors within the therapeutic dyad (McLaughlin, 1991; Schore, 1997a).

The therapist who misattunes and is subsequently unable to re-correct will thus project the unregulated state back, further stressing the working alliance. The patient who re-receives an unmodulated stressful communication now becomes, as a repetition of her early history, further psychophysiologically dysregulated by the misattuning object. According to Bach, "difficult patients continue to respond at the sensorimotor-physiological level, precisely because that is where the earliest mutual regulation went awry" (1998, p. 188). As a result of this increasing stress level, a pathological internal representation – a negatively valenced representation of a dysregulated-self-in-interaction-with-a-misattuning-object – is activated, and triggers an expectation of imminent self-disorganization (Schore, 1994, 1997a). In other words, there is now an overt expression of an intense, unregulated negative transference reaction. The emotions evoked in the transference "hinge on the range and extent of expectations for different situations that are already a part of the patient's repertory" (Singer, 1985, p. 198).

This rapidly amplifying perturbation instantly disorganizes the intersubjective field, and an interactively intensified physiological stress response now propels the patient's immature self system into accelerating levels of arousal that are beyond his fragile, limited, and inefficient affect regulating coping capacities. The patient thus will instantly access an internal working model of an insecure attachment that encodes a primitive defense for coping with interactive stress – the right brain strategies of dissociation and projective identification. It is now thought that "it is the

person's specific experiences that will determine the cues that trigger the breakdown of regulatory processes as well as the dominant responses that will be released when regulatory processes fail" (Newman & Wallace, 1993, p. 717).

The essential defensive nature of this primitive regulatory mechanism is echoed in the term “defensive” projective identification. The patient’s sympathetically-driven hyperarousal reaches a point of such intensity that a massive parasympathetic counterregulatory strategy must be activated. In other words, projective identification occurs in the context of a “malignant transference reaction” that reflects hyperarousal and hypoarousal-associated alterations of limbic regions (McKenna, 1994). Specifically, this mechanism represents a sudden shift from energy-expending hyperarousal into dissociation and energy-conserving hypoarousal. The fact that this stress regulating mechanism represents a sudden transition from a hyperaroused into a hyperinhibited state indicates that the accelerating negative affect is not “emptied” or “discharged.” The hyperarousal still remains and so the pain endures, but is now instantly dissociated, and thereby “anesthetized” or “numbed.”

This bears upon some controversial aspects of the concept of projective identification. It is often written that projective identification is an attempt to intentionally control the therapist, but it should be noted that beneath the initial forceful explosive expression is intense disorganization and insecurity, not intentionality but hopelessness, helplessness, and a total lack of an organized coping mechanism. Alvarez holds that the interpretation of projective identification is harmful, in that it triggers defenses that are “desperate attempts to overcome and recover from states of despair and terror,” yet these defenses are “inadequate to manage…powerful feelings” (1997, p. 754).

Furthermore, this primitive coping mechanism does represent an affective communication, and it does allow the precarious personality organization to disown parts of the self – to “rid” the individual contact with his own mind (and body) – but it does not represent a literal evacuation or expelling out into an other, so that the negative state no longer exists within. The tension is not relieved, because the state of hyperarousal remains. The pain still exists within, but is instantly dissociated by increased endogenous opioid release, and experienced as an enduring “dead spot” in the patient’s subjectivity.

Thus, at the moment of an adaptive projective identification, the patient’s affect is subjectively deepened and communicated, while in the instance of a defensive projective identification affect is not just diminished but totally blocked from consciousness (dissociated) and its interpersonal communication suddenly ceases. As a result of the sudden shift from a state of active coping into an inhibited state of passive coping, the patient will “implode” under stress, and further dissociate from the state, so that it appears as if only the therapist holds it. In other words, in the moments after the defensive projective identification, the dissociating patient, now in a state of dense emotional inhibition, is no longer overtly expressing a dysregulating emotion, but the non-

dissociating resonating therapist is still subjectively experiencing the amplified negative state. In this case, it may seem to the therapist that the state originates endogenously within himself and is not an emotional response to the patient's communication. This state now frequently becomes amplified into a lingering dysphoric mood.

Defensive projective identification as early events in dyadic enactments

Despite the fact that the patient's conscious experience of pain is dissociated by her numbing and mindblinding defensive autoregulatory strategy, the still dysregulated patient will often soon exert increasing amounts of "pressure" on the therapist for interactive regulation. This may seem paradoxical but, actually, it reflects the patient's communications of an unconscious attachment need for interactive regulation to help her cope with the dysregulation. Bion (1959) vividly describes how the infant, confronted with what seems like an impenetrable object, is driven to project into such an object with more and more force. The means by which the patient applies this "controlling" pressure "may be explicit, through direct appeals and provocations, or may be indirect and subtle, relying on non-verbal cues and on discrepancies between what is said and the emotion conveyed" (Ryle, 1994, p. 111). Indeed, according to Strupp:

> *...the greatest challenge facing the therapist is the skillful management of enactments that often put the therapist on the defensive, evoke boredom, irritation, anger, and hostility and in other respects 'put pressure' on the therapist to behave in ways that are incompatible with his or her stance as an empathic listener and clarifier (1989, p. 719).*

Yet it is important to be aware of the fact that "the patient's use of more forceful projection may be driven by his experience of the analyst as a non-understanding, non-receptive figure, which the analyst may not perceive" (Feldman, 1997, p. 233).

Although the therapist is in a state of "prolonged blindness" (Spezzano, 1993), and therefore no longer externally scanning for implicit external signals of the patient's internal disorganization, the patient continues to send out signals of intensifying stress. According to Putnam (1997), dissociative switches are manifest in changes in facial expression, scanning of the environment, and marked postural shifts. Such expressions may be very subtle, and not recognized even at a preconscious level by the defended therapist, who now is "switched-off" (Spezzano, 1993).

Loewald offers a clinical example of this process, and points out that this defensive countertransferential strategy, if not recognized and processed by the clinician, can cause gross interference with the therapeutic process. He observes:

> *Less spectacular, but more insidious and often more damaging, are behaviors of the analyst that are the results of inner defense against his countertransference reactions, such as rigid silences, unbending attitudes, repression or isolation of troublesome impulses, fantasies, or memories...The analyst...in his effort to stay sane and rational is often apt to repress the very transference-countertransference resonances and responses induced by the patient that would give him the deepest but also the most unsettling understanding of himself and the patient (1986, p. 283).*

I would add that this unconscious maneuver may not represent repression, but a partial dissociation that matches the patient's state.

Embedded in the patient's projected transmissions are nonverbal communications of pain, but "the therapist because of intense countertransference pain, flees from the patient's experience of chaos and the intensity of affects that accompany an experience of dissolution" (Mordecai, 1995, p. 492). However, this maneuver – the therapist's precipitous "retreat from the patient's vantage point" (Schwaber, 1992) – disrupts the functioning of the "analyzing instrument" (Balter et al., 1980). The evolving mutual projective identification becomes "a slippery slope on which the therapist is in danger of sliding away from the…therapeutic role," which "can lead a therapist to become lost in the dyad with the patient, becoming unmoored from the larger task" (Plakun, 1999, p. 287).

According to Plakun, the dyadic enactment is triggered when the therapist:

> *…participates unwittingly by projecting back into the patient reciprocal and complementary unconscious conflicted countertransference material from the therapist's own life history. The therapist unwittingly colludes with the patient in a process of mutual and complementary projective identification organized around significant past events from the lives of both participants. Within such an enactment, the therapist is as much an active participant as the patient (1999, p. 286).*

This dysregulating interactive context is a direct analog of an earlier developmental scenario that was common in the patient's attachment history of the first two years of life. In developmental writings, Murray concludes:

> *If...the infant's state is experienced by the mother as threatening or overwhelming, she may feel the need to switch off from the infant, and may likely be drawn instead to focus on her own experience. If, however she is unable to switch off, for example in*

> *the face of the infant's persistent demands, the mother may find it hard to distinguish the infant's perspective from the impact his state makes on her, in which case she may experience the infant as trying to tyrannize her and may regard with hostility. (1991, p. 223)*

It is within this stressful context that the mother unconsciously yet forcefully (re)projects into the infant certain disavowed, yet highly invested negative attributions (Lieberman, 1997). Notice the similarity of the mother's (mis)attribution of tyranny to the infant, and the classical (mis)conception of intentional control to the patient manifesting a projective identification. This developmental context of a dysregulating interaction with a "switched off" and then an intrusive and hyperarousing caregiver is a primary source of the repetition compulsion enacted by the mutually projecting therapist and patient.

The enactment, now driven on both sides by a dyadic system that mutually amplifies intense negative affect, can rapidly escalate. Borderline patients, who are extremely sensitive to humiliation, can often persuade even experienced therapists to become enmeshed in distressing affects, and:

> *...even to feel overwhelmed by feelings of passionate attachments to patients...at times such patients accurately perceive subtle or hidden feelings of the therapist and then facilitate intensification of such feelings until the therapist behaves in some fashion that can even be irrational, all usually occurring without the therapist (or the patient) aware of the coercive dynamics (Park & Park, 1997, p. 144).*

Feldman (1997) writes on "Projective identification: The *analyst's* involvement" (my italics). This clearly implies that an area of self analysis is:

> *...the analyst's superego, for example; the patient will expect, and often get, criticism, usually unintentional and unwitting, from the analyst....problems obstructing the understanding of what is happening in the intrapsychic world of the patient arise from the psychoanalyst's mind becoming overrun with disturbance; the psychoanalyst's own disturbance mating with the patients (Hinshelwood, 1994, p. 169).*

The rapid-onset, dynamic events of the "negative therapeutic reaction" are thus an overt manifestation of the interaction of the patient's covert deep unconscious defensive transference patterns with the clinician's covert deep unconscious defensive countertransference patterns (Schore, 1997a). The patient does not project an internal critic into the therapist, but rather the

therapist's internal critic, stimulated by the patient's negative affective communications, resonates with the patient's and is thereby amplified. The receptivity of both members of the dyad breaks down and seals over, leading to a long-enduring therapeutic impasse when it comes to intense affective states, or even a precipitous termination.

The non-therapeutic effects of the therapist's defensiveness in response to the patient's defensive projective identification are due to the fact that these events prevent "reinternalization." "If it does not occur, there is no change in the patient's psychological functioning and consequently he still needs to use the projective identification" (Migone, 1995, p. 628). Feldman writes:

> *It is as if the patient has such doubts about the possibility either of symbolic communication or the object's subjectivity to any form of projection that he cannot relent until he has evidence of the impact on the analyst's mind and body. If this consistently fails, confirming an early experience of an unavailable, hateful object, he may give up in despair (1997, p. 232).*

According to Perna:

> *The absence of receptivity on the part of the therapist, that is, the resistance to live with the therapist in harmonious interpenetrating mix-up, may lead to the inability of the patient to evolve through the chaos-regression and achieve a higher level of structural integration (1997, p. 266).*

The untoward, iatrogenic effects of the therapist's deflection of the patient's defensive projective identification are also described by Sands:

> *If the analyst cannot make herself available...and can not receive the patient's indirect, visceral communications, then these dissociated, "not me" aspects of self that are being communicated will be unconsciously experienced as intolerable to the analyst as well, and the patient will not be able to bring these aspects into the analytic relationship....(1997, p. 665).*

Moreover, the therapist's use of defensive projective identification to evacuate unwanted "toxic" aspects of the self back into the patient has significant consequences:

> *The projected affects often involve the therapist's hidden feeling of shame, envy, vulnerability, and impotence. The hidden shame is signaled by the therapist's use of "attack other" defenses such as sarcasm, teasing, ridicule, and efforts to control the patient in some way. Later on, the tragic projection comes full circle when the patient feels humiliated, exploited, betrayed, abandoned, and isolated (Epstein, 1994, p. 100).*

With borderline patients, the clinician's lack of recognition of his refusal to "take the negative transference" is a central factor in boundary violations and enactments involving both sexual misconduct and self-destructive behaviors (Plakun, 1999. 2001).

The Therapist's Autoregulation of Projected Negative States and Co-participation in Interactive Repair

It is important to note that the rapid, mutually disorganizing events occurring within episodes of defensive projective identification and clinical enactments offer important possibilities for not only "grasping the patients inner world as it intersects with the therapist's own" (Plakun, 1999), but also for structural growth of internal psychic structural systems that unconsciously process emotional communications and regulate stressful emotional states. In an earlier writing, I contended that a therapeutic misattunement often triggers the enactment – that involvement of both members of the dyad is necessary for interactive repair – and that this regulatory process must be initiated by the therapist *while he or she is under interactive stress* (Schore, 1997a).

Writing in the trauma literature on "dramatic reenactments" that occur well into the treatment, Lindy asks:

> *...is there some aspect of the here-and-now situation with the therapist that is unwillingly precipitating the configuration of the traumatic event, and which, if understood, would aid in the working through of the trauma? (1996, pp. 534-535)*

Bach asserts that:

> *...disruptions of the therapeutic alliance may result from the patient's impulses or our own ineptness, expressed in a mutual enactment or a projective identification, but they demand immediate understanding and rectification (1998, p. 186).*

It has been pointed out that it is the therapist's "emotional containment" that breaks the "vicious

cycle" of the defensive projection within the therapeutic dyad (Migone, 1995). The stressful context in which this is accomplished is heightened by the simultaneous activation and communication of different motivations by the patient:

> *The analyst will experience powerful transferential "pulls" that emanate both from the patient's repetitious, pathological relational configurations and from the patient's strivings for the needed vitalizing (selfobject) experiences (Fosshage, 1994, p. 277).*

In other words, embedded within the patient's often vociferous communication of the dysregulated state is also a definite, yet seemingly inaudible, urgent appeal for interactive regulation. Sands (1997) writes:

> *In projective identification, the individual unconsciously puts pressure on the other to experience what he cannot experience in order to vicariously explore and become known to himself.*

B. Joseph (1988, p. 73) points out, "I could see…the way in which I was being pushed and carried along to feel and react…[the patient] was invading me with despair and, at the same time, attempting unconsciously to force me to calm myself".

This same mechanism has been described by developmental workers. In the essential regulatory pattern of "disruption and repair" (Beebe & Lachmann, 1994; Schore, 1994; Lewis, 2000), the "good-enough" caregiver who induces a stress response in her infant through a misattunement, reinvokes in a timely fashion her psychobiologically attuned regulation of the infant's negative affect state *that she has triggered*. Tronick (1989) describes "interactive repair" as a process in which the mother who induces interactive stress and negative emotion in the infant is instrumental to the transformation of negative back into positive emotion.

In the developmental literature, Murray observes that the mother must both be open to how the infant feels and also have an affective response that complements the infant process. She observes:

> *This may well be unproblematic in periods of infant quiet alertness and containment, but, in the inevitable times of infant distress and agitation, emotions may be provoked in the mother that will be disturbing to her if she does not have available the resources to accommodate or contain them. To the extent that the mother is able to both identify with her infant and contain difficult feelings that the infant's behavior*

> *provokes in her, she will be able to respond in an appropriate fashion that meets, or complements, the infant's requirements; and the infant will, in turn, develop the capacity to tolerate and manage his own distress (Murray, 1991, p. 223).*

This maternal sensitivity to and modulation of the infant's states is also described by Krystal:

> *Possibly the most crucial and difficult aspect of mothering consists in permitting the child to bear increasingly intense affective tension, but stepping in and comforting the child before his emotions overwhelm him (1978, p. 96).*

In order to perform this parental regulatory function, the adult must not only mirror the infant's distress state, but then "go beyond mirroring" to "deal with distress" rather than being overwhelmed by it (Fonagy et al., 1995). To do this, she needs to sense and then regulate her own, as well as the child's, affective state, a particularly emotionally demanding task. According to Carpy:

> *[T]he normal infant needs to be able to sense that her mother is struggling to tolerate her projected distress without major disruption of her maternal function. [The mother] will be unable to avoid giving the infant slight indications of the way she is affected by [her infant], and it is these indications which allow the infant to see that the projected aspects of herself can indeed be tolerated (1989, p. 293).*

This affect regulating mechanism is identical to Winnicott's (1975) "holding functions," defined as a complex of emotional and physical maternal functions, expressed especially through eye and voice, which the available "good enough mother" utilizes in the face of her infant's emotional/impulsive expressions. Recall that the maternal comforting substrate resides in the mother's right brain (Horton, 1995), the hemisphere that is dominant for nonverbal behavior and for responding to stress (Wittling, 1997). More so than the clinician's verbalizations, it is his nonverbal activity (Davis & Hadiks, 1994) that creates the safe holding environment. Muir concludes that "the holding situation includes both physiologic and psychological holding. The transpersonal process is the medium for this necessary psychobiologic connection" (1995, p. 252).

In order to maintain a holding environment during moments when an intersubjective field is dynamically generating an increasing density of negative affect, the clinician needs to resist, at an implicit level, a homeostatic impulse to counterregulate a state of right brain psychobiological disequilibrium by shifting into a left hemispheric dominant state. The therapist must "attempt to refrain from doing something until she has lived with the evoked feelings for some time" (Stark,

1999, p. 276). If she fails to "hold" long enough, it will be overtly manifest in an expression of left brain activity, the sudden onset of verbal behavior, which is a premature interpretation. It has been pointed out that the clinician must hold the projective identification and not return it prematurely (B. Joseph, 1978). Premature interpretations thus reflect a therapeutic misattunement in which the clinician shifts back into a left hemispheric, secondary process, linear mode in order to extricate himself from falling more deeply into an interactively rapidly amplifying right dominant primary process psychobiological state which is inherently nonlinear and chaotic.

It is important to stress again that early relational trauma, attachment psychopathology, and the defenses of dissociation are stored in the right hemisphere. The emergence of strong affect during psychotherapy sessions is known to be accompanied by increased right hemispheric activation in the patient (Hoffman & Goldstein, 1981). Therefore, in these central moments of the treatment of developmentally disordered patients, holding the right-brain-to-right-brain context of emotional communication is essential. This holding occurs in implicit memory, and involves "being able to prolong one's experiential process at the level of implicit experiencing" (Vanaerschot, 1997, p. 148) – staying in the right brain mode of "implicit learning" (Hugdahl, 1995).

The right hemisphere is dominant not only for emotional communication (Blonder et al., 1991), empathy, and affect regulation (Schore, 1994), but also for nonlinear (Schore, 1997b) and primary process cognition (Galin, 1974; R. Joseph, 1996). Rotenberg points out that, in contrast to linear left hemispheric, formal logical thinking that builds up "a pragmatically convenient, but simplified model of reality," right cortical image thinking is adaptive when information is "complex, internally contradictory and basically irreducible to an unambiguous context" (p 57).

Thus, in the heightened affective moment of an enactment, the key to sustaining a co-created right-brain-to-right brain holding environment is the clinician's capacity of "avoiding closure" and tolerating ambiguity, uncertainty, and lack of differentiation in order "to wonder." This means holding the felt sense component of an affective state in working memory over a longer duration of time, an adaptive function because:

> *…the longer the period during which a person is influenced by physiological and cognitive processes activated by the emotion the higher the probability that this experience will be subjectively perceived as important and meaningful (Gilboa & Revelle, 1994, p. 135).*

This mechanism is critical to the clinician's deep intersubjective perception of the operations of the patient's meaning systems. Recall, the felt sense acts as a bodily-based perception of meaning (Bohart, 1993).

Furthermore, a dynamic systems theory perspective of the psychotherapy process holds that both

the therapist and the patient need to understand that destabilization and the tolerance of uncertainty may be fundamental to a healthy growth process, and that such experiences are important opportunities for change. Perna describes:

> *This point of reorganization in the therapeutic process can be quite difficult as many therapists, not to mention patients, may find the uncertainty anxiety producing. A traditional view rooted in linear thinking may lead the therapist to impose at this juncture a reality constraint that forces a specific construction of the therapist's making onto the patient's psyche (1997, p. 266).*

This mistimed, intrusive interpretation "inevitably destroys for the patient the possibility of creating something out of himself" (Balint, 1968).

Since the holding environment is organized by preverbal communications (Rubin & Niemeier, 1992), the continuously attuned clinician must instantiate a right brain regulatory strategy that allows him to remain in a state of "regressive openness and receptivity." The essential step in creating a holding environment in which an affect communicating reconnection can be forged is the therapist's ability – initially at a nonverbal level – to detect, recognize, monitor, and autoregulate the countertransferential stressful alterations in his bodily state that are evoked by the patient's transferential communication. Thus, the clinician simultaneously monitors the information coming from the patient as well as his own psychobiological response to this emotional communication.

Holmes speaks of the therapist's essential capacity for "binocular vision" that enables her both to engage with the patient and be aware of the nature of this engagement (1998), and suggests "focusing on the totality of the patient, and the totality of my response to the patient, I am aware that I am focusing on the patient and my response to her" (1996, p. 86). The ability to act as a holding container (interactive psychobiological regulator) for the patient's "affective energy":

> *…may require the therapist to live in dual modes of existence...The therapist must attend to his or her own self-regulatory functioning and at the same time participate fully with the patient in mutual exploration, development, and affective exchange (Perna, 1997, p. 260).*

Notice the similarity of this process to the developmental dual processes described by Murray (1991). These two modes represent shifting up and down between the higher and lower levels of the right brain (see Schore, 2001a).

In order to accomplish this, the resonating therapist must flexibly shift, in a timely manner, into a

state of “reparative withdrawal,” a self-regulating maneuver that allows continued access to a state in which a symbolizing process can take place, thereby enabling him to create a parallel affective and imagistic scenario that resonates with the patient’s (Friedman & Lavender, 1997). This “symbolizing process” involves being open to the patient’s communication and holding onto the state long enough to allow internal sensoriaffective images to emerge into consciousness. Recall, countertransferential processes are manifest in the capacity to recognize and utilize the sensory (visual, auditory, tactile, kinesthetic, and olfactory) and affective qualities of imagery which the patient generates in the therapist.

To do this, the therapist must reestablish equilibrium enough to access “potential space,” a right hemispheric organization (Weinberg, 2000), which, according to Ogden (1990) lies between “the symbol and the symbolized” where the self distinguishes one’s feelings from that to which one is responding. Winnicott (1971) described this space as an intermediate zone of experience that lies between outer external reality and inner psychic fantasy. As described by Gendlin (1981), the ability to develop an internal imaginal “working space” allows the self to attend to one’s felt sense and thereby a symbolic expression in the form of an image or a metaphor. One of the prominent characteristics of the processing of metaphors, which is a right hemispheric activity (Winner & Gardner, 1977; Cox & Theilgaard, 1997), is its image-generating picturing function, in which inner states are “set before the eye.” This hemisphere is dominant for “image thinking,” a holistic, synthetic strategy that allows individual facets of images to interact with each other on many planes simultaneously (Rotenberg, 1995).

In this “state-dependent recall” (Bower, 1981), images may arise from the clinician’s unconscious bodily-based, implicit-procedural affective memory, specifically those regulatory strategies associated with his own experiences with, and perhaps regulation of, this particular negative state. The clinician’s monitoring and autoregulation of the negative state is performed at preconscious levels, and this allows for recovery of his “evenly hovering attention” to not only the patient’s externally expressed distress state, but to his state-dependent perceptual-somatic-affective internal images. Reiser describes that in this state:

> *...the analyst’s inner thoughts and images draw upon his or her memory networks, which encode not only personal life experiences, but also the patient’s memory networks as these have developed in the analyst’s mind as the analysis has been unfolding. This means that the analyst...will be able to identify elements encoded there from the patient’s history that are relevant to the analytic situation and the patient’s problems in the here and now, including the transference (1997, p. 903).*

Even more than this, Stark (1999) notes that in an optimal therapeutic intervention to a projective identification the therapist may “use her self” to share something about the impact of the patient’s

transferential activity on her own experience:

> *the therapist may well need to bring some aspect of her internal experience of the patient into the picture - (namely) the therapist's judicious disclosure of selective aspects of her countertransferential response (p. 265)...(to) the impact on her of the patient's activity in the transference (p. 267).*

This response is centered not so much in the therapist's countertransferential content-oriented cognitive responses as in her process-oriented experiential countertransferential bodily responses. Loewald (1986) points out that countertransference dynamics are appraised by the therapist's observations of her own visceral reactions to the patient's material. Similarly, Jacobs (1991) asserts that the therapist's own posture, gesture, and movement can be valuable cues to transference analysis, and that (1994, p. 749) her visual imagery often "stimulates in the analyst kinesic behavior and autonomic responses that are reactions on an unconscious level to nonverbal messages."

In a clinical study, Friedman and Lavender (1997) conclude that the presence or absence of the therapist's recognition of his countertransferential discomforting bodily signals (the somatic markers triggered by his perception of the projective identification), and the capacity to then autoregulate the painful disruption in state triggered by his empathic resonance with the patient, may literally determine whether or not the countertransference is destructive or constructive; "desymbolizing" or "symbolizing;" and "reactive" or "reflective" (Friedman & Lavender, 1997). These ideas are supported in a study by Beard (1992), who reports that analysts understood their physical responses to patients to be projective identifications. Clinicians manifest two types of responses to bodily experienced content – an "interpretive" style that frequently evolved into mutual reprojections, or an "empathic developmental stance" that involved the analyst holding these physical sensations and thereby modeling the capacity for self-regulation for the patient.

This autoregulatory maneuver may allow for restoration of the clinician's "analyzing instrument" (Balter et al., 1980). Feldman (1997, p. 239) notes that "The analyst's temporary and partial recovery of his capacity for reflective thought rather than action is crucial for the survival of his analytical role." The key to the analysis of the countertransference may be a self-reflective function by which the clinician determines whether he is internally sensing his counterregulatory reactions to the patient's dysregulation, or is psychobiologically resonating with the patient's chaotic state. According to Fonagy and Target (1996), the reflective function is a mental operation that enables the perception of another's state, "including apparently irrational unconscious motives."

An essential element of the treatment is articulated by Vanaerschot, who noted "for the therapist

to be able to contain painful (patient) experiences, the therapist must be able to be congruent with his or her painful experiences" (1997, p. 146). The attuned therapist's contingent responsivity to the subtle changes in the patient's state (Sander, 1992) and vocal rhythm matching (Beebe et al., 2000) had earlier conveyed that his right brain was attuned to the patient's state long enough to resonate with the patient's pain. The right hemisphere is dominant not only for processing negative primary emotions (Ross et al., 1994), but also for mediating pain and pain endurance (Cubelli et al., 1984; Hari et al., 1997; Hsieh et al., 1995) and modulating distress states via a right brain circuit of inhibition and emotion regulation (Porges et al., 1994). This right lateralized regulatory maneuver facilitates the therapist's countertransferential modulation of sensed negative affect, that is, it allows for the countertransference to be not "grossly" but only "partially" acted out.

Nevertheless, this "partial acting out" is critical to the patient's implicit learning of a corrective emotional experience. Brenman Pick (1985) suggests that it represents an important opportunity for the patient to perceive (in real time) that the therapist is affected by the patient's projected communication, that she struggles to tolerate the negative affect, but, that ultimately, she manages to contain it without grossly acting it out. I would add that as a result of the therapist's largely nonconscious regulation of her own stress state, her rate of speech spontaneously slows, her voice becomes calmer, and her facial expression less tense – an overt expression of a "metabolized" negative affect. As in an optimal developmental context, the clinician's regulatory strategy, observed even at levels beneath the patient's awareness, allows for the creation of a *nonconsciously* sensed "safe" interpersonal environment.

Adaptive relational processing of defensive projective identifications and therapeutic progression

The therapist's state change from dysregulated negative to regulated positive affect is communicated prosodically, and if the dyad is face-to-face, visually. Current neurobiological research indicates that the detection and complex processing of the smallest change within a human face occurs within 100 milliseconds (Lehky, 2000), and that such facially expressed state changes are mirrored (Dimberg & Ohman, 1996) and synchronously matched by an observer's right hemisphere within 300-400 milliseconds, at levels beneath awareness (Stenberg, Wiking, & Dahl, 1998). It is now established that unconsciously perceived positive and negative emotional facial expressions elicit expressions of unconscious facial expressions, and that the right hemisphere is dominant for the control of spontaneously evoked emotional reactions (Dimberg & Petterson, 2000; Dimberg et al., 2000). As noted earlier, the right hemisphere recognizes an emotion from a visually presented facial expression and then generates a somatosensory, bodily-based representation of how another feels when displaying that certain facial expression (Adolphs et al., 2000). In addition, this hemisphere is dominant for affect regulation.

The adaptive aspect of this mechanism, which onsets in early mother-infant mirroring transactions

(Schore, 1994) is described by Bruner:

> *[A] quick-triggered mimetic reaction might not only facilitate affective bonding with a putative partner, but could also send reafferent signals back into the systems to assure arousal-appropriate perceptual processing of that partner (1994, p. 278).*

Applying this to the current clinical context, the rapid dyadic state matching allows the interactively regulated patient to begin to transition out of the negative and into a more positively valenced state. Sands states:

> *...if I allow myself to be taken over by (the patient's) experience, successfully contain it (and wait until later to interpret it), she becomes calmer and more organized, and her need to communicate through me decreases in intensity (1997, p. 700).*

The dyad's state-regulating, stress-reducing maneuvers, occurring at mostly preconscious levels, allows the therapist to remain connected to the patient's state at the point of an "attuned" intervention, and for the patient to now switch out of a dissociated state into one in which she can internalize the therapist's spontaneous expression of his empathic recognition of the patient's pain. On the part of the therapist, the most effective interpretations are based on the clinician's "awareness of his own physical, emotional, and ideational responses to the patient's veiled messages" (Boyer, 1990, p. 304). On the part of the patient, the most "correct understandings" can be used by the patient "only if the analyst is attuned to the patient's state at the time the interpretation is offered" (Friedman & Moskowitz, 1997, p. xxi).

In light of the observation that "physical containment by the therapist of the patient's disavowed experience needs to precede its verbal processing" (Dosamantes, 1992, p, 362), the interactive regulation of the patient's state enables him to now begin to verbally label the affective experience. In a "genuine dialogue," the therapist accesses a "focusing attitude" of waiting patiently in the presence of "the not yet speakable, being receptive to the not yet formed" (Leisjssen, 1990), an intersubjective context that facilitates the patient's capacity to raise to an inner word and then into a spoken word what he needs to say at a particular moment but does not yet possess as speech (Buber, 1957). The patient must experience that this verbal description of an internal affective state is heard and felt – "witnessed" by an empathic other.

Stern (1989) suggests that the "narrative" model is the verbal rendition of the nonverbal internal working models of regulation as told to oneself or to another. These models are encoded in implicit relational knowledge (Stern et al., 1998). The transfer of self information from the nonverbal to the verbal level (and back) reflects a bidirectional transfer of information between

implicit and explicit processing, an adaptive advance. According to Bornstein:

> *When an implicit memory is made explicit, the origin of that memory is also made explicit, and the patient can better understand the causal chain of events that led from past experience to present functioning. Simply put, the translation of implicit memories allows the patient to gain insight regarding the relationship between past and present experience (1993, p. 341).*

The therapeutic process thus allows for a critical interactive linkage of the two levels of experiencing processes. Vanaerschot contends that:

> *The first level refers to the bodily implicitly felt whole concerning a situation and originates in the interaction between person and situation or environment...The interaction between body and situation gives rise to an implicit, bodily felt sense, which is preconceptual and undifferentiated. It is a knowing without words: a knowing that precedes words and from which words emerge...The bodily feeling is implicit…in the sense of…implying something that presses for expression.*

This leads us to the second level of interaction, which is the one between bodily sensing and symbols (such as words) through which explicit meanings are formed from preconceptual, implicit, and incomplete meanings… The explicit meaning is not a previously hidden or repressed one that now becomes clear, but one that is formed in the interaction between felt sense and symbols… Following a correct symbolization, a new sense forms, and a new implicit feeling of oneself in the situation develops. This is a step towards change. Healthy mental functioning implies a constant and flexible interaction at both these levels, by which experience is continuously carried further. An adequate way of experiencing is characterized by reflective attention to the felt sense about a situation (1997, pp. 142-143).

As Bucci (1993) describes, the patient's "referential structures" can now link the nonverbal and verbal representational domains. This structural alteration allows for the development of linguistic symbols to represent the meaning of an experience, *while one is feeling and perceiving the emotion generated by the experience*. Ultimately, such therapeutic experiences allow for an "evolution of affects from their early form, in which they are experienced as bodily sensations, into subjective states that can gradually be verbally articulated" (Stolorow & Atwood, 1992, p. 42). This process is a central component of therapeutic narrative organization, of turning "raw feelings into symbols" (Holmes, 1993, p. 150). Over seventy years ago, Klein (1937, p. 316) wrote of "preverbal emotions…revived in the transference situation…appear[ing]…as memories in feelings…which are

reconstructed and put into words with the help of the analyst."

This same therapeutic sequence for processing defensive projective identification to dyadic bodily-physiological regulation followed by a new level of interactive dialogue is described by Ogden's use of two spontaneous interventions at a critical point in the treatment of an early traumatized patient:

> *The first of these interventions…involved speaking from a form of "I-ness" (reflected in the voice in which I spoke) which was new to me. It was a parental voice that took on the responsibility of protectively "minding" the patient while he was in a state of imminent psychotic fragmentation. The second intervention involved my spontaneously inviting the patient to imagine himself (with me) as two adults into a story of molestation) based on his history and the history of the analysis) in which I was a third presence bearing witness, bearing language and bearing compassion. Both interventions seemed to have had important consequences for the progress of the analysis. My responding to the patient's psychotic-level anxiety and feelings of impending psychic disintegration in the spontaneous ways described seems to have contributed to the process of his developing a greater sense of being alive in the experience of a coextensive minded body and bodied mind (2001, p. 103).*

In a similar vein, Lichtenberg and colleagues (1996, pp. 213-214) describe the importance of an analytic communication that deviates from the more customary therapeutic interventions, what they term "disciplined spontaneous engagements." These events occur "at a critical juncture in analysis," and they are usually prompted by some breach or miscommunication that requires "a human response." Although there is a danger of "exchanges degenerating into mutually traumatizing disruptions" that "recreate pathogenic expectations," the clinician's communications signal a readiness to participate authentically in the immediacy of an enactment. This is spontaneously expressed in the clinician's facial expressions, gestures, and unexpected comments that result from an "unsuppressed emotional upsurge." They provide "intense moments that opened the way for examination of the role enactments into which the analyst had fallen unconsciously." The authors state that if the analyst can "self-right" these engagements, he can facilitate changes in symbolic representations.

The changes that result from optimal relational processing of the patient's projective identifications have been described by a number of authors. According to Ogden (1990b, p. 470), "The recipient who successfully manages the feelings engendered in him makes available to the projector (through the interaction) a modified, more integrable version of the set of meanings that had been previously impossible to manage." Bach (1998, p. 194) asserts that "through projective identifications that are contained and metabolized…a transitional space develops in which

confusion, ambiguity, and separation can be tolerated and explored." And Stark (1999, p. 267) concludes that the net result of successful clinical work with projective identification "is the patient's development of capacity (to tolerate previously unmanageable aspects of herself), where before she had need (to deny their existence by disowning them)." This harks back to Boyer's (1990) description that the patients who excessively access defensive projective identification attempt to rid themselves immediately of tension because the discomfort is intolerable.

The developmental progression that results from the growth-promoting environment embedded in the therapeutic relationship allows not only for a more stable and constant sense of self, but also for the emergence of a "reflective self" that is capable of in-sight, a visuoperceptual metaphor of internal sight. In other words, the patient has access to the mind's eye that can see not just hidden thoughts, but the rhythms and flows of one's inner psychobiological self states, and hold these affective experiences in mind long enough to tolerate, recognize, label, and introspect upon them. This advance allows the patient's increasingly complex self system to access not only a more fully developed subjective nonverbal affective "support-experience" factor, but also an objective "insight" factor that is activated by adequate interpretation (de Jonghe et al., 1992).

Over the course of the treatment, the therapist's role as a psychobiological regulator and co-participation in the "dyadic regulation of emotion" (Sroufe, 1996), especially during clinical heightened affective moments and episodes of projective identification, can facilitate the emergence of a reflective capacity and an "earned secure" attachment (Schore, 2000b). In writings on "the clinical body and the reflexive mind," Aron concludes that the clinician:

> *...must be attuned to the nonverbal, the affective, the spirit (breath) of the session, the feel of the material, to his or her own bodily responses, so that these may be gradually utilized to construct metaphors and symbols that may be verbally exchanged by the analytic pair, gradually permitting the differentiation of the more primitive shared skin-ego and the construction of a more developed, articulated, and differentiated personal attachment and interpersonal connection (1998, p. 26).*

Bromberg describes the re-continuation of the experience-dependent development of the right hemisphere, known to be dominant for the ability to tolerate and integrate a multiplicity of perspectives, affects, and self- and object- representations into a meaningful whole (Rotenberg & Weinberg, 1999).

The right brain, the biological substrate of the human unconscious (Schore, 2002 a), is the generator of not only intense affective states, but also of the early developing defenses associated with these states. Thus, effective treatment of severe disorders of the self also

induces an expansion of the adaptive capacity to utilize adaptive (realistic) rather than defensive projective identification. This developmental advance allows for the elevation of emotions from a primitive presymbolic sensorimotor representational level to a mature symbolic representational level, and it reflects an expansion of the patient's capacity for affect regulation. The patient, in the course of the interaction with the therapist who tolerates the countertransference and regulates the intense distress states that have been projected into herself:

> *...learns how the analyst does it, learns new skills or adaptive behaviors useful to cope with emotional stressors...the therapist may show the patient, often through his own behavior rather than through verbal interpretation, that it is indeed possible to tolerate stressful feelings and to survive (Migone, 1995, p. 628).*

In summarizing the critical role of the therapist in the difficult work with patients who extensively utilize projective identification, Stark suggests:

> *The therapist's handling of the feelings the patient projects requires considerable effort, skill, and strain on the therapist's part, because the feelings with which the patient struggles are highly charged, painful areas of human experience that are probably as conflictual for the therapist as they are for the patient. But it is hoped that because of the therapist's greater psychological integration resulting from both her own developmental experience and the work she has done in her own treatment, the therapist (in contradistinction to the patient) will be less frightened of, and less prone to run from, these feelings (1999, p. 276).*

The dyadic mechanisms within the attuning-misattuning-reattuning therapeutic alliance allow for a shared struggle within the negatively valenced intersubjective field. But there are also shared rewards; in line with an interactive view of treatment, as a result of co-participation in the dyadic process of interactive repair, not only the patient's but also the therapist's capacities for repairing dysregulated affective states are expanded (de Paola, 1990). Giovacchini asserts that successful therapeutic use of transference-countertransference interactions:

> *...is a shared experience that enhances both participants - an act of mutual discovery. Though revealing hidden facets of the patient is its aim, often enough, especially with severely disturbed patients, the analyst digs up certain aspects of his own character, aspects not always pleasant to face. Patient and therapist expand the dimensions of their personalities (1986, p. 13).*

A psychotherapeutic focus on interactively regulated projective identifications allows both members of the emotion-transacting therapeutic relationship to become, both subjectively and objectively, more knowledgeable co-explorers of the primitive mind.

Interactively Regulated Projective Identification, Internalization, and the Genesis of Right Brain Systems Involved in Self-regulation

The developmental structural growth that results from adaptive projective identification and containment is described by Hamilton:

> *When children have strong affects that threaten to overwhelm them, they externalize their distress. The parent takes in the projected feeling and self-object state, contains it, modulates it, gives it meaning, and returns the transformed affect in the form of holding, a meaningful comment, or some other communication. The child can now accept the metabolized affect and self-object state as his own. He eventually takes in the containing process itself along with the transformed projections, identifies with it, and learns to contain his own affects to a large degree. (1992, p. xiii)*

This internal transformation has been described by Bion (1962). During the depressive position, the infant uses the object as a "container" to "metabolize" projective identifications – the beta element precursors of mind – into alpha elements that comprise integrated and differentiated symbolic thought. "The therapist's role is to identify the beta elements of enactment forced on him by the patient, metabolize them into alpha elements of thought, and assist the patient to do likewise" (Robbins, 1996, p. 773). This "alpha function" or "dream work alpha" describes primary process function, and it operates in waking and sleeping, and orders and transforms events into personal experiences as "alpha elements" that can be mentally processed.

I suggest that Bion is describing developmental progressions in regulatory structures, particularly in the right hemisphere, the locus of primary process functions and the right brain circuit of emotion regulation. This ontogenetic maturation is identical to Kohut's (1977) "transmuting internalization," the developmental process by which the mother's selfobject function that regulates the child's homeostatic state is internalized by the infant and psychological self-regulatory structures are formed. Muir (1995) contends that the adaptive aspect of projective identification is associated with attachment and represents "the cradle of the emergent potential self." Thus:

> *The therapeutic action of heightened affective moments is mediated through state transformations that potentially usher in opportunities for expanded self-regulatory*

> *range and altered patterns of mutual regulation (Lachmann & Beebe, 1996, p. 7).*

Current neurobiological studies now identify the location and functional properties of the intrapsychic structural systems that are involved in self regulation, an interest of psychoanalysis that traces back to Freud's seminal ideas in his *Project for a Scientific Psychology* (Schore, 1997b; 1999a). In previous works directed towards updating Freud's structural model, I have discussed, in some detail, how the orbitofrontal (ventromedial) regions of the right hemisphere, come to act in the capacity of an executive control system for entire right brain (Schore, 1994; 1996; 1997b, c; 1998a, b; 1999a, d; 2000b, c, f; 2001a, b, c, d; 2002 a). A growing body of experimental and clinical evidence in neuroscience indicates that "the orbitofrontal cortex is involved in critical human functions, such as social adjustment and the control of mood, drive and responsibility, traits that are crucial in defining the 'personality' of an individual" (Cavada & Schultz, 2000, p. 205). Current neuroimaging studies now demonstrate that the processing of self (Keenan et al., 2000) and self-regulation (Levine et al., 1998) occurs within the right prefrontal cortices, and that the self concept is represented in right frontal areas (Craik et al., 1999).

This prefrontal system – the hierarchical apex of the limbic system – acts as the "senior executive of the emotional brain" (R. Joseph, 1996), and plays a major role in attachment functions, as well as in the processing visual and auditory information associated with emotionally expressive faces and voices, the self-regulation of bodily states, and the correction of emotional responses, that is, affect regulation. The ventral and medial regions of the prefrontal cortex act in "the highest level of control of behavior, especially in relation to emotion" (Price et al., 1996).

In addition, this prefrontal system detects "somatic markers," "gut" feelings that are experienced in response to both real and imagined events, including threatening stimuli (Damasio, 1994). This is due to the involvement of the orbitofrontal areas in the regulation of autonomic responses to social stimuli (Zald & Kim, 1996). Even more specifically, the orbitofrontal regions modulate the processing of pain and coping with a painful stimulus (Petrovic et al., 2000). These functional capacities allow the clinician to process the emotionally painful somatic components of projective identifications during moments in which "the patient subtly causes the therapist to resonate autonomically with the patient's unconscious affect-laden fantasies" (Basch, 1992, p. 179).

This same system is critically and directly involved in evaluating facial expressions, in the processing of emotion-evoking stimuli without conscious awareness, and in controlling the allocation of attention to possible contents of consciousness (Schore, 1994; 1997c; 1998a). Orbitofrontal activity is also essential to the capacities of empathizing with the feeling states of others (Mega & Cummings, 1994). These functions underlie the fundamental mechanism of projective identification as first described by Klein – the processing of unconscious information projected from the sender to the recipient (1946). The orbital prefrontal cortex further plays a critical role in mediating between the internal environment and the external milieu (Schore, 1994),

thereby enabling this right prefrontal system to operate at “the intrapsychic edge of the object world, the perceptual edge of the transference” (Smith, 1990, p. 225).

The orbitofrontal regulatory system is intimately involved in the generation of an “emotional hunch” (Adolphs, 2001), but also in “cognitive-emotional interactions” (Barbas, 1995) and in “the processing of affect-related meanings” (Teasdale et al., 1999). It can thus “integrate and assign emotional-motivational significance to cognitive impressions; the association of emotion with ideas and thoughts” (R. Joseph, 1996, p. 427). A maturational advance of this system allows for the “unthought known” (Bollas, 1987), earlier only expressed as projective identifications, to become symbolized and thereby communicated as coherent subjective affect states. Alvarez (1997) has recently proposed that “extreme” projective identification is associated with a “developmental delay.” I suggest that an early history of “ambient trauma” is responsible for the specific maturational delay of this “senior executive” prefrontal system (Schore, 1997b; 1998 c, d; 1999b, c; 2001b).

Orbital activity is also associated with a lower threshold for awareness of sensations of both external and internal origin (Goldenberg et al., 1989), of “self-reflective awareness” (Stuss et al., 1992). The central involvement of this psychic system in preconscious functions (Frank, 1950) and in directed attention allows it to act as an “internal reflecting and organizing agency” (Kaplan-Solms & Solms, 1996) with which one can reflect on one's own internal emotional states, as well as others (Povinelli & Preuss, 1995). Neurobiological studies reveal that the orbitofrontal system is critically involved in detecting “changes of emotional state” and “breaches of expectation” (Nobre et al., 1999), and in “processing feedback information” (Elliott, Frith, & Dolan, 1997). Indeed, this coping system is specialized to act in contexts of “uncertainty or unpredictability” (Elliott, Dolan, & Frith, 2000), an operational definition of stress.

These and the previously-described functional properties are thus essential to the clinician’s capacity for “evenly hovering attention” which shifts between what comes from the outside and what is emerging from inside; in other words, vital to operations of “the analyzing instrument” (Balter et al., 1980). An appreciation of the neurobiological mechanisms by which the clinician’s right prefrontolimbic system is involved in “oscillating attentiveness” (Schwaber, 1995) to “barely perceptible cues that signal a change in state” in both patient and therapist (Sander, 1992), and to “nonverbal behaviors and shifts in affects” (McLaughlin, 1996), is thus directly relevant to a deeper understanding of “the metapsychology of the analyst’s mental processes during analysis” (Ferenczi, 1928).

Within the intersubjective field co-constructed by the resonating therapist and patient, bodily-based experiences and preconscious images are automatic and fleeting. However, when such “nonconscious affect” (Murphy et al., 1995), which shapes the subsequent conscious emotional processing of a stimulus (Dimberg & Ohman, 1996), is interactively regulated, amplified, and held in short-term memory long enough to be felt and recognized, the patient’s affectively charged – but

now regulated – right brain experiences can then be communicated to the left brain for further conscious processing. The clinician's role in this is further described by Basch:

> *In analysis our patient's show us in the transference where the right and left brain have failed to synchronize; we act the part of the corpus callosum, so to speak, until that structure can take over and the patient can do for himself what he needed us to do with and for him (1985, p. 11).*

As opposed to orbitofrontal areas of the right cerebral cortex that are associated with affective shifts, those in the left verbal-linguistic hemisphere are specifically involved in "semantic implicit retrieval that does not depend upon intentional recollection" (Demb et al., 1995). An increase of connections between the right and left orbital areas may thus allow for left hemispheric retrieval from implicit-procedural memory and semantic encoding of right hemispheric emotional states. In light of the facts that the orbiotofrontal areas are "critical to the experience of emotion" (Baker, Frith, & Dolan, 1997, p. 565) and fundamentally involved in "emotion-related learning" (Rolls, Hornak, Wade, & McGrath, 1994) and "cognitive-emotional interactions" (Barbas, 1995), the therapeutic relationship can act as a growth-facilitating environment for this self-regulatory system.

A recently-published functional magnetic resonance imaging study (Hariri, Bookheimer, & Mazziotta, 2000) provides evidence that higher regions of specifically the right prefrontal cortex attenuate emotional responses at the most basic levels in the brain, that such modulating processes are "fundamental to most modern psychotherapeutic methods" (p. 43), that this lateralized neocortical network is active in "modulating emotional experience through interpreting and labeling emotional expressions" (p. 47), and that "this form of modulation may be impaired in various emotional disorders and may provide the basis for therapies of these same disorders" (p. 48).

Since the structural maturation of the infant's right hemisphere ("right mind") is directly influenced by its interactions with the primary caregiver, a knowledge of its development is relevant to a deeper understanding of the early ontogeny of the primitive human mind-body-brain. The operations of the early maturing hemisphere mediate the empathic perception of the emotional states of other humans. It is important to note that the right hemisphere cycles back into growth phases throughout the lifespan (Thatcher, 1994; Schore, 2001a), and that the orbitofrontal cortex retains a capacity for plasticity in later life (Barbas, 1995), thereby allowing for the continuing experience-dependent maturation of the right frontal regulatory system within the growth-facilitating environment of an affect regulating therapeutic relationship. This structural organization, in turn, is reflected in a progression in the complexity of the patient's coping mechanisms, specifically, a developmental advance in the form of a mature personality

organization that accesses adaptive over defensive projective identification. A deeper apprehension of the developmental and therapeutic changes in this right brain system that is centrally involved in the regulation of emotional states is therefore directly relevant to Klein's pioneering explorations that are fundamentally concerned with the "regulation of feelings."

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