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# The Developmental Roots of Borderline Personality Disorder in Early Attachment Relationships: A Theory and Some Evidence

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The paper suggests a way of understanding borderline personality disorder in terms of the failure of a secure base. We begin with an account of optimal self-development in a secure attachment context, highlighting the importance of the caregiver's ability to help the small child think about his own and others' minds. This optimal self-development is crucial in developing the child's capacity for mentalization, which can enhance his resilience in the face of later trauma. We discuss the impact of attachment

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trauma in later development, arguing that the extent of this impact depends on how well early attachment relationships facilitated the capacity for mentalization. We identify some of the consequences for the representations of the internal world of a failure of mentalization that may follow trauma in individuals made vulnerable by genetic predisposition or disorganized early attachment. We link these features to the clinical presentation associated with borderline personality organization. Finally, some of the necessary characteristics of successful psychotherapeutic treatment of borderline personality disorder are briefly considered.

**T**HIS PAPER SUGGESTS A WAY OF UNDERSTANDING BORDERLINE personality disorder (BPD) in terms of the failure of secure attachment. Underpinning this approach is the assumption that understanding BPD depends on an understanding of *normal human development*. In thinking about self-development, rather than focusing on the content of the mental representation of self, which has been the focus of psychological investigation for much of the past century (for a review, see Harter, 1999), we are instead concerned with the condition of possibility of that representation: that is, the evolution of the “self as agent.” The development of the self as agent (for convenience often referred to here as the “agentive self”) has historically been a neglected topic, because of the dominance of the Cartesian assumption that the agentive self emerges automatically from the sensation of the mental activity of the self (“I think, therefore I am”). The influence of Cartesian doctrine has encouraged the belief that the conscious apprehension of our mind states through introspection is a basic, direct, and probably prewired mental capacity, leading to the conviction that knowledge of the self as a mental agent (as a “doer” of things and a “thinker” of thoughts) is an innate given rather than a developing or constructed capacity. If we understand the acquisition of knowledge of the self as a mental agent to be the result of a developmental process, which can go wrong in certain circumstances, we can gain a new perspective on the origins of BPD.

In order to gain this new perspective, we must first go back to consider our earliest days, reviewing self-development in the context of the individual’s earliest object relationships. Thus, after a brief justification of the relevance of the attachment theory perspective on BPD, we will begin with an account of optimal self-development in a secure attachment context, highlighting the importance of the caregiver’s ability to help the small child think about his own and others’ minds. This is crucial in

developing the child's capacity for mentalization, which can enhance his resilience in the face of later trauma. We will then consider ways in which the lack of a secure base can adversely affect the child's development. We will also discuss the impact of attachment trauma, arguing that the extent of this impact depends on the extent to which early attachment relationships have facilitated the capacity for mentalization. It is the persistence of more primitive modes of psychic reality that predate the capacity for mentalization, associated with early psychological neglect, that subsequently makes certain individuals particularly vulnerable to harsh social experiences. Finally, some of the necessary characteristics of successful psychotherapeutic treatment of these individuals are briefly considered.

### *Relevance of the Attachment Theory Perspective*

There have been many attempts to illuminate the symptomatology of BPD using attachment theory. Implicitly or explicitly, Bowlby's (1977) suggestion that early experience with the caregiver serves to organize later attachment relationships has been used in explanations of psychopathology in BPD. For example, it has been suggested that the borderline patients' experiences of interpersonal attack, neglect, and threats of abandonment may account for their perception of current relationships as attacking and neglectful (Benjamin, 1993). Others have suggested that borderline individuals are specifically characterized by a fearful and preoccupied attachment style reflecting "an emotional template of intimacy anxiety/anger" (Dutton et al., 1994). In studies of Adult Attachment Interview (AAI) narratives of borderline patients, the classification of preoccupied is most frequently assigned (Fonagy et al., 1996) and, within this, the confused, fearful, and overwhelmed subclassification appears to be most common (Patrick et al., 1994). Past attempts at linking work on attachment with theories of borderline pathology have stressed the common characteristic shared by the ambivalently attached/preoccupied and borderline groups "to check for proximity, signaling to establish contact by pleading or other calls for attention or help, and clinging behaviors" (Gunderson, 1996). Borderline patients also tend to be unresolved with regard to their experience of trauma or abuse (Patrick et al., 1994; Fonagy et al., 1996).

There is no doubt that borderline individuals are insecure in their attachment, but descriptions of insecure attachment from infancy or

adulthood provide an inadequate clinical account for several reasons: (1) Anxious attachment is very common; in working-class samples the majority of children are anxiously attached (Broussard, 1995). (2) Anxious patterns of attachment in infancy correspond to relatively stable adult strategies (Main, Kaplan, and Cassidy, 1985), yet the hallmark of the disordered attachments of borderline individuals is the absence of stability (Higgitt and Fonagy, 1992). (3) In borderline individuals there are variations across situations or types of relationships. The borderline individual is at times hypersensitive to the emotional states of mental health professionals and family members. (4) The clinical presentation of borderline patients frequently includes a violent attack on the patient's own body or that of another human being. It is likely that the propensity for such violence will include an additional component that predisposes such individuals to act upon bodies rather than upon minds. An adequate account of the relationship between the individual's early attachment environment and their later manifestation of the symptoms of BPD requires that *the way the individual experiences that environment* be taken into account, and that their way of experiencing it, which in Cartesian fashion has historically been viewed as an unproblematic given, be viewed as determined by developmental factors.

*Optimal Self-Development in a  
Secure Attachment Context*

John Bowlby, a major Darwin scholar (Bowlby, 1991), was impressed by the obvious selection advantages of infant protest at separation—such as protection from predation (Bowlby, 1969). Given that phylogenetically and ontogenetically infancy is a period of extreme risk, it is unarguable that natural selection would favor individuals with a capacity for attachment. The generally recognized components of attachment behaviors that serve to establish and maintain proximity are (1) signals that draw the caregivers to their children (e.g., smiling), (2) aversive behaviors (e.g., crying) which perform the same function, and (3) skeletal muscle activity (primarily locomotion) that brings the child to the caregiver. But there is a fourth component that provides a better evolutionary rationale for the entire enterprise of human attachment, going beyond the issue of physical protection. According to Bowlby, at about the age of three behaviors signifying a goal-corrected partnership begin to emerge.

The central psychological processes for mediating goal-corrected partnerships are the *internal working models* (IWMs).

Bowlby's original concept has been thoughtfully elaborated by some of the greatest minds in the attachment field (Main et al., 1985; Crittenden, 1990, 1994; Sroufe, 1990, 1996; Bretherton, 1991; Main, 1991; Bretherton and Munholland, 1999). No attempt to duplicate this will be undertaken here. However it might be helpful to summarize the four representational systems that are implied in these reformulations: (1) expectations of interactive attributes of early caregivers created in the first year of life and subsequently elaborated; (2) event representations by which general and specific memories of attachment-related experiences are encoded and retrieved; (3) autobiographical memories by which specific events are conceptually connected because of their relation to a continuing personal narrative and developing self-understanding; and (4) understanding of the psychological characteristics of other people (inferring and attributing causal motivational mind states such as desires and emotions and epistemic mind states such as intentions and beliefs) *and differentiating these from those of the self*. Thus a key developmental attainment of the IWM is the creation of a processing system for the self (and significant others) in terms of a set of stable and generalized intentional attributes, such as desires, emotions, intentions, and beliefs inferred from recurring invariant patterns in the history of previous interactions. The child comes to be able to use this representational system to predict the other's or the self's behavior in conjunction with local, more transient intentional states inferred from a given situation.

Classically, in attachment theory this phase change from behavior to representation has been regarded as a modification of the attachment system propelled by cognitive development (Marvin and Britner, 1999). Our contention here is the reverse. We maintain that a major selective advantage conferred by attachment to humans is the opportunity it afforded for the development of social intelligence and meaning making: *attachment actually propels cognitive development*. The capacity for "interpretation," which Bogdan (1997) defined as "organisms making sense of each other in contexts where this matters biologically" (p. 10), becomes uniquely human when others are engaged "psychologically in sharing experiences, information and affects" (p. 94). The capacity to interpret human behavior—to make sense of each other—requires the intentional stance: "treating the object whose behavior you want to

predict as a rational agent with beliefs and desires” (Dennett, 1987, p. 15).

The capacity for interpretation in psychological terms—let’s call this the Interpersonal Interpretive Function—is not just a generator or mediator of attachment experience; we contend that it is also a product of the complex psychological processes engendered by close proximity in infancy to another human being, the attachment figure. The IIF should not be identified with Bowlby’s IWM; it does not contain representations of experiences and is not a repository of personal encounters with the caregiver. Rather, it is a mechanism for processing *new* experiences. Stress regulation, the establishment of attentional mechanisms and the development of mentalizing capacities may be usefully considered under a single heading as components of the interpersonal interpretative function. In order to be able to exercise this function, the individual needs a symbolic representational system for mental states and also needs to be able to activate selectively states of mind in line with particular intentions (attentional control). Close proximity in infancy to another human being is a necessary condition for the development of these capacities. It follows that disruption of early affectional bonds not only sets up maladaptive attachment patterns but also undermines a range of capabilities vital to normal social development. We suggest that BPD can be understood in terms of the absence or impairment of the capacity for stress regulation, attentional control and mentalization, which are acquired in the context of attachment relationships. As we will see, such individuals are then particularly vulnerable in the face of trauma.

Let us begin by reviewing the processes by means of which the capacity for interpersonal interpretation is acquired in an environment where closeness to the caregiver is available in infancy.

### *Early Stages of Self-Development*

As a child normally develops, he gradually acquires an understanding of five increasingly complex levels of agency of the self: physical, social, teleologic, intentional, and representational (Gergely, 2001; Fonagy et al., 2002). We shall describe the normal developmental stages before speculating about the deviations in the development of the agentive self that might constitute the roots of BPD. The first level of physical agency

involves an appreciation of the effects of actions on bodies in space. The child begins to understand that he is a physical entity with force that is the source of action and that he is an agent whose actions can bring about changes in bodies with which he has immediate physical contact (Leslie, 1994). Developing alongside this is the child's understanding of himself as a social agent. Babies engage from birth in interactions with their caregivers (Meltzoff and Moore, 1977; Trevarthen, 1979; Stern, 1985). In these exchanges the baby's behavior produces effects on his caregivers' behavior and emotions. Early understanding of the self as a social agent, therefore, involves at least knowing that one's communicative displays can produce effects at a distance, in the social environment (Neisser, 1988).

Watson's extensive studies of infants (Watson, 1979, 1985, 1994) have led Gergely and Watson (1999) to propose that the earliest forms of self-awareness evolve through the workings of an innate mechanism which they call the *contingency detection module*. This mechanism enables the infant to analyze the probability of causal links between his actions and stimulus events. Watson (1994, 1995) proposed that one of the primary functions of the contingency detection module is *self-detection*. While our own actions produce effects that are necessarily perfectly response-contingent (e.g., watching our hands as we move them), stimuli from the external world typically correspond less perfectly to our actions. Detecting how far the stimuli we perceive depend on our actions may be the original criterion that enables us to distinguish ourselves from the external world. Our bodies are by far the most action contingent aspects of our environments.

Numerous studies have demonstrated that young infants are highly sensitive to the relationship between their physical actions and consequent stimuli (e.g., Watson, 1972, 1994; Papousek and Papousek, 1974; Field, 1979; Lewis and Brooks-Gunn, 1979; Bahrck and Watson, 1985; Lewis, Allessandri, and Sullivan, 1990; Rochat and Morgan, 1995). For example, Watson (1972) has shown that two-month-olds increase their rate of leg kicking when it results in the movement of a mobile, but not when they experience a similar but noncontingent event. Sensitivity to contingency thus explains how we learn that we are physical agents whose actions bring about changes in the environment.

In a seminal study, Bahrck and Watson (1985; see also Rochat and Morgan, 1995; Schmuckler, 1996) have demonstrated that infants can

use their perception of perfect contingency between actions and their consequences for self-detection and self-orientation as early as three months of age. In a series of experiments, five- and three-month-old infants were seated on a highchair in front of two monitors so that they could kick freely. One monitor showed a live image of the child's moving legs, providing a visual stimulus that corresponded perfectly. The other monitor showed a previously recorded image of the infant's moving legs, which was unrelated to his present movements. Five-month-olds clearly differentiated between the two displays, looking significantly more at the *noncontingent* image. A number of other preferential looking studies (Papousek and Papousek, 1974; Lewis and Brooks-Gunn, 1979; Rochat and Morgan, 1995; Schmuckler, 1996) in which the live image of the self was contrasted with the moving but noncontingent image of another baby indicate that four- to five-month-old infants can distinguish themselves from others on the basis of stimulus–response contingencies and prefer to fixate *away* from the self.

Interestingly, Bahrick and Watson found that among three-month-olds some preferred the perfectly contingent image, while others were more interested in the noncontingent image. Field (1979) also reported that her sample of three-month-olds were more inclined to look at the images of themselves. Piaget's (1936) observation that during the first months of life babies perform the same actions on themselves over and over again also suggests that babies are initially preoccupied with perfect contingency. Watson and Gergely (Gergely and Watson, 1999; see also Watson, 1994, 1995) have therefore proposed that during the first two to three months of life the contingency detection module is genetically set to seek out and explore perfectly response-contingent stimulation. Watson hypothesizes that this initial bias enables the infant to develop *a primary representation of his bodily self* as a distinct object in the environment, by identifying what he has perfect control over. Watson (1995) suggests that an initial phase of self-seeking behavior may be necessary to prepare the baby to cope with the environment. At around three months, the target value of the contingency analyzer in normal infants is “switched” to prefer *high-but-imperfect contingencies*—the kind of responses that are characteristic of children's caregivers. This change reorients infants after three months away from self-exploration (perfect contingencies) and toward *the exploration and representation of the social world*.

### *The Teleologic Stance*

The types of causal relations that connect actions to their agents on the one hand, and to the world on the other, go far beyond the level of physical description, and we grow to understand much more about both of these relations as we develop. Thus, around eight to nine months of age (Tomasello, 1999), infants begin to differentiate actions from their outcomes and to think about actions as means to an end. This is the beginning of their understanding of themselves as *teleologic* agents (Leslie, 1994; Csibra and Gergely, 1998) who can choose the most efficient way to bring about a goal from a range of alternatives. The limitation of this stage of experiencing the agentive self is one of physicality. Experimental studies of infants toward the end of their first year of life clearly indicate that they expect the actors in their environment to behave reasonably and rationally given physically apparent goal state and constraints which are also physically evident to the self (Gergely and Csibra, 1996, 1997; Csibra and Gergely, 1998; Gergely and Csibra, 1998; Csibra et al., 1999; Gergely and Csibra, 2000). Imagine an object which has repeatedly followed a path that included a deviation to get around an obstacle. Then the obstacle disappears. The nine-month-old infant observing this shows surprise if the object continues to follow the path that includes the deviation around the obstacle that is no longer present. The infant shows no surprise when the object modifies its path to take account of the changed circumstance, the disappearance of the obstacle. In the latter case the object behaved “rationally” while in the former the infant could not understand why the object was apparently “inconveniencing itself.”

Later on, we will suggest a connection between the focus on understanding actions in terms of their physical as opposed to mental outcomes, which is characteristic of the teleologic stance, to the mode of experience of agency we often see in the violent acts of some individuals with BPD. Expectations concerning the agency of the other are present but these are formulated in terms restricted to the physical world. We would argue that this is not because a representation of the internal (the mental) does not exist. It exists, but with highly significant developmental constraints. To preempt later discussions somewhat, it will be argued that under circumstances where the use of the intentional stance (mentalization) is only partially accessible because of either biological deficits or social experiences beyond the normal range, the clinician frequently

finds the client falling back on an understanding of agency based on the teleologic stance when he or she interprets interpersonal behavior. This is most marked in relation to actions of others in attachment contexts. It is in these contexts that early adverse experience was most likely to generate a stance where an individual would deliberately stop engaging in mentalization in order to avoid the trauma of having to conceive of malevolent intent in the other. This reemergence of teleologic principles is thought to be more likely in those individuals in whom the ability to take the intentional stance and form second-order representations of emotional constitutional self-states was not firmly established in the first place.

*Self as an Intentional and Representational Agent*

Sometime during their second year, infants develop an understanding of agency that is already mentalistic: they start to understand that they are intentional agents whose actions are caused by prior states of mind, such as desires (Wellman and Phillips, 2000). At this point, they also understand that their actions can bring about change in minds as well as bodies: for example, they clearly understand that if they point at something, they can make another person change their focus of attention (Corkum and Moore, 1995). Developmentally, this point is prototypically marked when the two-year-old child comes to be able to distinguish his own desires from those of the other person. Repacholi and Gopnik (1997) demonstrated that when 18-month-olds were asked to give the experimenter something to eat, they provided her with the particular food item (broccoli vs. goldfish crackers) that she had previously expressed a liking for (by saying “yuk” or “yummy” when first facing the food item). Thus, they modulated their own action by considering the specific content of the desire they had attributed to the other previously, even when that desire was different from their own preference. In contrast, 14-month-olds gave the experimenter the item they themselves liked, basing their choice on their own preference without being able to consider the other’s relevant prior intention. The little ones had assumed an identity between their experience of their own desire and the likely experience of the other. At around three to four years of age, this understanding of agency in terms of mental causation also begins to include the representation of so-called epistemic mind states concerning knowledge about something, such as beliefs (Wimmer and Perner, 1983). At this stage, we can say

that the young child understands himself as a representational agent: that is, his intentional mental states (desires and beliefs) are representational in nature (Wellman, 1990; Perner, 1991).

Still later, perhaps as late as the sixth year, emerge related advances such as the child's ability to relate memories of his intentional activities and experiences into a coherent causal-temporal organization (Povinelli and Eddy, 1995) leading to the establishment of the (temporally) "extended" or "proper" self (James, 1890). Consider this simple variation on the famous "rouge" studies of mirror self-recognition. A five-year-old child is videotaped playing with an experimenter. In the course of the play, the experimenter, without the child's knowledge, places a sticky label on him. The sticky label remains on when the experimenter and child watch the video together. The child, who has absolutely no difficulty recognizing himself, notices the sticky label but fails to check if it is still on him. When asked to comment he says, "That child has a label on him," not, "In the video, I have a label on me." A few months later, aged six, he clearly experiences himself as the same person as the child in the video and immediately removes the label and smiles with the experimenter at the trick perpetrated on him. In other words, the autobiographical self has come into being.

As this brief overview indicates, the development of understanding self and agency entails increasing sophistication in awareness about the nature of mental states. A full experience of agency in social interaction can emerge only when actions of the self and other can be understood as initiated and guided by assumptions concerning the emotions, desires, and beliefs of both. This complex developmental process must start with the emergence of concepts for each mental state. In order to be able to think about mental states, say fear, we have to develop concepts that correspond to and integrate the actual internal experiences that constitutes that state. The concept of "fear" is a second-order representation of fear-related physiologic, cognitive, and behavioral experiences, just as the concept of "table" labels and thus integrates our actual experiences of tables. Most, perhaps including Freud, have assumed that second-order representations of internal states emerged spontaneously. The child suddenly became aware of himself as a thinking being. From the Cartesian perspective, the repeated experience of fear will inevitably give rise to this concept in the child's mind just like the experience of tables generate the linguistic label. Yet, mental states are private and by definition opaque while physical objects have a socially shared quality.

Of course, even concepts concerning the physical world are profoundly socially conditioned. So how do we understand the influence of social experience upon the emergence of mental state concepts? Although in the Cartesian view that is implicit to much of our thinking and the spontaneous emergence of internal state concepts is rarely questioned, recent advances in developmental theory suggest a clear role for social experience in the development of mental state concepts.

*Parental Mirroring and Development of  
Mental State Concepts*

A large body of evidence indicates that from the beginning of life babies can tell people apart (Stern, 1985). From a very early age they are sensitive to facial expressions (Fantz, 1963; Morton and Johnson, 1991), they get used to their mothers' voice in utero and recognize it after birth (DeCasper and Fifer, 1980), and they can imitate facial gestures from birth (Meltzoff and Moore, 1977, 1989). Young babies' interactions with their caregivers have a "protoconversational" turn-taking structure (Brazelton, Kowalski, and Main, 1974; Trevarthen, 1979; Brazelton and Tronick, 1980; Beebe et al., 1985; Stern, 1985; Tronick, 1989; Jaffe et al., 2001). The currently dominant biosocial view of emotional development holds that mother and infant are engaged in affective communication from the beginning of life (Bowlby, 1969; Sander, 1970; Brazelton et al., 1974; Stern, 1977, 1985; Trevarthen, 1979; Tronick, 1989; Hobson, 1993) in which the mother plays a vital role in modulating the infant's emotional states to make them more manageable.

Mothers are generally very good at telling what their babies are feeling, and sensitive mothers tend to attune their responses to modulate their children's emotional states (Malatesta et al., 1989; Tronick, 1989). During these interactions, the mother will often mimic her baby's displays of emotion with the apparent intention of modulating or regulating the infant's feelings (Malatesta and Izard, 1984; Stern, 1985; Papousek and Papousek, 1987; Gergely and Watson, 1996, 1999). The caregiver's mirroring of the infant's subjective experience has been recognized as a key phase in the development of the child's self by a wide range of psychoanalytic developmental theorists (e.g., Winnicott, 1967; Kohut, 1971; Pines, 1982; Kernberg, 1984; Tyson and Tyson, 1990) as well as developmental psychologists (Meltzoff, 1990; Schneider-Rosen and

Cicchetti, 1991; Mitchell, 1993; Legerstee and Varghese, 2001). But why should the mere replication of the outward manifestation of the infant's putative internal experience lead to a moderation of affect expression and how does it lead to the creation of a sense of self?

Contrary to the classical Cartesian view, and following Gergely and Watson's (1996, 1999) "social biofeedback theory of parental affect-mirroring," we assume that at first we are not introspectively aware of our different emotion states. Rather, our representations of these emotions are primarily based on stimuli received from the external world. Babies learn to differentiate the internal patterns of physiologic and visceral stimulation that accompany different emotions through observing their caregivers' facial or vocal mirroring responses to these. The "switch" that takes place in the contingency detection module at about three months predisposes them to pay attention to *high-but-imperfect contingencies*—the kind of responses that are characteristic of their caregivers when they are in mirroring interaction with them. Social biofeedback in the form of parental affect mirroring enables the infant to develop a second-order symbolic representational system for his mind states. The internalization of the mother's mirroring response to the infant's distress (caregiving behavior) comes to represent an internal state. The infant internalizes the mother's empathic expression by developing a secondary representation of his emotional state with the mother's empathic face as the signifier and his own emotional arousal as the signified. The mother's expression tempers emotion to the extent that it is separate and different from the primary experience, although crucially it is not recognized as the mother's experience, but as an organizer of a self-state. This "intersubjectivity" is the bedrock of the intimate connection between attachment and self-regulation.

If the mother's mirroring is effectively to modulate her baby's emotions, and to provide the beginnings of a symbolic system by means of which the capacity for self-regulation can be further extended, it is important that as well as reflecting the emotion the child is feeling accurately (i.e., the mirroring is *congruent* with the child's emotional display), she signals in some way that what he is seeing is a reflection of his own feelings: otherwise it is possible that he will misattribute the feeling to his mother. Misattributing the expressed emotion would be especially problematic in cases where the mother is reflecting the infant's *negative* emotion states, say, his or her fear or anger. If the child thinks that the caregiver *has* the feelings she is displaying, his own negative

emotion state, instead of being regulated in a downward direction, is likely to escalate, as the sight of a fearful or angry parent is clearly cause for alarm.

This attribution problem is solved by a specific perceptual feature of the parent's mirroring displays, which, following Gergely and Watson, we refer to as their "markedness." Marking is typically achieved by producing *an exaggerated version* of the parent's realistic emotion expression, similarly to the marked "as if" manner of emotion displays that are characteristically produced in pretend play. To be sensitive to markedness the child moves away from interpreting reality "as is" and imposes an alternative construction upon it. This constitutes a move away from the immediacy of physical reality. The marked display, nevertheless, is close enough to the parent's usual expression of that emotion for the infant to recognize its dispositional content. However, the markedness of the display inhibits the attribution of the perceived emotion to the parent: because it is contingent on the infant's behavior, he therefore assumes that it applies to himself.

In infancy the contingent responding of the attachment figure is thus far more than the provision of reassurance about a protective presence. It is the principal means by which we acquire an understanding of our own internal states, which is an intermediate step in the acquisition of an understanding of others as psychological entities. In the first year, the infant has only primary awareness of being in a particular, internal, emotional state. Such awareness is noncausal or epiphenomenal in that it is not put to any functional use by the system. It is in the process of social biofeedback that these internal experiences are more closely attended to and evolve a functional role (a signal value) and a role in modulating or inhibiting action. Thus, it is the primary attachment relationship that can ensure the move from primary awareness of internal states to a functional awareness. In functional awareness a concept corresponding to the feeling of anger (the *idea of anger* rather than the *experience of anger*) may be used to simulate and so to infer the other's corresponding mental state. It may also be used to serve a signal value to direct action. The robust establishment of these capacities may ensure that the individual can not only moderate his anger through self-regulation but use it to initiate actions that are likely to deal effectively with the cause. In the absence of functional awareness, anger, once aroused, might be experienced as overwhelming and the individual will be at considerable disadvantage in the creation of effective strategies to address the

cause of the dissatisfaction that generated this emotion. It should be noted that this is not the same as reflective awareness of emotion, where the individual can make a causal mind state become the object of attention before, and without it, causing action. Whereas functional awareness is intrinsically coupled with action, reflective awareness is separate from it. It has the capacity to move away from physical reality and may be felt to be not for real.

Many studies provide evidence consistent with the social biofeedback model. For example, an unpublished study carried out in our laboratory showed that the rapid soothing of distressed six-month-olds could be predicted on the basis of ratings of emotional content of the mother's facial expression during the process of soothing; mothers of rapid responders showed somewhat more fear, somewhat less joy but most typically a range of other affects in addition to fear and sadness. Mothers of rapid responders were far more likely to manifest multiple affect states (complex affects). We interpreted these results as supporting Gergely and Watson's notion of the mother's face being a secondary representation of the infant's experience—the same and yet not the same. This is functional awareness with the capacity to modulate affect states.

We can assume that infants' discovery of their high degree of contingent control over their caregivers' reactions positively arouses them and gives them feelings of causal efficacy. They are also likely to experience the pleasurable changes in their affective states that the parent's affect-modulating soothing interactions bring about (and become associated with; see Gergely and Watson, 1996, 1999). Since such attuned interactions often involve affect-mirroring, infants may come to associate the control they have over their parent's mirroring displays with the ensuing positive change in their affect state, leading to an experience of the self as a self-regulating agent (Gergely and Watson, 1996, 1999; Gergely, Koós, and Watson, in press). The establishment of second-order representations of emotions creates the basis for affect regulation and impulse control and provides an essential building block for the child's later development of the crucial capacity of mentalization. If the caregiver mirrors the baby's emotions inaccurately or neglects to perform this function at all, the baby's feelings will be unlabeled, confusing, and experienced as unsymbolized and therefore hard to regulate.

The caregiver who is able to give form and meaning to the young child's affective and intentional states through facial and vocal mirroring and playful interactions provides the child with representations that will

form the very core of his developing sense of selfhood. For normal development the child needs to experience a mind that is concerned with *his* mind and is able to reflect his feelings and intentions accurately, yet in a way which does not overwhelm him (e.g., when acknowledging negative affective states). This is the experience that a psychologically neglected child might never have, even if there can be no doubts about the provision of adequate physical care. The child who has not experienced the caregiver's integrative mirroring of his affective states cannot create representations of them, and may later struggle to differentiate reality from fantasy, and physical from psychic reality. This leaves the individual vulnerable to primitive modes of representing subjectivity and the agentic self which are not fully representational or reflective.

### *Psychic Equivalence and the Pretend Mode*

If, as we have argued, experiencing a thought as only a thought is a developmental achievement, what is psychic reality like before it is known as "psychic"? We have suggested that early awareness of mental states takes place within two modes (Fonagy and Target, 1996; Target and Fonagy, 1996). One equates the internal with the external. What exists in the mind must exist in the external world, and what exists out there must invariably also exist in the mind. There cannot be differences in perspective about the external world because it is isomorphic with the internal. "Psychic equivalence," as a mode of experiencing the internal world, can cause great distress because the projection of fantasy to the outside world is felt to be compellingly real.

The other mode—"pretend" in relation to mental states—is therefore essential. Here the child's mental state is decoupled from external or physical reality, but the internal state is thought to have no implications for the outside world. The child's inner experience is separated from the rest of the ego. We believe Freud (1924) referred to vestiges of this developmental state when he described "a domain which became separated from the real external world . . . kept free from the demands of the exigencies of life, like a kind of 'reservation'; it is not accessible to the ego, but is only loosely attached to it" (p. 187). Britton (1992) has also described "an area of thinking protected from reality and preserved as an area of day-dream or masturbatory fantasy . . . a place where some people spend most of their lives" (p. 4). It is crucial to remember that for different

reasons neither the pretend mode nor the psychic equivalence mode can create internal experiences that have the full quality of internal reality: psychic equivalence is too real while pretend is too unreal. In normal development the child integrates these two modes to arrive at *mentalization*, or reflective mode, in which thoughts and feelings can be experienced *as* representations. Inner and outer realities are seen as linked, but separate, and no longer have to be either equated or dissociated from each other.

### *Mentalization*

Mentalization, the capacity to think about mental states as separate from, yet potentially causing actions, is assumed by us to arise as part of an integration of the pretend and psychic equivalent modes of functioning. This happens optimally in the context of a playful parent–child relationship. In such a relationship feelings and thoughts, wishes and beliefs can be experienced by the child as significant and respected on the one hand, but on the other as not being of the same order as physical reality. Both the pretend mode and the psychic equivalence modes of functioning are modified by the interaction with the parent in what Winnicott (1971) incomparably termed a transitional space. While mentalization as a concept has arguably been part of psychoanalytic thinking since its inception, and as a major line of theorization in France at least for the last 40 years (Lecours and Bouchard, 1997), this line of thinking received an undoubted boost from progress in philosophy of mind and development pertaining to “the intentional stance” and “the theory of mind” (Fonagy, 1991, 2000; Fonagy and Target, 1997; Fonagy, Target, and Gergely, 2000). During the last decades, philosophers (Dennett, 1987; Fodor, 1987, 1992; Bogdan, 1997) and cognitive developmentalists (Astington, Harris, and Olson, 1988; Wellman, 1990; Perner, 1991; Whiten, 1991; Baron-Cohen, Tager-Flusberg, and Cohen, 1993, 2000; Hirschfeld and Gelman, 1994) have focused on the nature and developmental origins of our capacity to attribute causal mental states to others. Initially, it was Dennett (1987) who argued that applying such a mentalistic interpretational strategy, which he called the “intentional stance,” was a significant evolutionary adaptation that enabled us to predict others’ behavior.

In opposition to the currently dominant cognitive developmental view, which holds that even young children can attribute intentional

mental states (such as goals, emotions, desires and beliefs) to others as the causes of their actions, from a psychodynamic perspective we argue that the capacity for mentalization is a developmental achievement greatly facilitated by secure attachment (Fonagy, 1991, 1997). Evidence such as young children's performance on false belief tasks supports this argument. Wimmer and Perner (1983) were the first to demonstrate that three-year-olds who witness a person leaving an object in container A before leaving the room and who see the object being transferred to container B in that person's absence, make the (reality-based) error of predicting that she will search in container B (where the object actually is) rather than in container A (where she left the object) when she comes back. By the age of four or five, children do not commit this error any more: they tend to correctly predict that the person will look in container A, because they are able to attribute a false belief to him or her.

The acquisition of this capacity has come to be known as the development of a theory of mind. Theory of mind is an interconnected set of beliefs and desires, attributed to explain a person's behavior. Baron-Cohen and Swettenham (1996) appropriately ask, "How on earth can young children master such abstract concepts as belief (and false belief) with such ease, and roughly at the same time the world over?" (p. 158). In current models of theory of mind development the child tends to be seen as an isolated processor of information, constructing a theory of mind using biological mechanisms which, where the child's endowment is less than optimal, have an expectable failure rate. From the viewpoint of developmental psychopathology and its psychosocial treatment, this is a barren picture, which ignores the central role of the child's emotional relationship with the parents in developing the child's ability to understand interactions in psychological terms. The development of children's understanding of mental states is embedded within the social world of the family, with its network of complex and often intensely emotionally charged relationships, which are, after all, much of what early reflection needs to comprehend. Therefore it should not surprise us that the nature of family interactions, the quality of parental control (Dunn, Brown, Somkowski, et al., 1991), parental talk about emotions (Denham, Zoller, and Couchoud, 1994) and the depth of parental discussion involving affect (Dunn, Brown, and Beardsall, 1991), are all strongly associated with the acquisition of the intentional stance in observational studies. The family's involvement in the child's acquisition of a theory of mind is further highlighted by the robust finding that the presence of older

siblings in the family appears to improve the child's performance on a range of false-belief tasks (Perner, Ruffman, and Leekman, 1994; Jenkins and Astington, 1996; Ruffman et al., 1998). The ability to give meaning to our own psychological experiences develops as a result of our discovery of the minds behind others' actions.

For research purposes we have operationalized the ability to apply a mentalistic interpretational strategy as reflective function (RF; Fonagy et al., 1998), as the plausible interpretation of one's own and others' behavior in terms of underlying mental states. This implies awareness that experiences give rise to certain beliefs and emotions, that particular beliefs and desires tend to result in certain kinds of behavior, that there are transactional relationships between beliefs and emotions, and that particular developmental phases or relationships are associated with certain feelings and beliefs. We do not expect an individual to articulate this theoretically, but to demonstrate it in the way they interpret events within attachment relationships, when asked to do so. Individuals differ in the extent to which they are able to go beyond observable phenomena to give an account of their own or others' actions in terms of beliefs, desires, plans, and so on. This cognitive capacity is an important determinant of individual differences in self-organization as it is intimately involved with many defining features of selfhood such as self-consciousness, autonomy, freedom and responsibility (Cassam, 1994; Bolton and Hill, 1996). The intentional stance, in the broad sense considered here (i.e., including apparently irrational unconscious acts), creates the continuity of self-experience which is the underpinning of a coherent self-structure.

### *Reflective Function and Attachment*

RF is assessed and measured by scoring transcripts of the AAI according to guidelines laid down in the Reflective Function manual (Fonagy et al., 1998). The characteristics of attachment narratives that raters look for as evidence of high RF include awareness of the nature of mental states (such as the opaqueness of mental states), explicit efforts to tease out the mental states underlying behavior, recognition of the developmental aspects of mental states and showing awareness of mental states in relation to the interviewer. There was a strong relationship between scores on the RF scale and the Strange Situation behavior of infants

(Ainsworth et al., 1978) whose mothers and fathers had been assessed using the AAI before the birth of the child (Fonagy et al., 1991). In a subsequent study on the same sample, we found that RF was particularly predictive of secure attachments with mothers, in cases where mothers independently reported significant deprivation in childhood (Fonagy et al., 1994).

A growing body of evidence links mindfulness with attachment. The caregiver's mindfulness about the child's mental states appears to be a significant predictor of the likelihood of secure attachment. Recent evidence by Slade et al. (1999) provided an important clue about the puzzle of intergenerational transmission of attachment security. They demonstrated that autonomous (secure) mothers on the AAI represented their relationship with their toddlers in a more coherent way, conveying more joy and pleasure in the relationship, than did dismissing and preoccupied mothers. That the mother's representation of each child is the critical determinant of attachment status is consistent with the relatively low concordance in the attachment classification of siblings (van IJzendoorn et al., 2000). We believe that the parent's capacity to adopt the intentional stance toward a not yet intentional infant, to think about the infant in terms of thoughts, feelings and desires in the infant's mind and in their own mind in relation to the infant and his or her mental state, is the key mediator of the transmission of attachment and accounts for classical observations concerning the influence of caregiver sensitivity (Fonagy, Steele, et al., 1995). Those with a strong capacity to reflect on their own and their caregiver's mental states in the context of the AAI were far more likely to have children securely attached to them—a finding we have linked to the parent's capacity to foster the child's self-development (Fonagy et al., 1993).

A more direct test of this hypothesis was provided by Meins and colleagues (2001). They analyzed the content of speech of mothers in interaction with their six-month-old children and coded the number of comments the mother made on the infant's mental states (knowledge, desires, thought, interest), the infant's emotional engagement (e.g., assertions about the infant being bored), comments on the infant's mental processes ("Are you thinking?"), or comments about what the infant might think the mother thinks or attempts on the infant's part to manipulate the mother's mental state ("Are you just teasing me?"). The comments were further coded as appropriate if an independent coder agreed that the mother was reading the child's mental state correctly, in line with

the immediate history of the interaction, and was not cutting across the child's apparent intentions with assertions about putative mental states that were incongruous with the infant's current state of mind. The proportion of such "appropriate mind-related comments" was highly significantly associated with attachment security in the child six months later and significantly contributed to the prediction even when traditional measures of maternal sensitivity were controlled for.

The above series of studies demonstrated that high RF is associated with good outcomes in terms of secure attachment in the child. Security of attachment on the AAI in 131 moderately at-risk adolescents (Allen et al., 1998) predicted low risk for conduct disorder and delinquency and was associated with peer competence, lower levels of internalizing behaviors, and low levels of deviant behavior.

### *Neurologic Basis of Mentalization*

The contribution of secure attachment to mentalization can be understood on both neurobiologic and psychosocial levels, and we believe that understanding the challenges to mentalizing in psychotherapy—for both therapist and patient—require this dual understanding. Schore (2001) has reviewed extensive evidence supporting his thesis that secure attachment is essential for optimal development of cerebral structures supporting mentalization. The right hemisphere is specialized for emotion and social cognition, and the right hemisphere is dominant in the first three years of life, providing an opportunity for attachment relationships to participate in the sculpting of the cerebral substrates of socioemotional behavior and emotional self-regulation. As Schore put it, "The attachment relationship thus directly shapes the maturation of the infant's right brain stress-coping systems" (p. 41). These systems mediate the capacity to regulate emotions in interpersonal relationships. Schore ascribes to the orbitofrontal cortex the implicit regulatory mechanisms associated with IWMs of attachment relationships. He notes further that the amygdala and orbitofrontal cortex, which conjointly contribute to emotional experience, remain highly plastic throughout the lifetime. Hence attachment relationships may continue to play a role in the development of cerebral regulation of emotions throughout the lifespan.

Although our grasp of the neurobiologic basis of mentalization remains rudimentary, converging evidence from human and nonhuman

primate studies with a wide range of methodologies (e.g., effects of brain lesions, neuroimaging, single-cell recording) implicate several brain areas in the processes of social engagement, social cognition, and mentalization (see Allen and Fonagy, 2002). Consider responsiveness to communicative facial expressions as prototypical of implicit mentalizing. Such responsiveness depends on highly processed visual information integrated in the temporal lobe (superior temporal sulcus) to provide identification of the individual and the individual's expressive cues (Bonda et al., 1996; Frith and Frith, 1999, 2000; Emery and Perrett, 2000); this identifying information is rapidly processed for emotional significance in the amygdala (Rolls, 1999; Aggleton and Young, 2000; Emery and Perrett, 2000; Stone, 2000). Mentalizing online in interpersonal interactions, however, requires executive control that includes flexibly and continually updating interpretations of emotional cues in conjunction with regulating one's own emotional states and expressions. The orbitofrontal cortex plays a prominent role in this flexible responsiveness and self-regulation (Rolls, 1999; Elliott, Dolan, and Frith, 2000) and, consistent with Schore's view, there is evidence for right hemisphere lateralization in this regard (Brownell et al., 2000).

Activation of the medial prefrontal cortex (including the ventromedial prefrontal cortex overlapping the orbitofrontal cortex) has been demonstrated in a series of neuroimaging studies in conjunction with a wide range of theory of mind inferences, in both visual and verbal domains (Fletcher et al., 1995; Goel et al., 1995; Happe et al., 1996; Gallagher et al., 2000; Klin, Schultz, and Cohen, 2000). It appears likely that extensive prefrontal cortex (i.e., orbitofrontal extending into more dorsal medial cortex) is involved in mentalizing interactively in a way that requires implicitly representing the mental states of others. Of course, many experimental paradigms demonstrating medial prefrontal activation in theory of mind tasks require explicit responding (e.g., explicating the mental states of story characters). Yet explicit responses often entail representational redescription of implicit representations such that medial prefrontal cortex performance plays a role in both implicit and explicit mentalizing regarding other persons.

Some evidence suggests that the anterior cingulate cortex plays a key role in mentalizing the self, at least in the domain of emotional states (Lane et al., 1997; Lane et al., 1998; Damasio, 1999; Frith and Frith, 1999). Lane (2000) has proposed more specifically that implicit self-representations (i.e., phenomenal self-awareness) can be localized to the

dorsal anterior cingulate, whereas explicit self-representations (i.e., reflection) can be localized to the rostral anterior cingulate. Moreover, intriguing findings regarding mirror neurons suggest that representations of self and others bearing on interpretation of intentional action promote mentalization by virtue of shared anatomical circuitry (Brothers, 1997; Jeannerod, 1997; Gallese, 2000, 2001).

Of these various structures involved in mentalizing, we would emphasize the prominent role of the prefrontal cortex. The prefrontal cortex plays a central role in executive functions, which include planning and temporal ordering of responses in the context of novelty and ambiguity. In Goldberg's (2001) view, social interactions place the highest demand these executive capacities: "imagine that you have to plan and sequentially organize *your* actions in coordination with a group of other individuals and institutions engaged in the planning and sequential organization of *their* actions" (p. 107). Not surprisingly, he concludes, "The prefrontal cortex is the closest there is to the neural substrate of social being" (p. 111). Goldberg's view is consistent with extensive evidence linking theory of mind to executive functions (Baron-Cohen, 1999; Perner and Lang, 2000). Although theory of mind and executive functions develop in tandem and share neurobiological substrates, they are distinct from one another, and the extent to which the development of theory of mind builds upon executive function or vice versa has yet to be determined.

The critical link we wish to make between attachment and neurobiology is this: Mentalizing activity is contingent on an optimal level of arousal that sustains prefrontal functioning. As Schore (2001) argued, failure of attachment relationships can undermine the development of cortical structures needed to regulate affective arousal, and these are the same structures that are essential to the activity of mentalizing. Thus, we have potentially interlocking, vicious developmental circles in which attachment disturbance, affective hyperarousal, and failure of mentalization are all intertwined.

### *Impact of an Insecure Base*

Having established that a caregiving environment of mind-mindedness is a necessary condition for optimal development of the interpersonal interpretative function, we will argue that because of neglect (by which

we do not mean only physical but also psychological neglect), individuals with BPD have an inadequate capacity to represent mental states—to recognize that their own and others' reactions are driven by thoughts, feelings, beliefs, and desires. This lack of reflective capacity results because they have not received the assistance they needed to integrate the two primitive modes of experiencing the internal world. The failure to mentalize creates a kind of psychic version of an autoimmune deficiency state that makes these individuals extremely vulnerable to later brutal social environments. In such environments their “psychic autoimmune deficiency” means there is an increased risk that at a certain moment they may cease to resist the brutalization, and start sustaining their selves through social violence (e.g., Goodman and New, 2000; Stone, 2002). As a last resort, and invariably in response to humiliations that they experience as having the potential literally to destroy the self, they may take up violence as a form of self-defense.

### *Failure of Mirroring*

Previously we identified congruency and markedness as the qualities of the parent's mirroring of the child that are essential if the child is to develop the capacity for secondary representation of his or her affect states. If either of these qualities is absent, or if there is little or no attempt by the caregiver at interpretative interaction with the child, difficulties may result. Some mothers, because of their own emotional difficulties and conflicts, may find their infants' negative affect-expressions overwhelming, and may struggle to mirror their babies' emotions in a marked way. They are likely to react to their infant's negative emotions by reflecting them accurately, but in an *unmarked, realistic* manner. When this happens, the mirroring affect-display will be attributed to the parent as his or her real emotion, and it will not become anchored to the infant either. Consequently, the secondary representation of the baby's primary emotion-state will not be established, leading to a corresponding deficiency in self-perception and self-control of affect. Since the infant will attribute the mirrored affect to the parent, he will experience his or her own negative affect “out there” as belonging to the other, rather than to himself. Instead of regulating the infant's negative affect, the perception of a corresponding realistic negative emotion in the parent will escalate the baby's negative state leading to traumatization rather than

containment (Main and Hesse, 1990). This constellation corresponds to the clinical characterization of *projective identification* as a pathological defensive mechanism characteristic of a borderline level of personality functioning (Klein, 1946; Segal, 1964; Kernberg, 1976; Sandler, 1987). The features of impoverished affect regulation, excessive focus on physical rather than psychic reality and oversensitivity to the apparent emotional reaction of the other are clearly features that mark the mental functioning of certain individuals prone to violent acts and these may be traced back to these patterns of early mirroring. We hypothesize that sustained experience of accurate but unmarked parental mirroring in infancy might play an important causal role in establishing projective identification as the dominant form of emotional experience in personality development characteristic of individuals with BPD. On the other hand, if the caregiver's attempt at mirroring is *not contingent*, if it does not match the infant's primary experience, then there will be a tendency toward the establishment of a narcissistic false-self-like structure where representations of internal states correspond to nothing real.

### *Lack of Playfulness*

In a playful parent-child relationship feelings and thoughts, wishes and beliefs can be experienced by the child as significant and respected on the one hand, but on the other as not being of the same order as physical reality, allowing for modification of both the pretend mode and the psychic equivalence mode of functioning in a transitional space. In individuals whose caregivers were unable to facilitate the development of the capacity for robust representations of internal states, the primitive modes of psychic reality, the pretend mode, and the mode of psychic equivalence persist into adulthood. While extreme physical neglect of the kind that comes to the attention of child protection services will obviously undermine the acquisition of the capacity to mentalize through the mediation of the primary object, much more subtle (what one might call "middle-class") forms of psychological neglect are equally deleterious to the emergence of mentalization. Neglect associated with increasing financial and social pressures on the modern Western family is widely reviewed (at times in terms verging on moral panic) and will not be considered here. It is clear that single-parent and dual-employment households are increasing and that the amount of time parents (particularly

fathers) spend with children is surprisingly low according to most surveys (e.g., National Institute of Child Health and Human Development [NICHD] Early Child Care Research Network, 1996). The average father spends just 7.5 minutes per week in one-to-one contact with his child.

The caregiver's failure to provide a relationship in the context of which mentalization and the sense of self as a psychological entity can develop leads to the persistence of the more primitive modes of psychic reality. The persistence of the mode of psychic equivalence is a key aspect of the tendency of individuals with BPD to express and cope with thoughts and feelings through physical action, against their own bodies or in relation to other people. Violent individuals violate themselves as much as or more than they violate others (Gilligan, 1997); examples from one of England's high-security prisons include not just self-cutting and swallowing razor blades but gouging eyes out and inserting bedsprings into urethras. Not being able to feel "themselves" (their self-states) from within, they are forced to experience the self through action (enactments) from without. Individuals with BPD may oscillate between this and the pretend mode of experiencing internal reality. Equally devoid of mentalization, in the pretend mode the individual allows himself to imagine a world with the proviso that it must be completely separated from physical reality. The heir of the pretend mode of psychic reality is dissociated thinking. In dissociated thinking, nothing can be linked to anything—the principle of the "pretend mode," in which fantasy is cut off from the real world, is extended so that nothing has implications for anything else (Fonagy and Target, 2000). The compulsive search for meaning is a common reaction to the sense of emptiness that the pretend mode generates. As we noted earlier, the borderline individual is at times hypersensitive to the emotional states of mental health professionals and family members, yet without achieving actual insight or intimacy. The reflective capacity is hijacked into the pretend mode of experience, in which psychological events, like relationships, are idealized but emptied of emotional depth.

*Enfeebled Affect Representation and  
Attentional Control*

The lack of a stable sense of a representational agentive self is of central importance to our understanding of BPD. The capacity for symbolic

representation of one's own mental states is clearly an essential prerequisite of a sense of identity. Those who lack it are not only deficient in self-love, but will lack an authentic, organic self-image built around internalized representations of mental states. The absence or weakness of a representational agentive self brings to the foreground a nonmentalizing self working on teleologic principles, leaving the child, and later the adult, with an inadequate understanding of their own subjectivity and of the interpersonal situations they encounter on a daily basis, and consequently with sometimes intense affect which remains poorly labeled and quite confusing and hence difficult to regulate. The capacity for attentional control, which enables the moderation of impulsivity, is also compromised. Posner and Rothbart (2000) have termed the ability to inhibit a dominant response to perform a subdominant response "effortful control by attention." Early attachment, which allows the child to internalize the mother's ability to divert the child's attention from something immediate to something else (Fonagy, 2001), serves to equip children with this capacity.

### *Disorganization of Attachment*

The converse of the association of high levels of parental RF with good outcomes in terms of secure attachment in the child is naturally that low RF generates insecure and perhaps disorganized attachment. The latter category of attachment in infancy is most likely to be associated with aggressive and potentially violent behavior later in development. A good proportion of toddlers who go on to manifest conduct problems show disorganized attachment patterns in infancy (Lyons-Ruth, 1996; Lyons-Ruth and Jacobovitz, 1999). The nature and origin of this attachment pattern, characterized by fear of the caregiver and a lack of coherent attachment strategy (Main and Solomon, 1986), is as yet poorly understood (Solomon and George, 1999). Some evidence is available that links it with frightening or dissociated behavior on the part of the caregiver (Lyons-Ruth, Bronfman, and Atwood, 1999; Schuengel et al., 1999). Some attachment theorists have linked it with an approach-avoidance conflict on the part of the infant (Main and Hesse, 1992), while others consider it reflective of a hostile-helpless state of mind in the caregiver (Lyons-Ruth et al., 1999) or an indicator of inadequate self-organization (1999; Fonagy and Target, 1997). The suggestion here is that poor RF

undermines attachment processes, leading to the development of a disorganized self, parts of which are experienced as “alien” or not really belonging to the self. In the absence of the capacity for mentalization, the coherence of this self can only be ensured by primitive strategies such as projective identification. It is the impact of attachment disorganization upon an agentive self that might be most important for us in understanding BPD.

### *Establishment of the “Alien Self”*

An important complication arises from the processes that generate the failure to achieve a representational agentive self. In early childhood the failure to find another being behaving contingently with one’s internal states and available for the intersubjective processes detailed above that permit the creation of the representational self can create a desperation for meaning as the self seeks to find itself, its mirror image, in the other. This desperation leads to a distortion of the intersubjective process and leads the individual to take in noncontingent reflections from the object. Unfortunately, as these images do not map onto anything within the child’s own experience, they cannot function as totally effective representations of the self. As Winnicott (1967) noted, inaccurate mirroring will lead to the internalization of representations of the parent’s state rather than of a usable version of the child’s own experience. This creates what we have termed an *alien experience within the self*: ideas or feelings are experienced as part of the self which do not seem to belong to the self (Fonagy, Leigh et al., 1995; Fonagy and Target, 2000). The representational agentive self is not effectively established for the neglected child because the second-order representations of self-states are distorted by containing within themselves representations of the other.

These representations of the other internalized as part of the self probably originate in early infancy when the mother’s RF at least partially but regularly failed the infant. The infant, trying to find herself in the mother’s mind, may find the mother instead, as Winnicott (1967, p. 32) so accurately put it. The image of the mother comes to colonize the self. Because the alien self is felt to be part of the self it destroys any sense of coherence of self or identity, which can only be restored by constant and intense projection. Clinically, the projection is not motivated by guilt, but by the need to reestablish the continuity of self-experience.

The residue of maternal nonresponsiveness, this alien other, probably exists in seed form in all our self-representations, as we have all experienced neglect to a greater or lesser extent (Tronick and Gianino, 1986). Normally, however, parts of the self-representation which are not rooted in the internalized mirroring of self-states are nevertheless integrated into a singular, coherent self-structure by the capacity for mentalization. The representational agentive self creates an illusion of coherence within our representations of ourselves by attributing agency, accurately or inaccurately assuming that mental states invariably exists to explain experience. Dramatic examples of this have been noted long ago in studies of individuals with neural lesions, such as individuals with surgical bisections of the corpus callosum, so-called split-brain patients (Gazzaniga, 1985). When presented with emotionally arousing pictures in the hemi-field without access to language, they would find improbable mentalized accounts for their heightened emotional state. They are also material for entertainment in stage hypnosis demonstrations and a source of scientific controversy when hypnosis is used to assist in the recovery of repressed memories (Dywan and Bowers, 1983; Kihlstrom, 1994; Spiegel and Schefflin, 1994).

### *Controlling Internal Working Models*

The normal process of attributing agency through putative mental states preconsciously works in the background of our minds to lend a coherence and psychological meaning to one's life, one's actions, and one's sense of self. This may indeed be an important psychological function of the fully fledged autobiographical agentive representational self. Individuals whose capacity for mentalization is not well developed may need to use controlling and manipulative strategies to restore coherence to their sense of self. The "alien" aspects of the self may be externalized into an attachment figure. Using processes often described in the clinical literature as projective identification, the attachment figure is manipulated into feeling the emotions that have been internalized as part of the self but are not entirely felt to be "of the self." These are not self-protective maneuvers in the sense of needing to shed feelings which the individual cannot acknowledge; rather, they protect the self from the experience of incongruence or incoherence that has the potential to generate far deeper anxieties (cf. Kohut, 1977; Kernberg, 1982, 1983). The attachment figure

thus performs a “life-saving” or, more accurately, a “self-saving” function by ridding the self of the unbearable internal representations. Apparently coercive, manipulative behavior reflects the individual’s inability to contain the incoherence of his self-structure. Unfortunately, in performing this function, in becoming, for example, angry and punitive in response to unconscious provocation, the attachment figure is in the worst possible state to help restore the afflicted individual’s mentalizing function, because she has lost touch with his mental world. In adults such predisposition to projective identification is likely to mark severe psychological disturbance.

### *Impact of Attachment Trauma*

Attachment trauma is often, though not always, part of the history of individuals diagnosed with BPD (Cohen, Brown, and Smaile, 2001; Sansone, Gaither, and Songer, 2002). Although we know that different types of trauma play a significant role in the psychogenesis of personality disorder (e.g., Johnson et al., 1999), we believe that it is the persistence of the mode of psychic equivalence, associated with early psychological neglect, that subsequently makes these individuals particularly vulnerable to such harsh social experiences. In cases where individuals with BPD are violent, the brutalization of attachment, of affectional bonds, in childhood or adolescence, and even in young adulthood, appears to be a necessary, but not a sufficient condition for aggravated assault and murder. Weakness in the capacity for mentalization due to noncontingent mirroring and the absence of child focused intersubjective interpersonal interactions undermines the links between internal states and actions and creates subsequent difficulties when the individual’s resources to understand are challenged by the hostility and destructiveness of their world.

Trauma commonly brings about a partial and temporary collapse of interpersonal interpretive function. We have both clinical and experimental evidence for this. The disorganizing effects of trauma on attention and stress regulation are well known and hardly need going over again (Allen, 2001). The capacity for mentalization is undermined in a significant proportion of individuals who have experienced trauma. Maltreated toddlers have difficulty in learning to use internal state words (Cicchetti and Beeghly, 1987; Beeghly and Cicchetti, 1994). Young adults who have been maltreated experience greater difficulty with the reading the

mind in the eyes test—a relatively simple measure of mentalization (Fonagy, Stein, and White, 2001).

### *Failure of Mentalization*

The loss of mentalizing capacity is experienced at a number of levels beyond the lack of interpersonal sensitivity contingent on appropriate interpretation of the mental states of others. These include (1) poor organization of self-states leading to a breakdown of the sense of identity that is rooted in the appropriate interpretation of subjectivity; (2) the reemergence of developmentally primitive modes of representing self-experience (the agentive self) such as teleologic reasoning, the pretend mode (dissociation) and psychic equivalence; and (3) the reemergence of discontinuities in the experience of the self with the disappearance of the mentalizing narrative processes that normally underpin the illusion of self-coherence and continuity.

Especially in individuals in whom the capacity for mentalization is already weak, trauma may bring about a complete collapse. The collapse of mentalization in the face of trauma entails a loss of awareness of the relationship between internal and external reality (Fonagy and Target, 2000). Where the ability to mentalize is lost, the modes of experiencing psychic reality that antedate the achievement of mentalization in normal development reemerge. The mode of “psychic equivalence” is apparent when the traumatized individual starts fearing his own mind, not wanting to think. Flashbacks are terrifying as they are memories experienced in the mode of psychic equivalence. The alternative to this mode of functioning, the heir of the pretend mode of psychic reality, is dissociation in the wake of trauma. The most characteristic feature of traumatization is the oscillation between these two modes of experiencing internal reality. The teleologic aspect of patient’s thinking becomes obvious in the concreteness of their ideations surrounding the goals of relationship experience. No longer is it sufficient to think of being loved; love as a state of mind is felt to be real only when physical evidence is available that it has been achieved. “If you truly care about me, then you will come to work and see me on Sunday to make up for my missed session last week.” Or, “You will let me hold your hand or sit in your lap,” and so forth.

*Changes to the Arousal “Switch”*

Although psychological trauma is a functional route to impaired mentalizing, neurobiologic approaches underscore how trauma may compromise the development of cerebral structures that support mentalizing. As noted earlier, Schore (2001) reviewed extensive evidence that secure attachment relationships are essential to the normal development of prefrontal cortex and thus to affect regulation. Hence early maltreatment, which is associated with extremely compromised (disorganized) attachment (Crittenden, 1997; Hesse and Main, 2000), is most likely to undermine the development of cortical structures key to mentalization.

Not only may trauma undermine the development of cerebral structures crucial to mentalization but also the reexperiencing of trauma (i.e., in posttraumatic flashbacks) is associated with alterations in cerebral functioning consistent with impaired mentalization such as Mollon (1998) described. Arnsten (1998; Arnsten et al., 1999) and Mayes (2000, submitted) have linked extreme stress to altered dynamics in arousal regulation in a way that is highly pertinent to trauma. They describe how increasing levels of norepinephrine and dopamine interact with each other and differentially activate receptor subtypes so as to shift the balance between prefrontal executive control and posterior-subcortical automatic control over attention and behavior. Mild to moderate levels of arousal are associated with optimal prefrontal functioning and thus to employment of flexible mental representations and response strategies conducive to complex problem solving. On the other hand, extreme levels of arousal trigger a neurochemical switch that shifts the individual into posterior cortical-subcortical dominance such that vigilance, the fight-or-flight response, and amygdala-mediated memory encoding predominate. In effect, high levels of excitatory stimulation (at alpha-1 adrenergic and D1 dopaminergic receptors) take the prefrontal cortex offline. This switch in attentional and behavioral control is adaptive in the context of danger that requires rapid automatic responding. Yet Mayes (2000) points out that early stressful and traumatic experiences may permanently impair the dynamic balance of arousal regulation, altering the threshold for this switch process. Hence, sensitized individuals may be prone to impaired prefrontal functioning in the face of stress, with automatic posterior-subcortical responding taking control of attention and behavior, undermining flexible mental representations and coping.

These proposals regarding impaired arousal regulation and shifting the balance of prefrontal-posterior cortical functioning are consistent with neuroimaging studies employing symptom provocation in persons with posttraumatic stress disorder (PTSD). Such induced posttraumatic states are associated with diminished medial prefrontal and anterior cingulate activity (Rauch et al., 1996; Bremner, Narayan, et al., 1999; Bremner, Staib, et al., 1999; Lanius et al., 2001; Shin et al., 2001). Van der Kolk and colleagues viewed findings showing deactivation in Broca's area in posttraumatic states as indicative of "speechless terror" and concluded that, in such states, "the brain is 'having' its experience. The person may feel, see, or hear the sensory elements of the traumatic experience, but he or she may be physiologically prevented from translating this experience into communicable language" (p. 131).

We propose a synergy between psychological defenses, neurobiologic development, and shifts in brain activity during posttraumatic states such that mentalizing activity is compromised. The shift in the balance of cortical control locks the traumatized person into the psychic equivalence mode, associated with an inability to employ alternate representations of the situation (i.e., functioning at the level of primary rather than secondary representations), much less the ability to explicate the state of mind (metarepresentation), or the pretend mode, associated with states of dissociative detachment.

*Consequences of Reemergence of Psychic Equivalence,  
Pretend Mode, and Teleologic Stance*

The weakness of the capacity for mentalization and the reemergence of more primitive modes of experiencing psychic reality make individuals with a history of psychological neglect exceptionally vulnerable to brutalization in attachment contexts. The attacks cannot be attenuated by mentalization of the pain engendered by the dehumanization of attachment. Unmentalized shame is not an "as if" experience. Whereas an individual with a robust capacity for mentalization might be able to see what lies behind the attack, its meaning, and not mistake it for the possibility of a real destruction of the ego, a person in whom this capacity is weak or absent will experience it as tantamount to the destruction of the self. It would not be an exaggeration to label this emotion "ego-destructive shame." The coherence of the self-representation, identity

itself, is under attack. Ultimately, brutalization, if sufficiently severe, will generate ego-destructive shame even in those with exceptional capacities for mentalization. The humiliation is so intense that all things felt to be internal (subjectivity) become experiences to be resisted. In describing their experience of brutalization, prisoners frequently report finding the very act of thinking unbearable. Explicit phrases such as “I stopped thinking,” “I went numb,” and “I could not bear to think” are quite common antecedents to the point where victim turns into victimiser. Impulsivity in BPD may be seen as representations of intentional actions generated by the “teleologic stance.” The principle of rational action still guides impulsive acts but as a function of available evidence about the “pragmatic” aspects of a goal object, about the specific situational constraints on action, and about the dispositional constraints characteristic of the actor. Thus, for example, prior intention is not attributed to the other and the consequences of the action are not predicted, commonly leading to sizable interpersonal conflicts and other social disasters.

Why should the brutalization of affectional bonds be associated with such an intense and destructive sense of self-disgust verging on self-hatred? The shame concerns being treated as a physical object in the very context where special personal recognition is expected. Unbearable shame is generated through the incongruity of having one’s humanity negated, exactly when one is legitimately expecting to be cherished. Violence or the threat of violence to the body is literally soul-destroying because it is the ultimate way of communicating the absence of love by the person inflicting the violence, from whom understanding is expected. As Freud (1914) taught us, the self is sustained by the love of the object so it can become self-love; the sign of a self starved of love is shame, just as cold is the indication of an absence of heat (Gilligan, 1997). And, just like cold, shame, while painful as an acute experience, when intense and severe, is experienced as a feeling of numbness or deadness.

### *Exposure of the “Alien Self”*

As we saw earlier, when in infancy mirroring fails, when the parent’s perception is inaccurate or unmarked, or both, the child internalizes a noncontingent mental state as part of a representation within the psychological self. These internalizations sit within the self without being

connected to it by a set of meanings. We have called the resulting incoherence within the self-structure an “alien self” (Fonagy and Target, 2000). Such incoherencies in self-structure are not only features of profoundly neglected children. Even the most sensitive caregiver is insensitive to the child’s state of mind over 50 percent of the time. Thus we all have alien parts to our self-structure. The coherence of the self, as many have noted, is somewhat illusory. This illusion is normally maintained by the continuous narrative commentary on behavior that mentalization provides, which fills in the gaps and makes us feel that our experiences are meaningful. In the absence of a robust mentalizing capacity, with disorganized patterns of attachment, the disorganization of the self-structure is clearly revealed.

But when trauma inhibits mentalization, the self is suddenly experienced as incoherent. There are parts within that feel like the self yet also feel substantively different, sometimes even persecutory. The only way the individual can deal with this is by constantly externalizing these alien parts of the self-structure into the other, so that he can feel whole. At the simplest level, the world then becomes terrifying because the persecutory parts are experienced as outside. At a more complex level, it is felt essential that the alien experiences are owned by another mind, so that another mind is in control of these parts of the self.

We are now in a position to gain some understanding of the acts of violence against self or others committed by certain sufferers of BPD. For such individuals, an act of violence may represent the perverted restoration of a rudimentary mentalizing function. Whether impulsive or calculated, the act of violence is rarely one of blind rage. Rather, it is a desperate attempt to protect the fragile self against the onslaught of shame, often quite innocently triggered by an other (the act may often seem disproportionate to the provocation). The experience of humiliation, which the individual tries to contain within the alien part of the self, comes to represent an existential threat and is therefore abruptly externalized. Externalization can equally occur in another as on the self (the body). Depending on which of these mechanisms dominate, the destruction is aimed against the body of the other or of the self. Once outside, and perceived as part of the representation of the victim in the perpetrator’s mind, it is seen as possible to destroy once and for all. In this sense acts of violence such as self-cutting or burning or attacking the physical integrity of the other may be considered as a gesture of

hope, a wish for a new beginning, even if in reality it is usually just a tragic end.

It is hard to feel empathy for violent actions. Often they directly generate a shutting down of mentalization in the person observing the violence from the outside. Yet, in a sense, given the reality of shame in the mode of psychic equivalence, we may say that they are committed in self-defense. Violence is a defense against the destructive actuality that humiliation and ego-destructive shame experienced in the mode of psychic equivalence generate. Certain individuals may have no resources other than violence to protect their self-representation crucially weakened by their impaired mentalizing capacity. Superficially, acts of violence may be perceived as cathartic, but I believe the restoration of equilibrium has less to do with drive discharge than with the acquisition of an inner gestalt, the creation of an inner peace, an odd kind of tranquillity.

### *Conclusion*

Normally after trauma, mentalization is gradually restored in a natural process of reexperiencing a social matrix. We would even argue that the attachment system is activated by trauma precisely in order to recreate the mental closeness to others upon which a recovery of RF depends. Only in a minority is the psychological self so poorly established that the two primitive modes of experiencing the internal world persist. The persistence of trauma is the result of experiencing the events of the trauma in an unmentalized way. The therapeutic approaches that are effective in treating victims of trauma have in common the provision of a secure framework to support the recovery of the patient's mentalizing capacity. In successful treatment, the patient gradually comes to accept that feelings can safely be felt and ideas may safely be thought about. There is a gradual shift to experience of the internal world as separate and qualitatively different from external reality. The internalization of the analyst's concern with the minutiae of feeling and interpretation enhances the patient's capacity for similar concern toward her own experience.

If mentalization is at the heart of the analytic process, then the total suspension of concern with reality must be contraindicated, at least with patients prone to a pretend mode of psychic reality. If a patient is totally

unconcerned with external reality and is in an “enclave” with the analyst where highly complex internal states appear to be almost too readily discussed, the patient is probably functioning in the pretend mode, in which case interpretations are likely to make little impact.

Helpful interpretations of the transference require an intersubjective context, focusing on the patient’s awareness of being in the presence of other subjectivities. Several technical innovations of the London Kleinians (Schafer, 1994) are consistent with this approach, particularly Joseph’s (1985) focus on transference as a living, changing set of relationships generated sometimes quite subtly in the consulting room; Steiner’s (1994) suggestion concerning interpretations of the patient’s perception of the analyst’s mind (analyst-centered interpretations); and Feldman’s (1993) focus on the reality of the patient–analyst interaction. All these imply that the analytic situation is not in any sense split off from external reality as classically suggested, but is an actual relationship which is as much part of the patient’s external world as all other domains of his or her life. As in the relational approach, the distinction between the analyst’s real feelings and the patient’s attributions to him is highlighted, and the intersubjective relationship is experienced as having real contributions from both patient and analyst, from inside and outside. This does not mean that unconscious expectations are not at the forefront of the interpretive process, but it does imply the reality of the relationship. Losing external reality risks regression into a mode of pretend, which, while on the surface may carry the hallmarks of an analysis, fails to engage the mental processes that would make psychotherapy yield lasting change.

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