

Reconciling Psychoanalytic Ideas with Attachment Theory

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Introduction

The relationship between attachment theory and psychoanalysis, historically, has not been an easy one (Cassidy & Shaver, 2008; Eagle, 2013; Fonagy, 2001). But in recent years, developments in both fields have led to a growing rapprochement (Eagle, 2013; Holmes, 2009). Changes in psychoanalytic thinking have made it more accommodating of attachment thinking; conversely, aspects of the development of attachment findings, applications, and theory have made it more pertinent to psychoanalysis.

In this chapter we examine the disagreements between psychoanalysis and attachment theory, and point to some of the two disciplines' common foundations. We then describe an approach to the role of attachment in human development that considers it in relation to the capacity to mentalize, that is, to understand ourselves and others in terms of intentional mental states, and places both attachment and mentalizing in the context of the development of epistemic trust—the capacity to trust others as a source of knowledge about the world. This approach builds on some of Bowlby's assumptions drawn from evolutionary biology, placing some of the better founded psychoanalytic criticisms of attachment theory in a different perspective. We suggest that this context allows the ongoing significance of Bowlby and Ainsworth's thinking for the psychoanalytic project to be appreciated.

Traditional Psychoanalytic Developmental Theory and Attachment Theory:

More Different Than Alike?

In his biography of Bowlby, Holmes (1993) identified four points of disagreement with psychoanalysis: (1) the psychoanalytic emphasis on the patient's *internal phantasies* at the expense of environmental influences and the patient's real, lived experiences; (2) what Bowlby perceived as the spirit of *rigid dogmatism* within the psychoanalytic world, which was at odds with intellectual creativity and scientific enquiry; (3) psychoanalytic metapsychology, which Bowlby considered to be a speculative approach to understanding the

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human mind which is not open to empirical verification; and (4) the lack of empirical observation to underpin psychoanalytic theories.

Through his focus on the measurable and on the child's environment, Bowlby demanded causal clarity and an epistemological refinement of psychoanalytic thinking. The adoption of an empirical approach to clarifying and examining the validity of psychoanalytic ideas is still controversial within the clinical psychoanalytic tradition (Aron, 2012; Hoffman, 2009; Stern, 2013), although certain strands within psychoanalysis have taken a more positive approach to empirical research (Luyten, Blatt, & Corveleyn, 2006; Luyten, Blatt, Van Houdenhove, & Corveleyn, 2006).

Bowlby's ethological approach raised considerable challenges for the psychoanalytic position. Attachment was depicted by Bowlby as a form of behavior that the infant adapts according to environmental stimuli. The reflexive, flatly uniform quality that derived from an evolutionary and ethological perspective on attachment seemed starkly opposed to the humanism of the psychoanalytic impulse to recognize and engage with the complexity of individual subjectivity (Chused, 2012; Quinodoz, 1996).

Attachment was also at odds with traditional drive-oriented psychoanalytic theory, which posited that the first few weeks and months of an infant's life were almost solely characterized by drive discharge. Hence, drives were seen as primary; *objects* (i.e., attachment figures) were seen as secondary (Greenberg & Mitchell, 1983). Objects entered the scene only because of the failure of pure primary process functioning, when hallucinatory wish-fulfillments (e.g., imagining the mother's breast) failed to yield real gratification, which secondarily generated social awareness and engagement (Freud, 1915). This view could not be reconciled with Bowlby's insistence on the primacy of attachment relationships, their evolutionary functions, and, by implication, the fact that infants were fundamentally and from the beginning of life positively oriented towards others.

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Finally, attachment theory was accused of neglecting the developmental role of sexuality and aggression, which are seen as the central human urges in traditional psychoanalysis, responsible for continuous internal conflict and justifying defensive operations (Meissner, 2009). In contrast to the psychoanalytic understanding of human nature and relationships in terms of conflict and compromise (Geyskens, 2003), attachment theory appeared to reduce human relationships to a smooth evolutionary pre-wired unfolding process. Thus, particularly in Neo-Freudian and Lacanian circles, adopting attachment theory would mean a betrayal of fundamental hard-fought insights into the nature of human development (Symons, 2008; Widlocher & Fairfield, 2004; Zamanian, 2011).

The Response of Major Psychoanalytic Thinkers

Predictably, given the major differences in assumptions about the fundamentals of development, attachment theory met with fierce resistance from the psychoanalytic community.

Bowlby's focus on the impact of the lived reality of the child's early emotional experiences, normally in relation to the mother, has distinct parallels with Winnicott's recognition of the significance of the early caring environment. However, Winnicott, one of the best-known psychoanalytic developmentalists, was unhappy with Bowlby's use of ethology and the statistical approach at the expense of the clinical case study, and was concerned about the loss of the complexity of individual subjectivity (Abram, 2008). Thus, although in retrospect we might locate Bowlby's work within the object relations school of psychoanalytic thinking, with both Bowlby and Winnicott emphasizing the significance of the relationship between infant and caregiver, this was not straightforwardly perceived as a shared intellectual project (Keller, 2011).

Anna Freud, one of the great psychoanalysts of Bowlby's era, was also one of the first psychoanalysts to adopt a coherent developmental perspective on psychopathology. She

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argued that psychological disorder is most effectively studied in its developmental evolution, asserting that it is the profile or pattern among different developmental lines that best captures the nature of the risk faced by the individual child. This view foreshadowed and laid part of the foundation of contemporary developmental psychopathology (Cicchetti, 2013). Anna Freud's developmental lines included, for instance, the line from dependency to self-reliance to adult object relations, so central in attachment theory. But her theory was broader and also included the line from irresponsibility to responsibility in body management, the line from egocentrism to social partnership, and so forth. Unevenness of development was considered a risk factor, and treatment in certain cases adopted the modified aim of restoring the child to the path of normal development (developmental help) (Midgley, 2012).

Despite their shared emphasis on development, Anna Freud was deeply unsympathetic to attachment theory. And, despite her own observations to the contrary, in her theoretical writings Anna Freud based the child's early relationship with the mother on sexual instinctual needs, in line with traditional drive theory. Although she was well aware of unevenness in ego development, she rarely saw this as caused by relationship disturbance. While her clinical focus and interventions were to a marked extent focused on optimizing the social context of the child, her theoretical writings appeared to be constrained by an adherence to classical psychoanalytical ideas (Young-Bruehl, 2011).

Melanie Klein was the third great thinker who shaped the psychoanalytic milieu within and against which Bowlby worked. Klein's disagreements with Anna Freud have been well-documented (Gabbard & Scarfone, 2002); their shared suspicion of attachment theory was perhaps one of the few things that united them. Klein was one of the founders of the object relations school, which, with its conception that subjective experience shapes one's behavior and relationships, considerably narrowed the gap between attachment theory and psychoanalysis (Mikulincer & Shaver, 2007). The relationship between Klein and Bowlby's

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thinking was both intimate and highly adversarial, and the points of contact are worth examining because of the great influence of Kleinian thinking on contemporary psychoanalysis (e.g. Brown, 2011).

Klein saw mental structures as arising out of a variety of internal objects (phantasies about people in the infant's life), which change in character as the child develops from infancy. The infant's phantasies are modified by actual experiences of interaction with the environment. Bowlby was deeply influenced by Kleinian thought, and traces of his training and experience in the British Psychoanalytic Society, which was predominantly Kleinian, can be readily identified in his writings. For example, his focus on the first year of life as a crucial determinant of later developmental outcomes is highly compatible with the Kleinian approach. Perhaps most important is the intimate connection that both bodies of work envision between emotional experiences and the cognitive apparatus underpinning thought. This is expressed most clearly in the last volume of Bowlby's trilogy (1980) and in Bion's (1997) elaboration of Klein's ideas. Even in opposition, many of Bowlby's ideas were reactions against the Kleinian influence on him.

One of Bowlby's central objections to Kleinian psychoanalytic theory was its neglect of actual experience and the assumption that a child's anxieties arise predominantly from constitutional tendencies, such as innate (i.e., drive-related) aggression (Klein, 1936). However, recent post-Kleinian psychoanalysts have been quite successful at integrating environmental accounts with Klein's ideas (e.g., Ferro, 2006). The child's capacity to cope with the pain and anxiety of the depressive position, seeing himself or herself as destructive and envious, is now generally attributed in more contemporary Kleinian views to external as well as constitutional factors (Vermote, 2011).

Areas of Integration between Psychoanalysis and Attachment Theory

Several trends within psychoanalysis have paved the way for a rapprochement with attachment theory. For a start, psychoanalysis has become more pluralistic and accepting of differences (Holmes, 2009). The emergence of a relational and relationship-focused emphasis in modern psychoanalysis has also led to increasing interest in the formative nature of the child's social environment, and object relations theory has played a pivotal role in this context (Aron & Leichich, 2011; Brown, 2010; Epstein, 2010). In this section we will consider more closely some of the most important areas of integration between psychoanalysis and attachment theory.

The Internal Working Model

Bowlby's attachment theory, like classical psychoanalysis, has a biological focus (see especially Bowlby, 1969). Bowlby's critical contribution was his unwavering focus on the infant's need for an unbroken (secure) early attachment to the mother. He emphasized the survival value of attachment in enhancing safety through proximity to the caregiver in addition to feeding, learning about the environment and social interaction, and protection from predators.

Perhaps not surprisingly, psychoanalysts were horrified by this apparently simplistic approach, which bore the hallmarks of the worst excesses of behaviorist reductionism. However, in the second volume of *Attachment and Loss*, Bowlby established the set goal of the attachment system as maintaining *the caregiver's accessibility and responsiveness*, which he covered with a single term: "availability" (Bowlby, 1973, p. 202). This availability translates into the confident expectation, gained from "tolerably accurately" (Bowlby, 1973, p. 202) represented experience, over a significant time period, that the attachment figure will be available. The attachment behavioral system thus came to be underpinned by a set of

representational models or, following the pioneering psychologist Craik (1943), internal working models (IWMs; see Bretherton & Munholland, Chapter xx, this volume).

The positing of a representational system underpinning attachment permitted a far more sophisticated consideration of individual differences (Bowlby, 1973, 1980). Given the power of the biological forces driving the human attachment system, Bowlby assumed that almost all human beings will become attached. The concept of the disorganization of the attachment system was not yet available (Main & Solomon, 1986); for Bowlby, attachment could be only secure or insecure. Secure attachment implied a representational system in which the attachment figure was seen as accessible and responsive when needed. Anxious attachment implied a somewhat dysfunctional system in which the caregiver's responsiveness was not assumed and the child adopted strategies for circumventing his or her perceived unresponsiveness (Ainsworth, Blehar, Waters, & Wall, 1978).

Thus, the central feature of the IWM concerned the infant's encoding interactions in terms of what they implied about the expected availability of the attachment figure. Bowlby also envisioned a complementary working model of the self. The key feature of this was how acceptable or unacceptable the child felt in the eyes of the attachment figure. A child whose IWM of the caregiver was focused on rejection was expected to evolve a complementary working model of the self as unlovable, unworthy, and flawed. Although not explicitly stated by Bowlby, these models of the attachment figure and the self were somewhat transactional, interactive models representing self–other relationships. The explanatory power of Bowlby's model rested in his proposal that these encoded expectations were capable of providing prototypes for all later close relationships.

Bowlby's original concept has been elaborated by some of the greatest minds in the attachment field (see Bretherton & Munholland, 2008). Through the working model, Bowlby created a wider theory about the construction of the psyche, which is sometimes under-

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represented in the more schematic portrayals of attachment theory. In *Loss*, for instance, Bowlby described how an individual defensively excludes stimuli that are incompatible with the IWM, leading to an inability to accommodate external reality, often in relation to other people's emotional states or attachment needs. This led to a new take by Bowlby on repression and dissociative phenomena (the kind of territory more normally associated with psychoanalytic thinking), which are often the result of deactivation of the attachment system (Dykas & Cassidy, 2011)—most notably in a disorganized individual dealing with grief or bereavement (Bretherton & Munholland, 1999).

The concept of the IWM was key to the rapprochement with psychoanalytic object relations theory and psychoanalysis more generally (e.g., Blatt, Auerbach, & Levy, 1997; Wachtel, 2009, 2010). This so-called “move to the level of representation” (Main, Kaplan, & Cassidy, 1985) was elaborated by Main and colleagues and has had enormous influence, particularly via the Adult Attachment Interview (AAI). Main's work (Main, Hesse, & Hesse, 2011; Main et al., 1985) reconceptualized individual differences in attachment organization as individual differences in the mental representation of the self in relation to attachment; it enabled the examination of attachment in older children and adults.

Object Relations

The notion of IWMs is consistent with psychoanalytic object relations theory's emphasis on the central role of self and object representations in development (Blatt et al., 1997; Greenberg & Mitchell, 1983; Kernberg & Caligor, 2005). In both perspectives, representations of self and others are seen as the fundamental building blocks of normal and disrupted development, with representations of self and others becoming increasingly integrated, differentiated, and positive in normal development. Fairbairn's (Fairbairn, 1952, 1963) simple insight that people are fundamentally driven by relationships and their need for them, and that the pursuit of relationships is not a secondary by-product of the primary drives

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for gratification described by Freud, is in essence highly congruent with Bowlby's insight in relation to the biological priority of the "secure base." For both attachment theory and object relations theory, it is axiomatic that the infant's psyche, his or her relationship representational structure, is shaped by early relationship experiences. As the object relations model replaced ego psychology as a dominant international psychoanalytic paradigm, attachment theory's emphasis on the innate need for a relationship came to be embraced by a majority.

Psychopathology, from these perspectives, is seen as reflecting impairments in the structure and content of mental representations of self and others (e.g., Blatt, 1974; Westen, 1991). This led to a burgeoning research literature (Huprich & Greenberg, 2003; Mikulincer & Shaver, 2007) that uses concepts denoting very similar constructs, but often with somewhat different names, ranging from object representations (Brinich, 1980) to cognitive affective schemas of self and others (self-object-affect triads) (Kernberg, 2014), role responsiveness (Sandler & Sandler, 1998), representations of interactions that have been generalized (RIGs) (Stern, 1985), and IWMs (Blatt et al., 1997). The strong psychometric contributions of attachment research were recognized and further developed by psychoanalytic researchers. In particular, the links between the adult attachment construct and object relations patterns of self-other representation have been carefully studied (Blatt et al., 1997; Loeffler-Stastka & Blueml, 2010; Luyten & Blatt, 2013; Priel & Besser, 2001).

Attachment theory's emphasis on an autonomous need for a relationship has not gone completely unchallenged within psychoanalysis (e.g., Geyskens, 2003; Green, 2005; Widlocher & Fairfield, 2004). However, the embarrassment caused by the apparently endemic neglect of childhood maltreatment (Masson, 1984; Simon, 1992) has been followed by an embrace of the trauma concept and the role of early relationships more broadly (e.g., Levine, 2014; Person & Klar, 1994). More generally, the emergence and dominance of object

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relations theory in the 1980s and 1990s contributed to increasing psychoanalytic recognition of the formative nature of the child's external, social environment. Engaging with the psychological consequences of childrearing patterns characteristic of families with serious social disadvantages has forced psychoanalysts to rethink the concept of trauma (e.g., Bohleber, 2007), bringing their conceptualization closer to attachment formulations (Allen, Fonagy, & Bateman, 2008).

Yet, as noted, not everyone agrees, and it is striking that with the growing popularity of attachment and object relations theory, interest in sexuality in psychoanalysis has declined significantly (Fonagy, 2008). This has happened despite the fact that sexuality, along with aggression, remains one of the most problematic human experiences, as evidenced by the role of sexuality and aggression in a variety of psychological problems and disorders (Fonagy & Luyten, in press; Zamanian, 2011). With some exceptions (e.g., Kernberg, 2012), the integration of attachment theory with a comprehensive theory of human sexuality and aggression remains to be developed (see Birnbaum, Chapter xx, this volume).

Relational and Relationship-Focused Psychoanalysis

The 1980s saw the beginning of an integration of relational approaches augmented and modified by the intersubjectivist vision of philosophically oriented psychoanalysts such as Stolorow (1997) and infant researchers such as Emde (Emde, Kubicek, & Oppenheim, 1997). This interpersonal relationship-focused perspective is perhaps best exemplified by the so-called relational school, partly rooted in the work of Sullivan (Benjamin, 1998; Bromberg, 1998; Mitchell & Aron, 1999; Sullivan, 1953). The theory is more of an orientation than a coherent body of ideas, and many theoreticians and clinicians who emphasize relational issues do not necessarily identify themselves as "relational psychoanalysts." Yet, relational psychoanalysis combines the concerns of modern psychoanalysis with the traditional concerns of attachment theory. It emerged as psychoanalysis moved toward the

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developmental framework established within attachment theory and other dynamic psychological approaches rooted in observing early development. Psychodynamic therapists who wish to embrace the relational approach often move toward an attachment model, albeit unwittingly (Cortina, 2001).

The relational model assumes that subjectivity is interpersonal: that is, the intersubjective replaces the intrapsychic (Mitchell, 1988). This renders the individual human mind a contradiction in terms, since subjectivity is invariably rooted in an intersubjective matrix of relational bonds within which personal meanings are embedded (Mitchell, 2000), rather than in biological drives. Unlike most other psychoanalytic theories, the relational model lacks a specific explanation of how relationality and intersubjectivity develop. For this reason, attachment theory and conclusions drawn from the observation of attachment relationships may be helpful.

Bowlby's focus on child–caregiver interaction as the primary driver of social development makes him a quintessential relational theorist. Among others he influenced, Bowlby clearly influenced Trevarthen (e.g., Trevarthen & Aitken, 2001), who argues that infants are innately predisposed to social relationships and that primary intersubjectivity characterizes the mental experience of infants during infant–caregiver interactions (Trevarthen, 1993; Trevarthen, Aitken, Vandekerckhove, Delafield-Butt, & Nagy, 2006). In addition to a predisposition to relate, attachment theory posits and describes other adaptations—including defensive processes—that develop in the context of specifically elaborated relational processes, which themselves occur at the interface between infant distress and the caregiver's response. That is, attachment theory, like relational theory, is a two-person theory of conflict and defense, which sees defenses as arising from the conflict between the infant's needs and the caregiver's responses (Lyons-Ruth, 1999, 2003).

The hypothesis of procedural representations of implicit relational knowing raises the

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theory of internal object relations to a more general “systems” conception. The implicit relational knowing of two partners or of a patient and an analyst will be altered by moments of meeting—by the enactment of a new potential that will come to be represented as a future possibility. The best-documented forms of procedural implicit relational knowing are displayed during the first 2 years of life, when interactions are registered in representations of interpersonal events in a nonsymbolic form. The unique configuration of adaptive strategies that emerges from the attachment relationship constitutes the initial organization of the child’s domain of implicit relational knowing (IWMs, proto-narrative envelopes, themes of organization, relational scripts).

In general, both attachment theorists and interpersonalists are reluctant to privilege fantasy over actuality. Interpersonal and intrapsychic factors are seen as equally important. Sullivan’s break from traditional psychoanalysis mirrors Bowlby’s conflict with the British psychoanalytic community: Bowlby shared an emphasis on dyadic relationships with interpersonalists, but he also shared with Sullivan (1964) an interest in observable behavior. Neither Bowlby nor Sullivan could specifically be labeled “behaviorist,” but they shared a systematic interest in what happens between people. For Sullivan, this entailed a detailed inquiry into who said what to whom, whereas Bowlby’s focus was on what happened in the past to explain the present.

Current relational thinking often uses psychopathological accounts of trauma to highlight the relational aspects of actual experience (e.g., Davies, 1996). “What really happened” is combined with attention to the patient’s subjective experience, not in order to separate veridical events from distortions associated with unconscious fantasy, but rather to elaborate the overwhelming nature of the experience itself—especially because the context of trauma is assumed to preclude awareness of its meanings (Pizer, 2003). It is the inherent paradox of attachment trauma that a stance of “not knowing what one knows” (Bowlby,

1988, p. 99) may be adopted to keep the crucial relationship intact. Relational psychoanalytic (Stern, 1997) and attachment-inspired (Hesse & Main, 2006) clinical descriptions provide similar formulations of dissociation linked with traumatic experience.

The Self Psychology Tradition

The emergence of self psychology from the work of Heinz Kohut (1971) has, like attachment theory, contributed to focusing psychoanalytic interest on the earliest phases of development. Self psychology grew out of the increasing dominance of object relations theory, but because its origins were in North America it was less affected by the Kleinian focus on aggression and destructiveness. The work of Kohut revolutionized North American psychoanalysis in the last decades of the 20th century. Kohut broke the iron grip of ego psychology by forcing psychoanalysts to think in less mechanistic terms—in terms of selfhood rather than psychological function and *selfobjects* rather than the drive gratification provided by the object.

Self psychology holds empathy to be central in both development and therapy (Ornstein, 2008); without it we would not have access to the world of the other. Empathy is a process that emerges between two or more people when their interaction creates the possibility of a world of meanings based on mutual understanding, and empathy generates a sense of connection through dialogue (Orange, 2009). The seminal contribution of Kohut (1971, 1977; Kohut & Wolf, 1978), at least in the context of this chapter, lies in his innovative suggestion that the development of narcissism (originally self-love or self-esteem) has its own developmental path, and that caregiving individuals (objects) serve special functions along this line of development, as selfobjects that evoke the experience of selfhood. Empathic responses from the selfobject facilitate the unfolding of infantile grandiosity and encourage feelings of omnipotence, which enable the building of an idealized image of the parent with whom the child wishes to merge. This “transmuting internalization of the

mirroring function” gradually leads to a consolidation of a nuclear self (Kohut & Wolf, 1978, pp. 414–416). The idealization of the selfobject leads to the development of ideals. At the opposite pole of this ‘bipolar self’ is a representation of natural talents gained through the mirroring function. Selfobjects continue to be needed throughout life, to some degree, to sustain self-cohesion (Kohut, 1984). Kohut’s self psychology relies on the notion of attachment as a central motivation for the establishment and maintenance of self-cohesiveness (Shane, Shane, & Gales, 1997). Like Bowlby, Kohut replaced the dual drives of classical analysis with a relational construct. Like Winnicott, he linked self-development with mirroring or maternal sensitivity. And like attachment theorists, he reversed the relationship of drives and self-structure, regarding the self as superordinate and drive conflicts as indications of “an enfeebled self” (Kohut, 1977).

Unlike attachment theorists, however, self psychologists view the cohesion of the self as the primary motivation guiding human behavior rather than as a biologically predefined relationship pattern. Kohut separated anxiety about object loss from anxiety about disintegration of the self. For self psychology, the root of anxiety is the self’s experience of a defect, a lack of cohesiveness and continuity (Cohler & Weiner, 2011). This subtle but important shift of emphasis relegates the attachment figure to second place.

It is also difficult to identify within attachment theory a concept analogous to grandiosity or omnipotence as naturally occurring in infant development. The notion of infantile omnipotence is certainly challenged by findings indicating that on the majority of occasions the infant is not able to elicit synchronous (mirroring) behavior from the mother (Tronick, 2007). Although infants undoubtedly enjoy experiences of mastery (Rochat, 2009), there is no evidence that this leads to a sense of omnipotence. It seems far more likely that we are once more encountering the problematic tendency of psychoanalytic thinkers to describe

infant behavior in terms of adultomorphic constructs. This is the very problem Bowlby's entire theoretical effort aimed to address.

Developmental Research and Attachment

The work of Daniel Stern (1985) bridged the gulf between infant researchers and psychoanalysts in a highly successful and productive way. His primary concern was with the development of self structure. He distinguished four stages of early formation of the self: (1) the sense of emergent self (0–2 months) involves the process of the self 's coming into being and forming initial connections; (2) the sense of core self and the domain of core relatedness (2–6 months) are based on the single organizing subjective perspective and a coherent physical self; (3) the sense of subjective self and the domain of intersubjective relatedness (7–15 months) emerge with the discovery of subjective mental states beyond physical events; and (4) the sense of verbal self forms after 15 months.

Stern (1985, 1994) described three types of relationships of self-with-other: (a) self–other complementing, (b) state sharing, and (c) state transforming. Although these relationships can be characterized by the degree of attachment or separateness they imply, it is their contribution to structuring the self through the schematization of experience that interested Stern. Stern's most important point of contact with attachment theory is probably in the elaboration of the IWM. His starting point is the “emerging moment,” which is the subjective integration of all aspects of lived experience. The “moment” takes its input from emotions, behaviors, sensations, and all other aspects of the internal and external world from schematic representations of various types (e.g., event representations, semantic representations or conceptual schemas, perceptual schemas, and sensorimotor representations). He adds two further modes of representations: “feeling shapes” and “proto-narrative envelopes.” These schemas form a network, which he terms “the schema of a-way-

of-being-with.” The schema of a-way-of-being-with is conceptualized by Stern (Stern, 1998) from the assumed subjective perspective of the infant in interaction with the caregiver.

The infant organizes his or her experience around a motive and a goal. The goals are not only biological, but include object relatedness (Fairbairn), affect states (Kernberg), states of self-esteem (Kohut), and safety (Sandler), as well as the gratification of physical needs, whether hunger, thirst, sexuality, or aggression. Stern’s theory elaborates Winnicott’s (1971): Attunement satisfies the infant’s need for omnipotence, while the caregiver’s capacity to accept protest without retaliation or anxiety allows the child to have confidence in the caregiver as resilient to the infant’s attacks.

Stern’s framework has much to offer attachment theory, particularly in terms of the careful integration of infant observation studies with concepts concerning interpersonal development. Nevertheless, it lacks two critical dimensions essential to attachment theory. First, it lacks a genuine longitudinal observational perspective. A great strength of attachment theory is its almost unique empirical handle on longitudinal and cross-generational predictions. Although Stern’s observations are well operationalized in terms of mother–infant interaction and infant development, they lack operationalization in the context of adult behavior, and therefore longitudinal studies based on Stern’s framework have rarely been attempted. Second, while Stern (1998) probably appropriately claims that schemas of ways-of-being-with are the building blocks of IWMs, close links between the two systems have not yet been demonstrated. However, important pioneering work by Beatrice Beebe and her group (Beebe, Lachmann, & Jaffe, 1997) has drawn on this ambition. In the tradition of pioneers such as Stern and Emde (e.g., Emde & Spicer, 2000), this work has sought to demonstrate the significance of the growth of scientific understanding of early development for clinical and theoretical psychoanalysis. It has led to the gradual modification of the image of the “psychoanalytic infant” from a hypothetical creature based on speculative

reconstruction from adult narratives, to a picture that is constrained and moderated by actual systematic observations of children.

Beebe and Lachmann's microanalytic studies of mother–infant interactions, from as young as 4 months of age, provide a robust way to apply attachment thinking to psychodynamic psychotherapy. Video microanalysis allows for the capture of rapid and often very subtle communicative events that can help us to tease out the origins of communication disturbances in infancy. The detailed empiricism of Beebe's observations is reminiscent of the complex and meticulous observational work originally undertaken by Mary Ainsworth (Beebe & Lachmann, 2014).

Tronick (2003) has also deepened our understanding of the uniqueness of attachment relationships and proposed an important model for how these relationships increasingly differentiate themselves. This work has taken us beyond attachment theory's early, reductive views on proximity, and has helped us to conceptualize the nuances of the mother–infant relationship and the mechanisms through which attachment is achieved and maintained. In particular, by pointing to the uniqueness of each attachment bond, Tronick's (2008) contribution has challenged the view that the child's relationship with the mother is paradigmatic for later relationships. At the same time, however, the model radically revised our understanding of how relationships do influence one another (Tronick, 2005, 2007).

Tronick's (1989, 2007) mutual regulation model (MRM) of infant–adult interaction focuses on the subtle, nonverbal, microregulatory and social-emotional processes that unfold in mother–infant interactions. The MRM postulates that infants have “self-organizing neurobehavioral capacities” and “biopsychological processes” that allow them to “organize behavioral states” and make “sense of themselves and their place in the world” (Tronick, 2007, pp. 8–9). At the same time, Tronick pointed to the limits of these capacities and stated that they need to be supplemented by a “larger dyadic regulatory system” in which the infant

participates with the caregiver (Tronick, 2007, p. 9). In this way Tronick brings together the notion of sensitivity with the overriding construct of meaning-making.

Successful mutual regulation is achieved when an infant and caregiver together generate, communicate, and integrate meaningful elements of consciousness. This creates a synchrony in implicit relational knowing, allowing each to anticipate and “know” the moves of the other. This “knowing” is initially of a pattern of physiological responses or activations rather than of intentional states, although clearly it can be the platform for knowing of intention given developmental time. The parent–infant collaboration results in a singular, organized dyadic state that is believed to be more than the sum of its parts. This leads to what Tronick terms a state of “co-creativity” in which infant and caregiver shape their relationship through a process of mutual regulation (Tronick, 2003, p. 476).

The focus of both Beebe’s (Beebe et al., 1997) interactive regulation model and Tronick’s (1989, 2007) MRM includes the “messiness” of interpersonal communications as well as the greater cohesion allowed through reparation and co-creativity. These models allow us to operationalize such psychoanalytic concepts as the *holding environment* (Winnicott, 1965) and *background of safety* (Sandler, 1960), and take us toward a genuinely relational model of change in psychoanalytic treatment. Furthermore, studies of the contingency between the mother’s and infant’s vocalizations can help us to predict secure attachment relationships (Jaffe, Beebe, Feldstein, Crown, & Jasnow, 2001).

Recent work by Mayes (e.g., Mayes & Leckman, 2007) has taken some of the ideas first plotted in psychoanalytic terms and powerfully worked them through an empirical, child-development perspective. She has been particularly notable in her use of Winnicott’s (1956) clinical and theoretical insights. His idea of maternal primary preoccupation and his thoughts on maternal care and its role in child development have, for example, been explored by Mayes in her study of the course of and fluctuations in early primary preoccupation

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(Leckman & Mayes, 1999). The study found that parents' perceptions of the maternal care they received during childhood predicted postpartum fluctuations in mood. Mayes and colleagues suggest that parents whose representations of early parenting are colored by perceptions and experiences of unavailable or inadequate care are less able to sustain the intense, adaptive preoccupied focus on their new infant without also experiencing dysphoria. In this model, early parenting experiences may determine the extent to which new parents might be vulnerable in the peripartum period (Mayes & Leckman, 2007; see Berlin, Lieberman, & Zeanah, Chapter, xx, this volume, for clinical applications).

Mentalizing Theory and Attachment

The mentalizing model is a recent psychoanalytic extension of attachment theory and research that claims a synergistic relationship between attachment processes and the growth of a child's capacity to understand interpersonal behavior in terms of mental states (Fonagy, Gergely, Jurist, & Target, 2002). This capacity is referred to as *mentalizing* or *reflective functioning*. Recent elaborations of this theory have pointed to the key role of attachment relationships in the development of the capacity for epistemic trust (see later). Both evolutionary considerations and experimental developmental research suggest that epistemic trust plays a key role in the intergenerational transmission of knowledge and in learning that is specific to human beings (Fonagy, Luyten, & Allison, in press). These new theoretical and empirical developments, which have emerged out of a new dialogue between attachment theory, the mentalizing approach, and evolutionary theory, also shed new light on the nature and emergence of personality disorders (PDs), as outlined below, and attest to the ongoing productivity of the interface between psychoanalytic ideas and attachment theory.

Mentalizing is often simplistically understood, but research findings clearly demonstrate that it involves a spectrum of capacities. It is underpinned by four dimensions involving relatively distinct neural circuits: (a) automatic versus controlled, (b) mentalizing

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based on external features (e.g., facial expression, posture) versus internal indicators, (c) mentalizing with regard to self and others, and (d) cognitive versus affective mentalizing (Bateman & Fonagy, 2012). Effective mentalizing requires the individual to maintain a balance across these four dimensions.

Over the past 25 years a systematic program of research has demonstrated that the capacity to mentalize emerges in the context of early attachment relationships and is a key determinant of self-organization and affect regulation. Specifically, studies looking at different ways in which caregiver mentalizing is operationalized—including prenatal reflective function (Fonagy, Steele, Steele, Moran, & Higgitt, 1991), child-specific reflective function (Slade, Grienenberger, Bernbach, Levy, & Locker, 2005), mind-related comments (Meins, Fernyhough, Fradley, & Tuckey, 2001; Meins et al., 2002), and a diverse range of other measures (Aber, Slade, Berger, Bresgi, & Kaplan, 1985; Koren-Karie, Oppenheim, Dolev, Sher, & Etzion-Carasso, 2002; Oppenheim, Koren-Karie, & Sagi, 2001; Solomon & George, 1999)—have found that each of these aspects of mentalizing capacity predicts attachment security in the child. Furthermore, the caregiver’s capacity to mentalize can offer protection from risk factors in the caregiver that are associated with generating attachment insecurity, such as maternal trauma and disruptive maternal behaviors. We also now know that the benefits of caregiver mentalizing extend beyond attachment outcomes: It is associated with better performance in children’s social cognition tasks (Laranjo, Bernier, Meins, & Carlson, 2010; Meins et al., 2002), as well as general social cognitive development (Meins et al., 2003). By contrast, social environments characterized by adversity in child development (e.g., neglect, abuse) impair the development of cognition (Ayoub et al., 2009; Fernald, Weber, Galasso, & Ratsifandrihamanana, 2011; Goodman, Quas, & Ogle, 2010; Rieder & Cicchetti, 1989). The mentalizing approach proposes that problems in affect regulation, attentional control and self-control stemming from dysfunctional attachment

relationships (Agrawal, Gunderson, Holmes, & Lyons-Ruth, 2004; Lyons-Ruth, Yellin, Melnick, & Atwood, 2005; Sroufe, Egeland, Carlson, & Collins, 2005), as manifested perhaps most clearly in severe personality problems such as borderline personality disorder (BPD), are mediated through a failure to develop a robust mentalizing capacity (Bateman & Fonagy, 2010).

While the mentalization-focused model of development places strong emphasis on the relationship between attachment and mentalizing, this relationship is situated within a broader developmental approach that also emphasizes the role of gene–environment interplay (for a fuller discussion of this point, see Fonagy & Luyten, in press). Although the capacity to mentalize is not a constitutional given, it does seem to be a capacity that is partly pre-wired (Kovacs, Teglas, & Endress, 2010). Thus, this is not a naive environmentalist model: The interaction between genetic predisposition and early and later influences on the development of the capacity to mentalize is thought to be crucially important.

In this section we outline the mentalizing model and show how certain observed associations between attachment and psychopathology can be understood in terms of the vicissitudes of the development of the capacity to mentalize, taking BPD as a paradigmatic example.

Disordered Attachment in BPD

Studies using both self-report and interview-based measures of attachment have shown that BPD is associated with increased levels of attachment insecurity (Agrawal et al., 2004). Cross-sectional investigations show that individuals with borderline features have preoccupied, disorganized, and unresolved patterns of attachment (Levy, Beene, & Temes, 2011). A cross-sectional study looking at the attachment styles of patients with mood disorder and those with BPD found that although both groups showed greater preoccupation and fearfulness than controls, only BPD patients simultaneously showed preoccupation *and*

fearfulness. This study thus confirms the suggestion from a number of attachment theorists that the key marker of BPD may be a lack of any functional regulation strategy to reduce attachment distress (Fonagy & Bateman, 2008; Main, 2000).

To understand these associations, we must consider the nature of early attachments. Our model hypothesizes that suboptimal early attachment experiences are robust predictors of BPD in later life, not so much because of the attachment experiences themselves, but because it is in the context of attachment relationships that the infant learns to understand his or her own emotional states, acquires the capacity for affect regulation, and discovers him/herself as a psychological entity through marked mirroring interactions (Fonagy et al., 2002; Fonagy, Gergely, & Target, 2007). In line with this hypothesis, Carlson and colleagues (2009) reported significant, although weak, correlations between borderline symptoms at 28 years of age and indicators of a suboptimal early environment (maltreatment, maternal hostility, attachment disorganization, and family stress in the first 3–4 years of life). These culminated in a range of social-cognitive anomalies—attentional disturbance, emotional instability, and relational disturbance—that were evident by 12 years of age. A path-analytic approach offered strong evidence that disturbances in self-representation in early adolescence mediated the link between disorganization of early attachment relationships and PD.

BPD and Childhood Adversity

The role of developmental trauma in BPD in general has been a significant focus of research. Among individuals with PDs, rates of childhood trauma are very high (Ball & Links, 2009). Compared with nonclinical adults, PD patients are four times as likely to have suffered early trauma (Johnson, Cohen, Brown, Smailes, & Bernstein, 1999), and the disorder is more consistently associated with childhood maltreatment than any other PD diagnosis (e.g. Baird, Veague, & Rabbitt, 2005; Battle et al., 2004; Buchheim et al., 2008).

A particularly impressive study following up several hundred abused and neglected children and matched controls into adulthood reported a 2.5-fold increase in the prevalence of BPD associated with abuse and neglect (Widom, Czaja, & Paris, 2009). In this prospective investigation of children who were identified as maltreated by child protection services, early neglect appeared to be the most potent risk factor for both genders, whereas physical abuse represented a risk only for males. A systematic review of the literature on BPD and trauma by Crombie and Fonagy (2013) found that generally high-quality studies across a range of designs and measurement methodologies converge in showing, both prospectively and retrospectively, that emotional neglect and abuse predict BPD symptoms and diagnosis in line with or in excess of the impact that can be observed to be associated with physical and sexual abuse. This observation supports our expectation that even in the absence of dramatic maltreatment, the individual's competence to represent mental states may be undermined by the absence of contingent responding to their subjective experience, resulting in increased vulnerability for BPD. Subsequent brutality in an attachment context may then further disrupt mentalizing as part of an adaptive adjustment to adversity (Fonagy, Steele, Steele, Higgitt, & Target, 1994; Stein, Fonagy, Ferguson, & Wisman, 2000). Hence, early emotional neglect in particular, rather than physical or sexual abuse as such, may predispose individuals to developing BPD by limiting their opportunity to acquire the capacity to mentalize and leaving them vulnerable to disruptions in mentalizing under the influence of later stress.

Disruptions of the Caregiving Environment and the Development of Mentalizing

Consistent with these claims, studies show that insecurely attached children do not perform as well as secure children in mentalizing tasks (e.g., de Rosnay & Harris, 2002). The London Parent–Child Project (Fonagy, Steele, Steele, & Holder, 1997), for instance, found that 82% of children who were secure with their mother in the Strange Situation passed Harris' Belief-Desire-Reasoning Task at 5.5 years, compared with 50% of those who were

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avoidant and 33% of the small number who were preoccupied. The mentalizing approach has emphasized the importance of secure attachment in providing a context in which the child is allowed to develop the ability to mentalize and regulate his/her own emotions. But even more importantly, in an environment that is invalidating and emotionally abusive, an insecure and disorganized attachment pattern is likely to develop, and this is likely to seriously hinder development of the capacity for mentalizing (Fonagy, 2000; Fonagy & Luyten, 2009).

Again, the broader context seems to be key here. Significantly, Widom et al. (2009) found that the impact of child abuse and neglect became nonsignificant in a regression model predicting BPD features when other family and lifestyle characteristics were included (e.g., parental substance use, employment, education level, and Axis I disorders). These authors concluded that maltreatment may represent a marker for family dysfunction, and that family dysfunction may actually be more significant in leading to a greater risk of BPD. This is congruent with the notion that abuse and neglect are typically part of a broader context characteristic of “risky families and environments” (Repetti, Taylor, & Seeman, 2002) or “pathogenic relational environments” (Cicchetti & Toth, 2005). A number of family-related factors—all likely to undermine the acquisition of mentalizing—have been reported to be significant predictors of BPD, including parental psychopathology, witnessing domestic violence in childhood, and parental imprisonment and suicide attempts (Afifi et al., 2011; Helgeland & Torgersen, 2004; Widom et al., 2009; Zanarini, Frankenburg, Hennen, Reich, & Silk, 2006). More detailed prospective studies of caregiver–child interactions are needed to further investigate these assumptions, but we may expect growing up in an environment of insecure and unpredictable attachment relationships to disrupt the acquisition of robust mentalizing. In this context, a recent comprehensive systematic review (Macintosh, 2013) identified five studies (Bouchard et al., 2008; Fonagy & Bateman, 2006; Fossati et al., 2009; Fossati, Feeney, Maffei, & Borroni, 2011; Stein & Allen, 2007) supporting the assumption

that impairments in mentalizing mediated the relationship between insecure attachment and/or adversity and adult functioning. However, more research is clearly needed in this area.

Considered in relation to attachment, mentalizing deficits associated with childhood maltreatment may be a form of decoupling, inhibition, or even a phobic reaction to mentalizing. Various studies indeed suggest that (a) adversity may undermine cognitive development in general (Cicchetti, Rogosch, & Toth, 2000; Crandell & Hobson, 1999; Stacks, Beeghly, Partridge, & Dexter, 2011), (b) mentalizing problems as a result of maltreatment may reflect arousal problems associated with exposure to chronic stress (see Cicchetti & Walker, 2001), and (c) the child may avoid mentalizing to avoid perceiving the abuser's hostile and malevolent thoughts and feelings about him/her (e.g., Fonagy, 1991; Goodman et al., 2010).

Regardless of the precise nature of the impact of early adversity on mentalizing, these findings imply that the foundations of subjective selfhood will be less robustly established in those who have experienced early neglect. However, while some readers might interpret this approach as a deficit theory, our emphasis is upon adaptation. The specific configuration of mentalizing capacities characterizing individuals with BPD (and other types of psychopathology associated with impairments in mentalizing) may be conceived of as optimizing the child's adaptation to the challenges of his/her social context (Blair & Raver, 2012; Frankenhuis & Panchanathan, 2011; Frankenhuis, Panchanathan, & Clark Barrett, 2013). Our speculation that in circumstances of neglect and/or abuse it may be preferable to forgo reflective considerations, particularly of the cognitions of others (Fonagy, 1991), is consistent with an evolutionary–developmental view that suggests that we have to study the likely impact for survival and the costs and benefits (to children) of developing particular mental capacities in particular social contexts (Belsky, 2012; Ellis et al., 2012). While the impairments in mentalizing that we have noted may bring benefit to the child under some

social conditions, in normal adult contexts they render the individual more vulnerable—even in the face of social adversity in adulthood. The precise nature of these impairments, research suggests, largely depends on individuals' dominant secondary attachment strategies for dealing with experiences, which become increasingly generalized. In the next section, we review these strategies and their influence on mentalizing in more detail.

Neurobiology of Stress, Attachment, and Mentalizing

Beyond the general impact of attachment disruptions on mentalizing, secondary attachment strategies (deactivation or hyperactivation of the attachment system in an effort to cope with threats; Cassidy & Kobak, 1987) have a more specific influence on mentalizing and may explain individual differences in mentalizing profiles.

Following the model outlined by Arnsten (Arnsten, Mathew, Ubriani, Taylor, & Li, 1999) and Mayes (Mayes, 2000, 2006), we suggest that with increased arousal a switch occurs from cortical to subcortical systems, from controlled to automatic mentalizing, and, subsequently, to nonmentalizing modes. Two points are critical for understanding impairments in mentalizing in this context. First, owing to the neurochemical switch associated with escalating emotional stress, patterns of brain functioning can shift from flexibility to automatic functioning: that is, from relatively slow executive functions mediated by the prefrontal cortex (PFC) to faster habitual behaviors mediated by posterior cortical (e.g., parietal) and subcortical (e.g., amygdala, hippocampus, and striatum) structures. At the same time, mentalizing seems to disappear as self-protective physical reactions (i.e., fight/flight/freeze) begin to dominate behavior. This has the presumed evolutionary value of promoting immediate adaptive responses to danger. However, in situations of interpersonal stress, where complex cognitive-emotional functioning (i.e., mentalizing) may be helpful, the switch from executive (mentalizing) to automatic (fight/flight/freeze) responses may be counterproductive, to say the least. We also assume, following Arnsten et al. (1999) and

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Mayes (Mayes, 2000), that exposure to early stress and trauma can lower the threshold for switching, an assumption that has received considerable empirical support in the meantime. Second, both situational and more stable within-person variations play a role in the switch from more controlled to automatic mentalizing (see Fonagy & Luyten, 2009; Luyten, Fonagy, Lowyck, & Vermote, 2012, for a detailed discussion).

In individuals with *secure attachment*, activation of the attachment system predictably involves a relaxation of normal strategies of interpersonal caution. There is good evidence that intense activation of the neurobehavioral system underpinning attachment is associated with deactivation of the arousal and affect-regulation systems (Fonagy & Luyten, 2009; Luyten et al., 2012), as well as the deactivation of neurocognitive systems likely to generate interpersonal suspicion, that is, those systems and brain regions involved in social cognition or mentalizing, including the lateral PFC, medial PFC (mPFC), lateral parietal cortex, medial parietal cortex, medial temporal lobe, and rostral anterior cingulate cortex (Bartels & Zeki, 2000, 2004; Lieberman, 2007; Satpute & Lieberman, 2006; Van Overwalle, 2009). For example, with increased intimacy, regions of the brain associated with reflective mentalizing will be deactivated—which perhaps explains the many linguistic and cultural variations of the popular sentiment that love is blindness.

Moreover, as noted, the neuropeptides oxytocin and vasopressin play key roles in two aspects of creating attachment relationships: (1) by activating the reward/attachment system, and (2) by deactivating neurobehavioral systems that are involved in mediating social avoidance (Bartels & Zeki, 2004). For instance, oxytocin and vasopressin have been shown to inhibit aversion of both female and male rodents to infant pups, as well as promoting a number of affiliative behaviors, including caregiving behavior (Heinrichs, von Dawans, & Domes, 2009; Insel & Young, 2001). Oxytocin also reduces behavioral and neuroendocrine responses to social stress, and seems to enable animals to overcome their natural avoidance of

proximity and to inhibit defensive behavior, thereby facilitating approach behavior (Simeon et al., 2011). Vasopressin has primarily been implicated in male-typical social behaviors, including aggression and pair-bond formation, and mediates anxiogenic effects (Heinrichs & Domes, 2008). Thus, in the context of secure attachment, activation of the attachment system will generate increased experience of reward, increased sensitivity to social cues, and decreased social avoidance, but also the potential for the reward to override lack of trust. This complex set of associations with social behavior may help to account for the puzzling combination of facilitative and inhibitory associations between attachment history and social cognition. For instance, in two separate imaging studies, Bartels and Zeki (2000, 2004) reported that the activation of areas mediating maternal and/or romantic attachments appeared simultaneously to suppress brain activity in several regions mediating different aspects of cognitive control, including those associated with making social judgments and mentalizing. The second set of brain areas observed to be deactivated by the activation of attachment concerns included the temporal poles, temporoparietal junction, amygdala, and mPFC—areas consistently linked to explicit and internally focused mentalizing, including judgments of social trustworthiness, moral judgments, Theory of Mind tasks, and attention to one's own emotions.

In contrast, studies suggest that *anxious-preoccupied attachment strategies* are associated with simultaneously lowered thresholds for attachment system activation and controlled mentalizing deactivation. In these individuals, more automatic, subcortical systems, including the amygdala, have a lower threshold for responding to stress.

Attachment deactivating strategies, in turn, have been shown to be associated with the capacity to keep systems involved in controlled mentalizing on-line for longer, including systems involved in judging the trustworthiness of other individuals (i.e., the “pull” mechanism associated with attachment; Vrticka, Andersson, Grandjean, Sander, &

Vuilleumier, 2008). Yet, whereas securely attached individuals are able to keep the controlled mentalizing system on-line even when stress increases, meaning that the attachment system is less likely to be triggered, the deactivating strategy of dismissive individuals is likely to fail in these circumstances. If securely attached individuals are those who are able to retain a relatively high activation of prefrontal areas in the presence of activation of the dopaminergic mesolimbic pathways (the attachment and reward system), then differences in mentalizing between securely attached individuals and those individuals who primarily rely on attachment deactivating strategies may become apparent only under increasing stress; this seems consistent with the findings of experimental studies (Mikulincer & Shaver, 2007).

This model allows us to explain why, for instance, mentalizing deficits in BPD are more likely to be observed in experimental settings that trigger the attachment system, such as in studies collecting AAI narratives (e.g., Fonagy et al., 1996; Levinson & Fonagy, 2004), and also why BPD patients who mix deactivating and hyperactivating strategies, as is characteristic of *disorganized attachment*, show tendencies for both hypermentalizing and mentalizing failure. On the one hand, because attachment deactivating strategies are typically associated with minimizing and avoiding affective content, BPD patients often have a tendency for hypermentalizing; that is, continuing attempts to mentalize, but without integrating cognition and affect. On the other hand, as the use of hyperactivating strategies is associated with a decoupling of controlled mentalizing, this leads to failure of mentalizing as a result of over-reliance on modes of social cognition that antedate full mentalizing (Bateman & Fonagy, 2006).

We see BPD as in some ways at the opposite end of the spectrum from *interpersonal resilience* (Gunderson & Lyons-Ruth, 2008; Higgitt & Fonagy, 1992). Studies suggest that the ability to continue to mentalize even under considerable stress leads to so-called “broaden and build” (Fredrickson, 2001) cycles of attachment security, which reinforce feelings of

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secure attachment, personal agency, and affect regulation (“build”) and lead one to be pulled into different and more adaptive environments (“broaden”) (Mikulincer & Shaver, 2007). Congruent with these assumptions, studies on resilience have shown that positive attachment experiences are related to resilience in part through relationship-recruiting, that is, the capacity of resilient individuals to become attached to caring others (Hauser, Allen, & Golden, 2006). Hence, high levels of mentalizing and the associated use of security-based attachment strategies when faced with stress are good candidates to explain the effect of relationship-recruiting and resilience in the face of stress. In contrast, attachment hyperactivation and deactivation have been shown to limit the ability to broaden and build in the face of stress. Moreover, they have also been shown to inhibit other behavioral systems that are involved in resilience, such as exploration, affiliation, and caregiving (Insel & Young, 2001; Mikulincer & Shaver, 2007; Neumann, 2008). This may also partially explain these individuals’ difficulties in entering lasting relationships (including relationships with mental health care professionals) and the intergenerational transmission of borderline pathology.

To summarize, we may envisage three types of association between aspects of mentalizing and attachment. These are created by (a) attachment relationships based upon intense romantic or maternal love, (b) attachment relationships based upon threat/fear, and (c) secure and predictable attachment relationships. Although any given attachment relationship may have features of each of these three types, they are important to distinguish, as the relationship between attachment activation and mentalizing may differ considerably depending on which feature is activated within an attachment relationship. (a) Mediated by dopaminergic structures of the reward system in the presence of oxytocin and vasopressin, the love-related activation of the attachment system can inhibit the neural systems that underpin the generation of negative affect. (b) Threat-related activation of the attachment

system (e.g., triggered by perceived threat, loss, or harm) may also evoke intense arousal and overwhelming negative affect, bringing about an activation of posterior cortical and subcortical areas and switching off frontal cortical activity, including mentalizing (Arnsten et al., 1999; Arnsten, 1998; Mayes, 2000). (c) Meanwhile, a secure and predictable attachment relationship may be most effective in *pre-empting* threat, which possibly reduces the need for frequent activation of the attachment system.

Attachment, Mentalizing, and Epistemic Trust

Recent elaborations of thinking about mentalizing have pointed to a further important function of attachment relationships: the development of epistemic trust, enabling social learning in a constantly changing environment (Fonagy & Luyten, in press; Fonagy et al., in press).

As we have seen, there is now considerable evidence that the caregiver's capacity to mentalize predicts secure attachment in the child. This raises the related question: How does the child learn from their caregiver's behavior? This question has powerful ramifications for our understanding of human social development. We have argued elsewhere (Fonagy et al., in press), based on both evolutionary findings and theory (Sperber et al., 2010; Wilson & Sperber, 2012) as well as experimental developmental research (e.g., Corriveau et al., 2009), that secure attachment experiences not only pave the way for the acquisition of mentalizing, but also, potentially more generally, for the formation of epistemic trust, that is, an individual's willingness to consider another person's communication of new knowledge as trustworthy, generalizable, and relevant to the self. As noted, these theoretical developments promise to lead to major changes in our views concerning the importance of attachment relationships in human development.

Csibra and Gergely's theory of natural pedagogy (ToNP) (Csibra & Gergely, 2009) has offered a compelling empirically based model to explain how attachment history can

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create distinct types of epistemic states. ToNP is based on research suggesting a human-specific, cue-driven social cognitive adaptation of mutual design dedicated to ensuring the most effective and efficient transfer of culturally relevant knowledge. This fast route to transmit knowledge is needed in humans as most of our knowledge about the world is cognitively opaque. Csibra and Gergely use an idea first discussed by Bertrand Russell (1940), but extensively used by Sperber and Wilson (1995), suggesting that certain signals (ostensive cues) are employed by an agent to indicate their intent to communicate to the addressee. These cues may also serve to counteract natural epistemic vigilance (an adaptive self-protection against potentially damaging, deceptive, or inaccurate information). The ToNP model claims that ostensive cues generate a particular attentional state in which natural disbelief is temporarily suspended and the addressee feels that the communication contains information specifically relevant to them, which should be remembered and encoded as knowledge that is generally relevant to social situations. The information can be laid down and used as part of procedural and semantic memory, not uniquely or primarily episodic memory.

Research in this context suggests that a securely attached child is more likely to feel that the caregiver is a reliable source of knowledge because the predictors of secure attachment relationships are in essence also ostensive communication cues. A sensitive caregiver's consistent emotional responses to the child are communicated via the caregiver's ostensive cues, which include eye contact, turn-taking, contingent reactivity, and the use of a special tone, all of which appear to trigger a special mode of learning in the infant. The caregiver's marked mirroring of the infant's emotional expression which underpins the development of emotion understanding can be seen as ostensive in nature, signaling the relevance of the caregiver's display to the infant's accumulating knowledge base about their own subjective experience (Fonagy et al., 2007).

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In brief, ostensive cues trigger epistemic trust and simultaneously engender secure parent–child attachment (Fonagy et al., 2007). They set aside the biological protection provided by epistemic vigilance. They open a channel of information exchange about the social and personally relevant world (an “epistemic superhighway”) that allows us to acquire new knowledge rapidly. The knowledge transmitted is generalized beyond the specific experience in which it is acquired, remembered and encoded with the authority but not the person of the communicator. Epistemic trust is necessary to allow us to change our position safely in the light of new experiences.

Several fascinating developmental experiments summarized by Csibra and Gergely (2009) offer compelling evidence from infancy for the power of this dialogic learning process. In one simple demonstration, 6-month-old infants were shown to follow an agent’s gaze-shift selectively to an object only if it had been preceded either by eye contact with the infant or by infant-directed speech (Senju & Csibra, 2008). Shared attention with an agent is triggered by the infant experiencing the agent’s interest. The interest triggers the infant’s expectation (epistemic trust) that there may be something relevant for the infant to learn.

A second study employing an automated eye-tracker used an infant-induced contingent reactivity paradigm (Deligianni, Senju, Gergely, & Csibra, 2011). During the familiarization phase, 8-month-old infants observed a display where five unfamiliar animated objects (looking more like jugs or kettles than anything else) were displayed. Four of these, in the four corners of the display, moved unpredictably. The object at the center acted differently in two conditions. In the interactive condition, whenever the infant’s gaze wandered towards the object, it would apparently respond to the infant’s gaze with movements and sound. In the control condition, the central object would move a comparable amount but this would be independent of the infant’s gaze. In the test phase, only three objects were present. The central object in this phase turned toward either the left or the right

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object. It should be noted that although none of the five jug-like objects had eyes, they had a clear, unequivocal front signaled by a pointed “hat” and an elongated “nose” (somewhat reminiscent of a kettle with an upturned beak). The 8-month-olds in the interactive condition detected the contingent activity of the central object and looked at the object it turned toward (i.e., followed its “gaze”) far more. In the noncontingent control condition, the infants did not look for longer, more frequently, or more promptly at the object that the central object turned toward. It seems that the contingent reactivity of this nonhuman and somewhat bizarre object was sufficient to influence the infant’s orientation. The study is important in showing that it is the experience of response-induced contingencies that creates epistemic trust and elicits a “joint attention response.”

As noted, studies in this context emphasize the key importance of attachment history. For example, in a longitudinal study of attachment, 147 children assessed for attachment in infancy were tested twice for epistemic trust at the ages of 50 and 61 months (Corriveau et al., 2009). In this study, the child’s mother and a stranger made conflicting claims to a child concerning (a) the name of a novel object, (b) the name of a hybrid animal made up of 50% of each of two animals (e.g., an image made up of 50% rabbit and 50% squirrel; the mother might call it a squirrel, while the stranger says it is a rabbit), and (c) the name of a hybrid animal made up of 75% of one animal and 25% of another. In the last case it was always the mother who made the improbable claim (e.g., that a picture made up of 75% bird and 25% fish was a fish), while the stranger gave the more likely answer (in this example, “bird”). The nature of a child’s attachment relationship powerfully conditioned the child’s trust in the information imparted by the attachment figure (mother) and others (strangers) as informants. Children who were securely attached in infancy displayed a flexible strategy, showing a preference toward accepting claims made by their mother when appropriate. Insecure-avoidant children withheld trust in their mother, preferring to attend to information from the

stranger, while insecure-resistant children withheld trust in the stranger even when their mother made improbable claims. Children with insecure-disorganized histories evidenced what we may call *epistemic hypervigilance*; they appeared to regard both sources of information with suspicion.

Hence, security of attachment, rooted in a history of feeling recognized, appears to increase the likelihood of trust in the source of communication when it is reasonably credible. Yet a secure attachment history also generates confidence in one's own experience and belief and empowers one's (i.e., the child's) judgment. A history of attachment avoidance may generate epistemic mistrust, while anxious attachment creates epistemic uncertainty through overreliance on the views of the attachment figure. Disorganized attachment, rooted in a history of chronic misattunement, unsurprisingly can create mistrust of both the attachment figure and strangers as a source of information. It is the unresolvable question of "Who can I trust?" that might contribute to epistemic hypervigilance in a child with a history of disorganized attachment.

Here, attachment researchers are faced with a conundrum. While these studies suggest that attachment may be a key mechanism for the mediation of epistemic trust, the theoretical formulations reviewed suggest that it may be secondary to an underlying biological process preserved by evolution. We have seen that stimuli such as the bizarre kettle-shaped object in the study described earlier are capable of at least momentarily triggering the same category of response as human beings. In other words, secure attachment is not likely to be a necessary condition for generating epistemic trust but it may be sufficient, and perhaps the most pervasive in early childhood because it is a highly evolutionarily effective indicator of trustworthiness.

Looked at from a distance, microanalytic (e.g., Beebe et al., 2010) and more global (e.g., DeWolf & van IJzendoorn, 1997; Isabella, Belsky, & von Eye, 1989; Kiser, Bates,

Maslin, & Bayles, 1986; Mills-Koonce et al., 2007) ratings of sensitive caregiving can be seen as in essence recognizing the child's agentic self. It is this recognition that we believe offers the cognitive advantage to secure attachment, which has been fairly consistently noted, although not, to our knowledge, commonly studied (e.g., Crandell & Hobson, 1999; Jacobsen & Hofmann, 1997; Moss, Rousseau, Parent, St.-Laurent, & Saintong, 1998) and contributes to the cognitive disadvantage of developmental adversity (Ayoub et al., 2009; Fernald et al., 2011; Goodman et al., 2010; Rieder & Cicchetti, 1989). We believe that through the down-regulation of affect triggered by proximity-seeking in the distressed infant, attachment not only establishes a lasting bond, but also opens a channel for information to be used for the transfer of knowledge between the generations.

Attachment insecurity is likely to be associated with a greater likelihood of cognitive closure, a lower tolerance for ambiguity, and a more pronounced tendency for dogmatic thinking (Mikulincer, 1997). Saving intellectual effort and adopting stereotypes is also more likely in individuals whose attachment is insecure (Mikulincer, 1997). The same predisposition to knowledge inflexibility is revealed by the tendency of insecure individuals to make judgments on the basis of early information and to pay insufficient heed to subsequent data even if it is incompatible with the configuration first created (Green-Hennessy & Reis, 1998; Mikulincer, 1997). Insecure individuals, who fear the loss of attachment figures, also anxiously hold on to their initial constructions. Kruglanski (Kruglanski, 1989; Kruglanski & Webster, 1996; Pierro & Kruglanski, 2008) proposed the concept of *epistemic freezing*, characterized by a tendency to defend existing knowledge structures, even when they are incorrect or misleading (see also Fiske & Taylor, 1991).

Returning to the earlier theme of seeing adversity as leading not to deficit but rather to a superior adaptation to challenging environments (Frankenhuis et al., 2013), we may see such a defensive strategy as adaptive if an individual's self-esteem is vulnerable. Cognitive

closure, dogmatism, and conservatism may simply be strategies to create a bulwark to safeguard an inadequately individuated self (Bowlby, 1980). By contrast, the greater confidence of secure individuals that they will be able to recover from dysregulation also enables them to be less defensive and more able to open their minds to information that may challenge their assumptions.

Mikulincer (1997) suggested that insecure individuals were more readily threatened by information that challenged their knowledge structures because of the vulnerability of their sense of self, and vulnerability in particular to being emotionally overwhelmed. If emotional dysregulation is experienced as a real and imminent threat, they may opt for knowledge stability, as it temporarily serves to down-regulate arousal. Such individuals are less likely to revise their knowledge in the face of information that challenges their assumptions (Green-Hennessy & Reis, 1998; Green & Campbell, 2000; Mikulincer, 1997; Mikulincer & Arad, 1999) as if they not only had less confidence in the robustness of their bond to their attachment figure, but also feared the loss of epistemic trust. In sum, we assume that the epistemic superhighway provided to us by evolution in order for us to learn from experience is partially closed to those whose attachment to their caregiver is insecure.

Anomalies of early parent–infant communication that predict attachment disorganization and later personality pathology (e.g., Lyons-Ruth, Bureau, Holmes, Easterbrooks, & Brooks, 2013) may be, from this perspective, understood as cases of misuse of ostensive cueing. By “misuse of ostensive cueing” we mean using cues to lead the infant to anticipate personally relevant, generalizable knowledge through a kind of pseudo-sensitivity followed by the transmission of disruptive and even destructive knowledge. From the perspective of epistemic trust as the mediator of culture, and its key underlying engine for progression, we see the destruction of trust in social knowledge as a key mechanism in pathological personality development. Developmental adversity, perhaps most deeply

attachment trauma (Allen, 2012, 2013), may trigger a profound destruction of trust. The absence of epistemic trust generates an apparent rigidity in the eyes of the communicator who, in accordance with the principles of theoretical rationality, expects the recipient to modify their behavior on the basis of the information they have received and apparently understood. But in the absence of trust the capacity for change is absent. The information presented is not used to update the individual's social understanding. In terms of the ToNP (Csibra & Gergely, 2009) the person has (temporarily) lost the capacity for learning. From a therapist's standpoint, he or she has become "hard to reach" and interpersonally inaccessible.

According to the evolutionary perspective we are advancing, a particular attachment style should be seen less as a measure of the extent to which the caregiver succeeded in generating infant attachment security but, more broadly, as learning of the most appropriate method for the child's social survival in a complex interpersonal world (Belsky, 2006; Ein-Dor, Mikulincer, & Shaver, 2011; Mikulincer & Shaver, 2007; Simpson & Belsky, 2008). An avoidant/dismissive model of attachment might be more protective in certain environments than a secure one. Similarly, the anxious/preoccupied style may be an effective means of ensuring a child learns to effectively harness interpersonal attention and resources in a context of resource uncertainty. Even serious PDs such as BPD, while conspicuously dysfunctional in our normative social setting, may have adaptive benefits for individuals living in an emergency milieu characterized by high levels of interpersonal violence, where there is a need for extreme vigilance on issues of self-protection and where there is significant benefit in being able to form intense emotional relationships, which might elicit critical protection or resource supply very quickly. The mentalizing strengths that have been noted in many individuals with BPD—a tendency to be able to make quick inferences of other people's mental states on the basis of their visual and emotional cues, a hypersensitivity to facial expressions, hyper-reactivity to positive and emotional stimuli—are all suggestive of

a mentalizing profile that may be an adaptation to functioning in a threatening or high-risk environment.

The Future of Attachment Theory and Psychoanalysis

Despite the limitations of attachment theory, it is clear that the attachment relationship provides the context in which we learn to make sense of ourselves and others, or, to use the language of psychoanalysis, in which we create our internal world. Yet, we contend that the future of attachment theory lies in developing our understanding of the relationship of attachment and mentalizing.

The mentalizing construct bridges the gap between psychodynamic and attachment models by focusing on the relationship of attachment processes and the growth of the child's sense of self and its capacity to comprehend the mental states of others. The future clinical importance of attachment lies in understanding how mentalizing difficulties, impairments and imbalances are generated and how they can be alleviated. Mentalizing also provides a broader developmental model within which we can reconsider and accommodate the developmental challenges and themes traditionally emphasized within psychoanalytic thinking: the ways in which individuals differently respond to the developmental, environmental, and instinctual challenges posed by sexuality and aggression, and cope with these challenges in a complex social world. Any genuinely convincing developmental understanding of the ways in which the emotional environment may affect the mind in infancy and childhood must accommodate the reality of evolutionarily driven adaptiveness. We postulate that mentalizing provides the missing link in understanding the evolutionary mechanism at work in the transmission of attachment. This broader evolutionary perspective, rather than creating a reflexive, flatly Pavlovian model for human development, allows us to appreciate the richness of human subjectivity through a theory that accommodates the complex mix of factors that makes us who we are: that is, the early emotional environment, genes, and the barrage of wider social

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pressures that each individual learns to interpret and respond to in particular ways depending on their epistemic history and mentalizing capacities.

At one level, our views on the relationship between attachment, mentalizing, and epistemic trust may appear to downplay the clinical significance of attachment. However, we would argue that attachment thinking remains fundamental to understanding the mechanism by means of which mentalizing and epistemic trust are made possible. From the outset, the most effective way an infant is first mentalized and first able to develop epistemic trust is in the context of a secure attachment relationship. Similarly, it is only in the context of stable attachment relationships, and then within the wider social environment, that mentalizing can be developed and epistemic hypervigilance can safely be relaxed. According to this thinking, as humans evolved greater social complexity, the attachment relationship became coaxial with the transmission of other, more species-specific social-cognitive processes, such as mentalizing and the promotion of natural pedagogy.

This latest elaboration of thinking in relation to attachment takes us back to one of Bowlby's original intentions in the formulation of attachment theory: making sense of emotional development and psychopathology in an evolutionary context. Psychoanalytic thinking and psychology more broadly have been criticized for failing to take into account the impact of the socioeconomic environment on the individual psyche (Fonagy, Target, & Gergely, 2006). We can no longer neglect this influence. For instance, there is accumulating evidence that increasing levels of social inequality are connected with an increased prevalence of BPD (Grant et al., 2008; Wilkinson & Pickett, 2009). If we consider that the evolutionary drive behind mentalizing was to enable our survival in increasingly complex social situations involving matters of hierarchy, cooperation, exclusion, and inclusion, it makes eminent sense that representations of ourselves and those around us should calibrate the extent to which we are experiencing social isolation, alienation, or inferiority.

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Psychological resilience enables the individual to resist these pressures to some degree; individuals with BPD are often conspicuously reactive to such pressures—to be wholly impervious to their effects suggests mentalizing impairments of a different nature altogether. Both extremes, however, derive from an inability to absorb information from the social environment in a way that is compatible with the construction of a normatively coherent sense of self.

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