

Measuring the Ghost in the Nursery: An Empirical Study of the Relation Between Parents' Mental Representations of Childhood Experiences and their Infants' Security of Attachment

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ABSTRACT

This paper presents a summary of the Anna Freud Centre-University College London, Parent-Child Project. Its most important finding was that the security of the infants' relationship with both parents at 12 and 18 months could be predicted on the basis of qualitative aspects of the parents' accounts of their own childhoods collected before the birth of the child. This confirmed Selma Fraiberg's observations concerning the reemergence of childhood conflicts at early stages of childbearing. Possible mechanisms mediating this link are explored with particular reference to the role of the parents' accurate mental representations of the infants' mental world.

THAT HISTORY REPEATS ITSELF, and there exists an intergenerational concordance in relationship patterns, is a fundamental assumption of the psychoanalytic model (Freud, 1940); (Fraiberg et al., 1975); (Bowlby, 1958), (1969), (1973), (1980). The observation is sufficiently robust to be borne out by epidemiological research. Parents with a history of deprivation, neglect, or abuse appear to be more likely to encounter problems at all stages of family life, including behavioral difficulties; health, educational, and psychiatric problems in their children; and relationship problems among family members (Frommer and O'Shea, 1973); (Rutter and Madge, 1976); (Rutter et al., 1983). But epidemiology cannot explain this probabilistic relationship, nor can it identify in a clinically (as opposed to statistically) significant way parents who will be able to interrupt the cycle of deprivation and ensure that their children benefit from a secure environment. Nor has epidemiology been able to predict families where problems develop despite the apparent absence of deprivation in the history of the parental couple. Emde (1988), (1992) points to the importance of the systematic study of the representational world (Jacobson, 1964); (Sandler and Rosenblatt, 1962) in our effort to explore the influence of personal history on the developmental process. Recent psychoanalytic accounts have complicated matters further by stressing the relatively early stage in the child's development at which the influence of the parent's past may make itself felt.

Fraiberg et al. (1975), for example, write:

In every nursery there are ghosts. There are the visitors from the unremembered pasts of the parents; the uninvited guests at the christening... Even among families where the loved ones are stable and strong the intruders from the parental past may break through the magic circle in an unguarded moment, and a parent and his child may find themselves reenacting a moment or a scene from another time with another set of characters... Another

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group of families appear to be possessed by their ghosts. The intruders from their past have taken up residence in their nursery claiming tradition and rights of ownership. They have been present at the christening for two or more generations. While none has issued an invitation the ghosts take up residence and conduct the rehearsal of the family tragedy from a tattered script [pp. 387–388].

In several papers, Fraiberg elaborates on the ghost that compels the repetition of the past in the present. She identifies and illustrates how the conflicted past of the parents may interfere with their relationship with their child. She recognizes that "history is *not* destiny." Clinical and epidemiological data both show that there is a considerable number of parents who in their childhood faced brutality, desertion, poverty, and death, and yet appeared not to imperil their bond to their child and the child's bond to them. What determines whether the conflicted past of the parent will be repeated with the child? The chronicle itself, the historical "facts" of childhood, does not predict whether parenthood will bring grief and injuries or become the time of renewal. The determination to want something better for the child than one had oneself may be strong, but sadly, in itself, conscious determination seems to fall far short of what is required. Fraiberg argues, on the basis of clinical experience, that the answer to this question must lie in the defenses used by the parent to cope with a difficult past. She mentions denial of the affect that was associated with trauma and the victim's identification with the perpetrator as two characteristic defenses used by abused parents who are unable to withstand the need to inflict their own pain and childhood sins upon their own child. Her clinical material implies, although she does not explicitly state, that the *quality of the mental representation of the object and the representation of the self's relationship to it* may be a further important determinant.

Fraiberg et al. (1975) notably lament the lack of largescale systematic investigations of the issue and indicate their

¹ The project was initiated by M. Steele. As the project grew, H. Steele and P. Fonagy joined her in planning the investigation.

intention to pursue this question in further studies. In the Anna Freud Centre—University College London Parent-Child Project,¹ we have aimed to fill this gap using the framework provided by attachment theory (Bowlby, 1980). We wished to test, based on Fraiberg's formulation, whether it is possible to predict, before the birth of a child, on the basis of the parents' quality of internal object relations and habitual modes of defense, the nature of the relationship they are likely to develop with their child during the first 18 months of life? Our choice of attachment theory as the conceptual framework for addressing this question was dictated by both theoretical and practical considerations.

The attachment of infants to their parents is recognized across the social science disciplines as a fundamental psychological process affecting human development across the lifespan (Parkes et al., 1991). Secure (safe and stable) versus insecure (anxious or ambivalent) attachment of the child to its parents has been identified as a primary influence on the child's evolving adaptation to the environment. Quality of attachment can be successfully assessed in infancy using a simple laboratory technique developed by Bowlby's closest colleague, Mary Ainsworth (Ainsworth and Wittig, 1969); and thus the pervasive influence of the quality of infant-parent bonds upon subsequent social, cognitive, and emotional development has been intensively studied (Ainsworth et al., 1978); (Grossman et al., 1985); (Sroufe, 1988). Longitudinal studies show that attachment in infancy strongly influences many aspects of psychological adaptation, including social behavior (Skolnick, 1986), affect regulation (Erickson et al., 1985), cognitive resourcefulness (Matas et al., 1978); (Grossman and Grossman, 1991), and psychological disturbance (Sroufe, 1989). Infant patterns of attachment, however, do not invariably determine subsequent attachment relationships (Lamb, 1987). Such variability may well be

due to qualities of the internal (mental) representation of attachment patterns (Emde, 1992).

The issue of the continuity of psychological attributes across developmental stages has come to dominate debate within developmental psychology (Kagan, 1984); (Rutter, 1987); (Emde, 1988). Attachment research demonstrates that there are marked continuities in children's security of attachment maintained probably by the stable quality of the parent-child relationship (Grossman et al., 1985); (Main et al., 1985); (Sroufe, 1985).

The Adult Attachment Interview (AAI)

Recent advances in the measurement of attachment processes have led to vigorous interest in the nature and influence of mental representations of patterns of attachment (Zeanah and Barton, 1989). The move from investigations of behavioral expressions of attachment to the representational level of mental models of attachment was pioneered by Main (one of Ainsworth's many students) and her colleagues (1985) at Berkeley. Their structured assessment, the Adult Attachment Interview, is designed to elicit the individual's account of his or her childhood attachment experiences.

Main's Interview consists of a series of questions and probes designed to elicit an account of childhood from which inferences can be drawn about the individual's childhood attachment experiences, and evaluations of the effects of those experiences on present functioning.

Subjects are asked to describe their relationship with their parents during childhood and to provide specific biographical episodes to support generalized evaluations. Ultimate classification depends much more on the goodness-of-fit between generalized evaluations and specific memories, than on the quality (good or bad) of either the evaluations or the memories.

After asking for adjectives to describe the interviewee's relationship with each parent, and memories to enlarge on

- 960 -

these adjectives, the interviewer asks in a set sequence about painful childhood experiences. The interviewees are asked for explanations of their parents' behavior and to give an account of their present relationship with their parents and how their childhood experiences have affected their current behavior and their own ability as parents.

The audio-recorded interviews are then transcribed verbatim, and are rated on a number of scales pertaining to experience of personal history and current state of mind concerning that history. The interviews are classified into one of three major groups: autonomous/secure, designated "F" for free, dismissing/detached, designated "D," or entangled/preoccupied, designated "E." We shall briefly describe the characteristics of those categories of interviews in turn. The examples are taken from the 250 interviews obtained as part of the AFC-UCL Parent-Child Project (Fonagy et al., 1991b).

Characteristics of Interviews Classified Autonomous/Secure

Narrative. The interviewee shows awareness of the past and is aware of how past relationship experiences link with his or her current state of mind. The interview has the feel of a relaxed discussion.

Interviewee's Personal History. The interviewees present a believable picture of parent(s) who provide a secure base during childhood. Alternatively, they present a highly coherent account of adverse childhood experiences which they appear to have moved beyond; and they seem to have gone some way toward forgiving their parents. For example:

Were your parents ever threatening toward you in any way?

My mum was always threatening, ... heavy-handed with the leather belt on bare backsides, kind of daily, where your skin swells up, that sort of stuff, which I think is kind of over the top!

Have there been many changes in the relationship to your mother since childhood?

- 961 -

I think there's been a lot of change in the last five or six years. There's been a lot of struggle, a lot of angst and a lot of stickiness. Things have shifted primarily because of my behavior, for example, demonstrating to them that this is the kid you've got, not the kid you wanted and myself accepting, these are the parents you've got, not the parents you wanted, but this is who they are.

State of Mind. The Autonomous interviewee's state of mind is characterized by a relative absence of self-deception, the acceptance of the need to depend on others, an ease with imperfections in both self and parents, and a balance with respect to his or her own role in relationships. The interviewee accepts similarities between the self and the parents, gives indications of a strong sense of identity and of a belief in the influential nature of object relations.

Characteristics of Interviews Classified Dismissing/Detached

Narrative. The interviewee is very economical in style and the overall picture presented is sparse with respect to detailed memories. Subjects frequently explicitly assert their inability to recall their childhood. The significance of negative experiences, to the extent that they are acknowledged, tends to be denied.

Interviewee's Personal History. Usually the interviewee presents indirect negative childhood experiences of being unloved and having been neglected and/or rejected.

State of Mind. Consistent with the inference that the interviewee's experience was negative, and more painful than the individual is able to recall, the interviewee's current state of mind suggests drastic defensive maneuvers, including splitting and denial, evidenced through an inability to recall and strong idealization. For example, one interviewee described his mother as "loving," "caring," "the world's most affectionate person," "invariably available to her children," "an institution," yet could not remember a single incident to illustrate this "general feeling."

- 962 -

In other dismissing/detached subjects, grandiosity and a devaluing of object relations may be most characteristic. For example, one subject claimed to despise his father for the latter's inadequacy from the age of eleven, and described him as "a complete idiot." His derogatory attitude continued into adulthood; he described employing his father for a while, and ending up having to sack him.

In this kind of interview, the dismissal may also manifest itself as an explicit reliance on personal strength and a claim to be unaffected by negative experiences. A young woman, subject to severe beatings as a child, laughed these off with the comment: "No. I would say, in a way, it done, it done me good, ... I would have been spoiled, like, you know what I mean." In addition, such interviews tend to contain multiple indications of *incoherence* (see below).

Characteristics of Interviews Classified Entangled/Preoccupied

Narrative. Typically the narrative is confused and lacking in objectivity. It tends to be long and difficult to follow. Two-hour interviews are not uncommon. The subject appears preoccupied by past relationship experiences, with conflicts apparently unresolved.

Interviewee's Personal History. The subject's experience frequently includes role reversal, a parent-child relationship characterized by the parent's need to be parented by the child. The experiences of individuals presenting interviews classified E often include traumatic events linked to loss and/or abuse. For example, one woman recalled how her mother systematically deprived her of every single pet she ever had, giving away some, destroying others.

State of Mind. An incoherent, insightful, muddled state of mind, and frequently intense anger, are the hallmark of these interviews. For example, one woman, in the course of a somewhat confusing discussion of her current relationship with her mother, recalled with great resentment her mother wanting

- 963 -

to have paper plates and paper tablecloths for her wedding reception:

I thought here I am getting married and she's not bloody prepared to give, I thought every mother would sort of want to give the best—but not her! ... I can only attribute this to the fact that she's retired [sic]. And she was burgled recently [sic] ... The last 10 years I've always thought that I've been living for my sister rather than for myself. That might not be true, and I have made that a scapegoat for myself, but that's how I, I mean every sort of, every opportunity it seems to be drinking to the health and happiness of my sister and I think that um, probably mummy expected me to remain unmarried and to always be there.

An unconvincing self-analytic attitude may also appear in such interviews. For example, in giving an account of how he perceived his childhood influenced his adult personality, one father asserted in the context of a long-winded monologue that the statement, "the child was the father of the man," had an inevitable logic that could not be reduced to "postpsychoanalytic culture," and this had been evident to him since "the concept of maturity formed in [his] consciousness."

Characteristics of Incoherent Interviews

Incoherence is characteristic of both D and E types of insecure patterns of interviews and is essential to their classification. Its characteristics include: (1) inconsistencies/contradictions between descriptions offered (e.g., loving, warm) and experiences recalled. For example, a woman who described her relationship with her mother as first and foremost constant and dependable, later on in the interview recalled a formative experience of painful separation, sitting in her cot screaming, not believing that mother would ever come back again; (2) irrational and bizarre reasoning, misattributions; (3) losing the line of the

- 964 -

narrative, many irrelevancies ("what was the question?"); (4) rapid oscillations of viewpoint or voice; (5) lapses into jargon, and nonsense substitutions (in particular, psychological jargon); (6) metaphor inappropriate to the interview context ("I had a Shakespearean childhood with a touch of Sophocles"); (7) run-on sentences, sometimes in excess of 100 words; (8) extraordinary slips of the tongue: ("Er, I'd say we [mother and subject] were more friends, than mother and father ... mother and, sorry, mother and ... er ... son; (9) repetitions of which the subject seems unaware.

We administered the AAI along with a number of other instruments, to 100 prospective mothers and 100 prospective fathers expecting their first child. They were from a predominantly middle-class group and were relatively easy to follow up at 12 and 18 months after the birth of a child (attrition rate < 5%). Four of us independently classified the 200 interviews, and the level of agreement was high (Kappa = .7–.9). We used a second instrument from the attachment field, the Ainsworth Strange Situation, to operationalize the nature of the developing relationship between child and parent (Ainsworth et al., 1978).

The Strange Situation

Ainsworth's laboratory technique presents the twelve-to-eighteen-month-old infant with anxiety-provoking circumstances which normally cause the child to seek his parent's reassurance. These circumstances include an unfamiliar room, the appearance of a stranger, and two three-minute separations from the parent. Normally such circumstances would give rise to an urgent call by the child for comfort and reassurance from the parent. The child's behavior on the parent's return following the separations provides the most reliable indication of the quality of the infant-parent relationship.

Broadly speaking, upon reunion after separation, the children react in one of four ways: (1) Approximately half of the

- 965 -

infants, whilst evidently upset, seek contact with the parent, are comforted and then resume exploratory play. These children are classified as *securely* attached. (2) Roughly a quarter of the infants, frequently unperturbed by the separation, mix approach to the parent with clear indications of physical *avoidance*. (3) Roughly 12% typically approach the parent in distress, but *resist* being comforted and continue to display signs of anger or passivity. (4) A small group of infants show confusion and *disorganization* upon reunion with the parent.

The reunion episodes in the Strange Situation provide a basis for inferring the nature of the child's internalized view of his relationship to his parent. Specifically, his behavior reveals whether or not he expects help to alleviate his distress, as the securely attached child convincingly demonstrates or anticipates and protects himself from disappointment through avoidance or displacement of affect.

Results

The design of the study called for the administration of the AAI to both parents in the last trimester of pregnancy, the Strange Situation at 12 months with mother and at 18 months with father. The distribution of AAI classifications was as follows: 60% of mothers and 66% of fathers in the sample scored F, and 40% and 34%, respectively, were rated D (25% of the mothers and 24% of the fathers) or E (15% of the mothers and 10% of the fathers). Notably, while the distribution of AAI classifications was similar for mothers and fathers, the attachment status of the adults we studied could not be used to predict the attachment status of their spouses.

Before reviewing the predictive value of the interview measure we should point out that a number of valid and reliable self-rated measures of personality, self-esteem, past experience, demographic status, intellectual functioning, marital relationship, even questionnaire measures of memories of relationships with parents and peers, also administered during pregnancy,

- 966 -

could not predict the infant's attachment classification at 12 or 18 months (Steele et al., 1991).

The analysis of the interview data powerfully confirmed the intergenerational predictions.

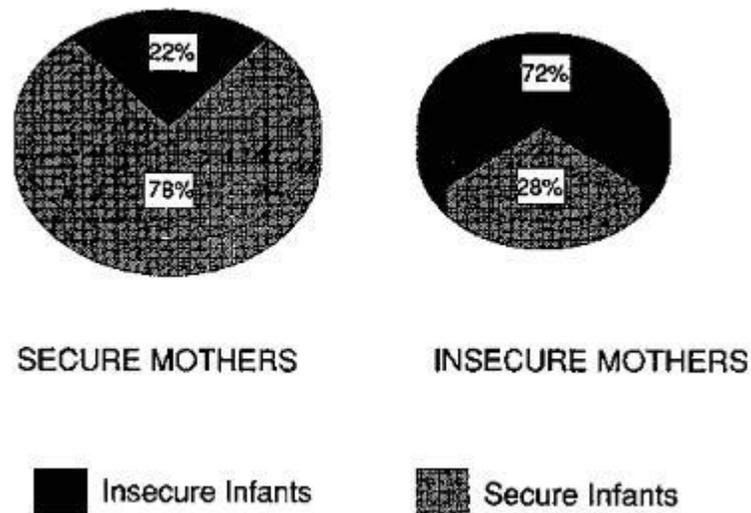
Almost three-quarters of the children responded to their mothers in an avoidant or inconsolable way on their return following a brief episode of separation, where the mother's interviews indicated either dismissing detachment or preoccupation (see Figure 1). This contrasted with 80% of children of autonomous (F) mothers who responded by visible reductions of their anxiety when mother returned. Only 27% of children of D or E mothers responded this way. *Thus, children whose mothers' internal representation of past relationships is indicated by the AAI to be insecure in the third trimester of pregnancy appear at increased risk to develop, in the course of the first year of life, an insecure relationship with their mothers.* A somewhat weaker, yet statistically still highly significant pattern of concordance emerged for fathers. Only 18% of children of *autonomous* (F) fathers behaved in an avoidant (A) or resistant (C) manner toward them upon reunion, while half the children of the fathers classified as detached/dismissing (D) or entangled/preoccupied (E) did so. For both parents the association between a detached adult interview pattern and insecure child behavior and free autonomous interview and secure infant behavior were the strongest. Preoccupied interviews were only slightly more likely to be linked to infant behavior indicating insecurity rather than security.

Remarkably, not only did the parents' interviews concerning their own childhood predict the child's attachment classification but it also predicted quantitative aspects of the child's observed behavior in the laboratory situation. As Figure 2 shows, on the second occasion of mother's return following separation, children of F (autonomous) mothers were most likely to seek contact with them and children of D (detached) mothers were least likely to do so. Children of E (preoccupied) mothers were most likely to show resistant/fighting behavior. Avoidance of mother on her return was most likely to occur

- 967 -

with mothers whose interview was classified D (detached). Similarly, fathers whose interviews were detached were most likely to be greeted by avoidance and fathers whose interviews indicated autonomy were most often greeted by a child seeking direct contact.

Figure 1
Proportions of Secure and Insecure Infants of Mothers with Secure and Insecure Interviews



A detailed analysis of the content of the interviews associated with infant insecurity confirmed that the narrative account provided by parents of the quality of their childhood experience contributed relatively little to the prediction of infant behavior. Those parents whose descriptions of their childhood were characterized by rejection, neglect, or lack of love were only slightly more at risk of bringing up infants who manifest insecure relationship patterns with them. Rather, *incoherence* in

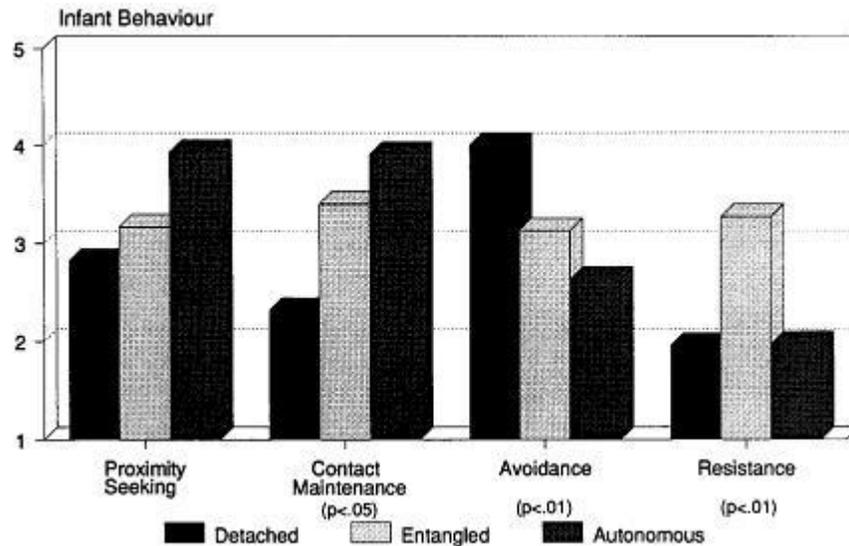
- 968 -

the form and content of the adult interviews proved to be the clearest prognosticator of infant insecurity at both 12 and 18 months. Although coherence, as defined and operationalized in the AAI, may be expected to relate to verbal skills, our findings showed that coherence in discussing childhood relationships was independent of both educational attainments and verbal IQ. One of the least coherent interviews came from a successful courtroom lawyer who, presumably, when not talking of her current anger with her mother, was capable of exceptional fluency. From these data we cannot be certain whether her incoherence was an indication of incoherent representations of the object, or an incoherent representation of her relationship to it, or the fact of having to communicate the relationship to a female interviewer activated the anxiety which interfered directly with a coherent narrative. Ratings of interview transcripts demonstrated that coherence, and other related qualities of

- 969 -

expectant parents' narratives of their childhood (e.g., clarity of memories, the absence of distortions such as idealization) appeared to anticipate the security of the child's attachment to that parent a year or 18 months after the interview was carried out.

Figure 2
Rating of Infants' Behavior on Reunion with Mother Following Second Episode of Separation



It seems that the ghost haunting the nursery, as predicted by Fraiberg, *is* more likely to appear when the parents' defensive stance is apparently formidable. In particular, among parents of infants manifesting avoidance upon reunion, defensive strategies (including idealization, derogation, repression of affect, isolation, intellectualization, and splitting) were far more marked in accounts of childhood relationships. This may provide an important clue concerning the unconscious mechanism underlying the intergenerational link. Further exploration of the data was necessary before we fully understood this set of links.

The results confirmed other important aspects of Fraiberg's prediction. The child's behavior with each parent in the Strange Situation was clearly determined by the AAI classification (particularly the state of mind ratings) of *that* parent. Temperament or some other characteristic of the *child* could not account for the association, as there appeared to be no association between the child's relationship to one parent and his or her relationship to the other. Neither mother's own security nor the child's security with mother appeared to increase the likelihood that the child would manifest a secure relationship with the father or vice versa. Further, the relationship with the other-sex parent could not explain "mismatches" between parent-child pairs (secure parent/insecure infant behavior, or the other way round). For example, children who were secure with a father, whose interview was classified as insecure, were no more likely to have a secure mother than children who matched their father's insecurity. Statistical examination of the data, using log-linear modeling to explore the possibility of higher-order interactions, revealed that the only significant associations were those between the AAI of mother with the

- 970 -

child's behavior in the Strange Situation with mother ($p < .0001$) and the AAI classification of father and the child's behavior in the Strange Situation with him ($p < .0005$). No significant higher-order interactions were found. Evidently, the ghost appeared only in relation to one parent and did not haunt the nursery sufficiently to spoil the child's relation to the other.

We wondered about other ways of explaining the 25% discordance between parent-infant pairs. Closer scrutiny of the interviews of "secure" mothers with insecure children revealed significant differences. When compared to secure mothers whose children appeared to be secure at one year, these mothers (whom we now called "Fragile F's") tended to describe their childhood with less current anger, more loving memories of father, and less role reversal with both parents (Fonagy et al., 1991b). Similarly, insecure fathers whose children manifested a secure pattern showed significantly less idealization than insecure fathers with insecure children (Steele et al., 1991). Thus, for parents whose classification failed to predict the quality of the child's relationship to them, *post hoc* analysis revealed their interviews to contain indications of possible difficulties which were not picked up by the qualitative treatment of the data. These meaningful differences associated with mismatches strengthened our convictions about the value of the interview.

Interpretation of the Findings

Why is it that qualitative features of parents' narratives of their own childhood provide an indication of their potential to establish secure relations with their young children? A partial, and somewhat speculative, answer to this question unfolded in several stages.

Insecurity and Defensive Strategies

To start with, we looked for the obvious, a potentially confounding third factor that could account for *both* the characteristics of the interview and infant security, e.g., demographic

- 971 -

factors and measures of psychopathology, parental personality and self-esteem. No characteristic of either parent, or the quality of the marital relationship, nor any of a substantial number of other attitude-related measures predicted infant security with either parent. Such negative findings are, however, common in prospective investigations. Much happens during a year and a half that can distort causal relationships (loss of job, breakup of relationships, illness, etc.). It is remarkable that despite such vagaries of fate, Fraiberg's prediction came through unambiguously.

Behavioral evidence points to other pathways that may play a part in mediating Fraiberg's assumptions. Sensitive and responsive patterns of maternal behavior are observed more frequently in women classified as secure on the AAI (**Crowell and Feldman, 1988**); (**Haft and Slade, 1989**). Conversely, mothers classified as detached have been shown to manifest a lack of attunement in mother-infant interactions (**Haft and Slade, 1989**) and show restricted patterns of communication between child and parent (**Grossman, 1989**).

Taking the perspective of traditional attachment theory (**Bowlby, 1969**), (**1973**), (**1980**), it may be argued that autonomous (F) parents are free to respond to their child's attachment cues because they are not unduly burdened by unresolved conflicts regarding their childhood experience. Detached (D) parents may have difficulty in acknowledging attachment needs. They have not come to terms with their experience of rejection by their own parents—and are, as a consequence, apparently insensitive to their infants' signals. Preoccupied (E) mothers are likely to provide an inconsistent, muddled picture for their infants, frequently giving rise to a situation where the infants' attempts to deal with their attachment needs are frustrated. Consistent with such a view was the powerful association between infant security and the level of coherence in both mothers' and fathers' interviews. However, studies that operationalize sensitive and responsive mothering simply in terms of

- 972 -

responsiveness to crying, timing of feeding, sensitivity to infants' cues for proximity or contact or general responsiveness, affectionate stance, and gentleness do not predict the infant's security of attachment at all well (**Field, 1987**); (**Goldsmith and Alansky, 1987**).

Taking a psychoanalytic standpoint, we may be able to go a step further. Clinical scrutiny of the data suggests that the defensive behaviors that may be discerned in the reactions of children under stress have their origins in the parents' defensive strategies. We have taken the view that many of the shortcomings in the mother's responsiveness to her child's needs derive from her own defenses against acknowledging and understanding similar negative affect in herself. The mother's defenses have their origin in her developmental history and, in turn, make it difficult for her to respond empathically to affective signals from her infant. Such defensive responses from the mother are thought to reflect well-established characterological patterns, the presence of which may be inferred on the basis of the AAI administered during pregnancy.

We propose the following model to relate parental defenses to infant behavior: when the balance of the baby's experience is generally weighted in terms of unpleasure deriving from the caregiver's defense-driven failure to recognize the circumstantial or physical determinants of his distress, or her failure to respond to the negative affects aroused, the infant's anxiety and anger persist. Because the infant cannot rely on his mother sufficiently to respond to his signals of negative affective states and thereby to reduce them, he must find alternative ways to diminish them. With an immature and as yet unstructured psychic apparatus, the infant will have no recourse to psychic defenses, and a behavioral strategy must be invoked.

What behavioral responses can we conceive that the infant has access to in his as yet strictly limited repertoire in order to achieve this? Closest to hand must be behavioral strategies, available in rudimentary form as genetically programmed patterns of self-protective actions, which antedate psychic defenses, such as avoidance, fighting, freezing, and self-injurious

- 973 -

behaviors (**Fraiberg, 1982**). The Ainsworth A and C patterns of avoidance and resistance constitute common combinations and tally with Fraiberg's (**1982**) observations of avoidance and fighting. We thus assume that where, in his interactions with the object, the child is forced regularly to rely on defensive strategies for mediating his affects, he is likely to appear either superficially undistressed (avoidant) or inconsolable (resistant) in the Strange Situation upon reunion with that parent. Main and her colleagues (**Main and Solomon, 1987**); (**Main and Hesse, 1991**) drew attention to

a fourth disorganized pattern in some infants' responses to separation and reunion which may well indicate the absence of available defensive behaviors or the use of one of Fraiberg's more extreme strategies such as self-damaging acts or freezing.

The choice of specific defensive action could well be determined by the nature of the infant's interaction with the caregiver as well as the child's temperament (Sroufe, 1988). Meltzoff and Moore (1989), Meltzoff (1990), Trevarthen (1977), (1987), and others have demonstrated the remarkable ability of a child little more than a few weeks old to imitate those aspects of its caregiver's behavior that fall within his range of capability. It is possible then that particular defensive behaviors are primed by the child's observation of manifestations of the mother's defensive stance. These may be narrower categories of actions than can be reliably assessed in the Strange Situation context. In essence, we assume that the child internalizes his perception of his mother's reaction to his own affective signals which, in the case of insecure mothers, serves to ward off the child's affect and characterizes her interactions with the child.

The congruence of the parents' and infants' mode of defense, as reflected in the interviews and the child's behavior in the Strange Situation, respectively, was striking in numerous instances. For example, one little girl displayed marked avoidance in the Strange Situation reunions, averting her eyes from mother's gaze throughout and failing to seek proximity. She actively distanced herself from mother, even when the latter

- 974 -

drew the child to her. She clearly wished to continue to play on her own after her mother's return.

The daughter's self-sufficiency in the Strange Situation was prefigured by her mother's account of her childhood experiences. Inability to recall permeated the interview. She could not remember being upset as a child, and consequently claimed to have had no cause to wish to be comforted. Yet what she called "small" upsets were evidently minimized experiences of traumatic rejection. When the interviewer asked her if she really had no early memories of being upset, she replied, "No, because nobody died." She referred to her relationship with her father as being characterized by pride and love despite the fact that he was profoundly disappointed in his only child not being a boy. She recalled overhearing him say, "Well, if she'd been a lad we'd have never lost [never have] left the farm." Yet characteristically the memory was not associated with affect. "As a child I'm sure I never felt rejected." The parents were prone to violent quarrels, and the father's physical abuse of his pregnant wife caused this mother to be born with a crippled foot which needed subsequent surgical correction. She was abnormally isolated in her childhood, and from the age of five was forced to look after herself. "I was a latchkey kid, you know, I'd come home and knock on the door next-door and they'd give me the key and let, and I'd let myself in so I'd be on my own for about an hour and a half till my mother got in from work." We suspect that the process of transmission may not in all cases be passive imitation, but may involve active "education" on the part of the parents. In a further striking instance, a mother repeatedly claimed to deal with "all life's tribulations" by recourse to humor or laughter. Her expression of this principle was somewhat platitudinous: "You got to laugh haven't you. Otherwise you would cry!" In the Strange Situation, upon reunion, this mother was unusually active with her distressed one-year-old. She rocked and bounced the child for over 60 seconds until the baby's distress turned into a reluctant half-laugh.

- 975 -

Numerous such observations led us to the assumption that the infant's pattern of relating to the parent in the Strange Situation reflects the parent's habitual pattern of dealing with the infant's communication of unpleasurable states. This is of course consistent with the more general proposition advanced by Cramer and Stern (1988), Lebovici (Lebovici and Weil-Halpern, 1989), and others working in the field of infant-mother psychotherapy. It is claimed that pathological features of the infant's mental representations of relationships derive from the internalization of enactments of maternal conflicts observable in microscopic aspects of the infant-caregiver interchange. Fraiberg's (1982) observations of the genesis of defensive behaviors in the second year of life are also consistent with this point of view, although she does not explicitly identify internalization of derivatives of the mother's defenses as forming the basis of the choice of defensive behaviors in infants.

Our findings underscore the need to examine, in greater depth, the multigenerational aspects of psychic defenses. It seems to us that the defensive quality of parental reactions to infants' affective signals is internalized by the child and is manifested in behavior upon reunion in a concordant manner. The child's behavior in the Strange Situation is an indicator of his cumulative experience of his mother's behavior in response to his distress. This view is an elaboration of Anna Freud's (1965) conception of the preverbal period of childhood wherein developmentally acquired tendencies, the result of external conflict with the environment, prefigure the modes and mechanisms that come to regulate conflict.

Capacity for Attunement and Early Defenses

Can we explain why some parents predispose their children to resort habitually to defensive strategies when interacting emotionally with them? Microanalytic observational studies of infant-caregiver interaction demonstrate attunement or synchronicity in the parent-child couple (Trevarthen, 1977), (1987);

- 976 -

(Trevarthen and Logotheti, 1987); (Emde, 1981), (1988); (Stern, 1985). Studies illustrate dialogue-like interactions between child and caretaker in which infants reveal great sensitivity to the expressions and, with development, to the intentions of the other. Finely tuned nuances and rhythms of affect-laden preverbal communications characterize normal mother-infant couples. The child is more likely to resort to defensive behavioral strategies in the face of the caregiver who is incapable of responding accurately to his affective signals. Experimental studies document the infant's distress when confronted by a video image of mother's face, either artificially out of synchrony with the infant's facial gestures, or totally immobile and unresponsive (Tronick et al., 1980). The child's communication is rudimentary, and the repeated failure of the object to respond accurately to such early communications may be sufficient to force the child to adopt defensive behavioral strategies that preempt this vulnerability.

Defensive behaviors are probably commonly used by all infants in the face of stressful situations. Their use in the laboratory upon reunion with the primary object may indicate frequent recourse to defensive strategies in the face of repeated and painful failures of past attempts at the communication of distress. The full range of the adult's mental capacities is called upon in order to understand the child's current emotional state, its cause, its experience, its consequences (Stern, 1985). To preempt the need for defensive strategies, the caretaker must appropriately sense and respond to the child's rudimentary attempt to formulate and express his current mental state, his intentions and wishes. The defensive-insecure patterns of the Strange Situation may mark the caregiver's history of failure to picture the infant's mental state accurately. Is the potential capacity for attunement reflected in an adult's narrative of his childhood experiences? Does the predictive power of the AAI rest in giving an indication of the parent's capacity in this sphere?

- 977 -

Reflective Self Function and Intergenerational Transmission of Security of Attachment

To help find an answer to the above question we may invoke a lively area of current research in cognitive science: the development of children's understanding of minds (Whiten, 1991). The psychoanalytic implications of the growth of the child's understanding of the mental world of the other has yet to be fully spelled out, although it is something our group has been engaged in for some years (see Fonagy, 1989), (1991a); (Fonagy and Higgitt, 1990); (Fonagy and Moran, 1991); (Steele, 1990).

One of the capacities that defines the human mind is the ability to take account of one's own and others' mental states in understanding why people behave in specific ways. "The human mind is a [self] perceiver" (Friedman, 1985p. 392). The reflective part of the mind will ascribe mental qualities to the behavior of self and other, including the assumption that there is a conscious self involved in the experience (Joseph, 1987).

The term "intentional stance" is used by Dennett (1978), (1983) and others to denote the individual's ability to appreciate mental states with content such as beliefs, thoughts, desires, and expectations. Premack and Woodruff (1978) term the capacity to assume that mental life exists in the other "a theory of mind." Our understanding of the world around us is tied to our everyday intuitive understanding of the human mind, that of the self as well as of the other. The world we live in can only make sense if we invoke constructs like wishes, beliefs, regrets, values, and purposes, to understand the behavior of the object as well as our own reactions. This is the function of the reflective part of the self (Fonagy et al., 1991a).

We assume that the reflective self plays a central role in parenting. In the first year the infant's understanding of the mental world of beliefs and intentions in self and other is yet to evolve. Human action is a meaningless and chaotic cacophony of physical events, not yet connected by the thread of presumed intent. Thus we may say that the infant is, at this stage,

- 978 -

even more helpless mentally than physically. The caregiver needs to "provide" the infant with self-reflective capacity to organize this world through the appreciation of the infant's perspective. The caregiver reflects upon the infant's mental state and attempts to contain his otherwise overwhelming affects and anticipate his psychological needs for reassurance, comfort, and support. The caregiver must adapt readily to the infant's viewpoint and manipulate the external world to fit it.

Attunement, as conceived by Stern (1984), requires an awareness of the infant as a psychological entity, with mental experience. It presumes a capacity on the part of the caregiver to reflect on the infant's presumed mental experience and represent it to him, translated into the language of physical actions, which the infant can understand. If the caregiver is

highly attuned, the baby may be thought to have experience of the process of reflection within his own mental boundaries. This "illusion" is regarded by many psychoanalysts as an essential component of emotional development (Winnicott, 1956).

People differ in their capacities to think about behavior in terms of psychological rather than physical determinants. The caregiver who manifests this capacity at its maximum may be expected to respect most fully the child's vulnerable emerging psychological world, and reduce to a minimum the occasions on which the child needs to make recourse to the primitive defensive behaviors which appear as hallmarks of insecure attachment.

The AAI permitted the assessment of each parent's capacity to think of his or her own and others' actions in terms of mental states (beliefs or desires). A rating scale to measure an individual's ability to invoke feelings, beliefs, intentions, conflicts, and other psychological states in his or her accounts of past and current interpersonal experience was constructed to be applied retrospectively to the narratives obtained (Fonagy et al., 1991a). The scale aimed to assess the interviewees' use and understanding of human mental function in explanations of others' behavior as well as their own reactions. In line with

- 979 -

Joseph's term for this capacity, we termed the measure the Reflective Self Scale (RSS). At the low end of the scale were parents who were unwilling or unable to reflect on their own intentions or those of others. They would tend to attribute their parents' behavior to social or cultural factors, or physical circumstances, or simply refuse to reflect upon their own or their parents' motivation. At the high end were parents who showed the ability to provide a coherent mental representation of the psychological world of their objects, to offer a credible understanding of the beliefs and wishes of their parents and the psychological roots of their own motivations, both as adults and earlier as children. They appeared to be able to present believable constructions of their childhood and current circumstances in terms of what they and their objects experienced, believed, wished, or felt. The RSS had six points. The scale was developed to assess the autobiographical narrative elicited by the AAI, but there appears to be no reason why its use could not be extended to similar narratives collected for other purposes.

We were interested primarily in the strength of the association between reflective self-functioning of the caregiver before the child was born and the child's security of attachment to that individual at one year or eighteen months. We examined the proportion of mothers of avoidant, resistant, and secure infants falling into the six reflective self groups. Mothers of resistant infants had only slightly lower RSS ratings than those of secure children. While 52% of mothers of secure infants received ratings in the top two categories, only 10% of avoidant infants' mothers did so. The distribution of mothers' RSS ratings, grouped by infant security, was significantly different from chance (Chi square = 14.4, $df = 2$, $p < 0.001$). The association between infant security and father's RSS rating was somewhat weaker, but still statistically significant (Chi square = 7.35, $df = 1$, $p < 0.01$). Reflective self-function showed a stronger association with infant security (in terms of a point-biserial correlation based on median splits) than any other measure we collected. It was a stronger predictor than AAI attachment

- 980 -

classification or any of the AAI's own scales ($r = .51$ and $.36$ for mothers and fathers, respectively). Reflective self-functioning also related strongly to observer ratings of the infant's behavior in the Strange Situation. In particular, infants of mothers with high ratings on this scale showed less avoidant behavior and more contact maintenance ($r = -.37$ and $r = .30$, respectively).

Our ratings on this scale were both the most powerful determinant of the overall AAI classification of the parents, and the single most powerful predictor of child-parent attachment patterns. The predictive power of the coherence of interviews, noted above, may lie in the latter's close association with RSS ratings. Thus parental capacity to accurately identify psychological states appears to play a crucial role in the child's emotional development. What are the implications of this observation for the psychoanalytic theory of personality development?

Parental Reflective Self Capacity and the Development of the Self in the Child

The interdependence of self-understanding and the understanding of the other is proposed by philosophers of the mind, in the tradition of Wittgenstein (1953), (1969) and Davidson (1983). Davidson, in tackling the philosophical problem of meaning, abandons the Cartesian view that somehow meaning is intrinsic to thoughts. He no longer holds the view of Descartes that the starting point for the evolution of the self has to be knowledge of one's own psychic state from which, through a process of inference involving language, the individual may establish the psychic state of the other. Davidson proposes that we learn about prototypical mental attitudes by taking the standpoint of the third person, the

observer. He concludes that only someone who can be said to know, at least to some extent, the mind of another can be said to think himself.

Cavell (1988a), (1988b), (1991), in her examination of the psychoanalytic implications of this work, points to the need for

- 981 -

psychoanalytic theoreticians to take cognizance of the inherently interpersonal nature of the human mind. As adults, we can, and indeed may prefer, to think in social isolation. But this stage of sophistication does not contain within it our progress to this point. Our capacity to conceive of our subjective state may, if we take Davidson's view seriously, be the consequence of being active observers of the functioning of other minds as well as being the subject of their observation. The mind, or more specifically our theory of mind and the reflective part of the self, should be thought of as inherently interpersonal. It evolves in the first years as part of the infant-caregiver relationship.

Numerous psychoanalytic perspectives of self development are consistent with these philosophical speculations. Winnicott (1956) discusses the self formation of the infant within the matrix of the mother-infant relationship. The mother's capacity to demonstrate to the infant its mental existence within her mind provides the foundations of the child's capacity to perceive and explore (see also Kohut, 1977); (Modell, 1984). Kirshner (1990) shows how such psychoanalytic perspectives mesh with the Hegelian dialectical view of self development whereby "the self comes to be" as a result of an intersubjective relationship in which the subject must discover in another entity a quality of being it has itself, but of which it is not yet aware (p. 169).

There is extensive observational (Dunn, 1988) and experimental (Baron-Cohen, 1989) evidence to support the view that the differentiation of self and object in terms of an appreciation of physical reality causality is completed a great deal earlier than the separation of the mental world of the two. We may further assume that in the first years, the infant's mental experience of itself is acquired through its observation of its objects. Intersubjectivity then, here defined as the joint, or shared, experience of *mental* states between self and object, probably continues until the mental awareness of the "third" in the evolution of the Oedipus complex brings this phase to a close (Fonagy, 1991b). The

- 982 -

guilty four-year-old who said to his mother, "I can tell from *your* eyes that *I* am lying," did not regress to a stage of fusion with his primary object. It is more likely that his grasp of the boundaries of his mental world momentarily returned to an earlier state (in this instance, consequent on anxiety and self-reproach). The initial reliance on the object's reflective self and the gradual recognition of its separateness are seen by us as necessary precursors to the evolution of a securely established reflective self in the child.

It seems to us that crossgenerational prediction of security is possible in part because attachment security in infancy is based on parental sensitivity to, and understanding of, the infant's mental world. The parent's capacity to generate a psychological world for the infant is dependent on coherent representations of the mental world of self and other. If the parent's own attachment history was poor, that parent's willingness to contemplate the mental world of self and others may be defensively limited. The coherence of the parents' perception of their past derives from an unhindered capacity to observe and reflect upon their own mental functioning, to have a plausible view of themselves and their objects as human beings, thinking, feeling, wishing, believing, wanting, and desiring. This coherence forms the bridge of attachment security between the generations. It is the precondition for the caregiver's ability to provide an "expectable" or "good-enough" mental environment for the infant.

The view is consistent with Main's (1991) report that a six-year-old securely attached child had a better appreciation of the mental world than the insecurely attached child. The secure child has a better developed capacity to reflect upon the mental world because the capacity to conceive of the self and other as mental entities is developmentally tied to the psychic capacity of the caregiver to observe the infant's mind. This thesis is also consistent with Loewald's (1978) suggestion that self-reflection is based on internalization of the mirroring interplay of the mother-infant dyad. Accurate conscious reflection presupposes

- 983 -

the experience of having been the subject of such confident reflection.

We understand mental reflective function in the parent to make an important contribution to the infant's capacities to organize defense, control affect, and build up a constant representation of the object. The caregiver's capacity accurately to reflect the child's psychological experience provides the infant with a part of the mental equipment necessary to establish its own mental or reflective self. Its mental state anticipated and acted on, the infant will be secure in its attachment. It will be less reliant on defensive behaviors to maintain psychic equilibrium. The heirs to such defensive behaviors, primitive

mechanisms of defense, such as splitting and massive denial, would later undoubtedly come to limit the insecure child's capacity to make full use of his or her potential to reflect on mental states. This handicap would ultimately constrain the child's capacity to provide an adequate psychological environment for his or her own infant. This may well be part of the explanation of the intergenerational concordance in attachment security. Thus reflective self function may be both an indicator of the likelihood of "ghosts" in the nursery and an indicator of the caregiver's predisposition to transmit these.

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