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A

PSYCHOLOGICAL CONSIDERATIONS OF TRAUMA IN EARLY INFANCY

by

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CHAPTER ONE
OVERVIEW AND REVIEW OF THE LITERATURE

Introduction

This study proposes to investigate the relationship between psychoanalytic theories of development in earliest infancy and the theory of trauma. The method involves both theoretical inquiry and naturalistic observation: (1) artificial distinctions between aspects of infant experience will be made, in an attempt to define and delimit the 'traumatic possibility' in this stage of the development of the human personality; and (2) one or more infants will be observed in a potentially traumatogenic situation. One goal of the investigation will be the development of a clear definition (or model) of early trauma which will allow for terminological precision and phenomenological accuracy, this leading into the question of how trauma in infancy may or may not disturb normal maturational processes. We may expect that such a study will shed light not only on the psychology of the infant, but also on the concept of trauma itself as an extreme 'event' in human experience (one not limited to infancy per se). Here we are discussing the period of human life where the infant is thought to be in a state of 'autism' or 'symbiosis' (Mahler, 1968, 1975) with the mother. This era has also been described as one of 'autoerotism' (Freud, 1914b, 1923), 'primary identification with the object' (Fairbairn, 1952), 'primary total undifferentiatedness' (Little, 1956), and as a moment when the

child has yet to separate out the 'me' from the 'not me' (Winnicott, 1945, 1960b). The ego at this early stage is presumably in a feeble and undeveloped state, and the potential for traumatic events to distort normative maturation is perhaps greater at this time than at any other in human development.

Or is it? Certainly it is the contention of those analysts who have been courageous enough to apply the psychoanalytic method to psychosis that the roots of the schizophrenias lie in failures of the environment in earliest infancy. This is of course by no means the generally accepted view, even amongst many analytically-inclined therapists. While trauma has always played a central role in our understanding of the development of psychopathology, the question of trauma in early infancy raises a variety of thorny questions which resist definitive answers. Can we say with certainty, for example, that there is in fact such a thing as 'trauma' at this time in human life, before the infant has achieved more mature and integrated ego-development in such domains as perception and memory? If we can indeed presume that it is possible to traumatize an infant, what are the traumatic factors (constitutional, environmental, etc.) which can be ascertained, and how do these vary from infant to infant? What psychic processes are set in motion by a traumatic precipitating event or events in the early months of life, and how enduring are these processes? To what extent is the trauma limited to the infant's individual experience, as

compared to being a shared experience between mother and child? Psychoanalytic theorists have created sophisticated models of early development, while at the same time attempting to describe what processes ensue when such development is derailed. Whether such 'derailment' constitutes trauma for the infant is a question which requires an intensive review of the theories which describe the infant's subjective experience in the first months of life, as well as an investigation of the empirical literature which has scrutinized the actual infant under stress. An analysis of the sequelae of shock trauma (Kris, 1956) on the behavior of the unintegrated infant may provide a circumscribed opportunity to observe and catalogue the effects of such trauma. Shock trauma is to be distinguished from 'strain' trauma (trauma which accumulates, cf. Khan, 1963), where the traumatic 'event' is not so easily observed. One hypothesis which may be examined is that any physical invasion of or injury to the body at this stage will at the very least cause a *temporary* alteration in the interplay of psychic forces within the organism. Whether or not this change can distort personality structure over the long-term will require an investigation of early memory (Chapter Three), though a definitive answer is certainly beyond the bounds of this inquiry. What can be done is to lay the groundwork for such an investigation, beginning with a review of psychoanalytic notions of development and of trauma, derived in

particular from the writings of Freud and the British object relations school.

Freud on Trauma

As is well known, psychoanalytic theory began as a theory of trauma. Breuer and Freud (1893) originally envisioned sexual seduction in childhood as the exciting factor in hysteria. It is the child's inability to 'react' to the traumata (to 'abreact' it, or work it off in some way) which causes it to retain its associated affect in unconscious memory ('Hysterical patients suffer principally from reminiscences.', 1893, p. 29). Later, Freud (1894) assigned the ego the role of transforming (repressing) the traumatic memory in order to deprive it of its affect. Working under the assumption that this repressed affect was a psychic energy of a fixed quantity, he saw it as undergoing conversion into the hysterical or obsessional symptom. Thus, for Freud the energic *intensity* of a trauma is a crucial *economic* factor, which helps to determine the capacity of the ego to defend against the affect associated with it. Important to note here is that even in this early period Freud distinguished between the precipitating event and the trauma itself as *an intrapsychic process:* 'It is not the experience itself which acts traumatically, but the memory of it when this is re-animated after the subject has entered upon sexual maturity.' (1896, p. 157)

After 1905, Freud abandoned the notion that all of his hysterical patients had been subject to sexual use in childhood, and assigned unconscious fantasy its proper role in considerations of such matters. Though he has been criticized for doing so (see Herman, 1992), one can see clearly that his development of the theory of infantile sexuality would not have been possible were he to have maintained his insistence *solely* on the external factor in the development of neurosis. During this period in Freud's thought, trauma is described as arising from *endogenous* sources in development. He (1911) does seem to intimate that the development of various ego-functions and the concomitant development of the reality principle occur as the organism responds to the 'trauma' of unpleasure, though Winnicott (1965a) was to later suggest that -- though the mother is always 'traumatizing' -- this effect is mitigated by her ability to adapt on a moment-to-moment basis, and by her intuitive identification with her infant's growing ability to 'employ new mental mechanisms.' (p. 146) Seen from this perspective, it is innacurate to utilize the term 'trauma' to reference setbacks and let-downs which are part of development-in-health.

It is not until *Beyond the Pleasure Principle* (1920) that we see Freud again focus on trauma as a discrete theoretical entity with specific metapsychological components. It is here that Freud must modify his previous insistence on the pleasure principle as the chief *modus operandi* of the unconscious, and

admit of something more 'primitive': the repetition compulsion. This conclusion derived from his observation that traumatized patients have re-enactment dreams which are attempts to actively master what has been passively surprising and frightening. With these considerations in mind, Freud develops the concept of the *Reizschutz,* or protective shield, which acts as a barrier to excessive stimulation which might flood the organism (again, note the insistence on the importance of economic factors). This stimulus barrier is a psychic 'crust' which has formed during development as a result of exposure to external forces, and it is hypercathected with energy in preparation for external events. Thus:

> We describe as 'traumatic' any excitations from outside which are powerful enough to break through the protective shield....Such an event as an external trauma is bound to provoke a disturbance on a large scale in the functioning of the organism's energy and to set in motion every possible defensive measure. At the same time, the pleasure principle is for the moment put out of action. There is no longer any possibility of preventing the mental apparatus from being flooded with large amounts of stimulus, and another problem arises instead -- the problem of mastering the amounts of stimulus which have broken in and of binding them, in the psychical sense, so that they can be disposed of. (1920, pp. 29-30)

We see, then, that the protective shield is conceived of as a defensive barrier against excessively stimulating external stimuli. However, Freud is quick to point out that no such barrier exists to protect the organism against excessive *endogenous* stimulation (instinctual drives and derivatives).

The defense here is *projection* of the drive element into an external object. To simplify, for Freud at this point there are two options in the traumatic situation: breach in the stimulus barrier, leading to flooding and the necessity for defense (traumatic event from without), or projection of excessive endogenous stimulation (traumatic event from within). Projection may also be employed in the former case -- after an external trauma -- as a means of 'mastering the stimulus which has broken in.'

Later in his thinking, Freud (1926) connected his thoughts about trauma to his evolving conceptualization of the sources, purposes, and sequelae of anxiety. The distinction is made between 'automatic' and 'signal' anxiety. Automatic anxiety is produced in a situation of absolute helplessness on the part of the ego in the face of danger. This is the situation of the very young infant or the man who is walking down the street and is hit by a bus without warning. Signal anxiety, by contrast, involves a time factor and a warning from the ego of *potential* danger to the organism. It is automatic anxiety which is traumatic; signal anxiety intentionally reproduces automatic anxiety *before anything happens* in order to *avoid* trauma.

Freud also conceived of these anxieties in terms of development: the infant begins in a state where he is prey to automatic anxiety (with birth as the primal example of this),

and slowly develops the capacity to utilize anxiety as a signal:

> This change constitutes the first great step forward in the provision made by the infant for its self-preservation, and at the same time represents a transition from the automatic and involuntary fresh appearance of anxiety to the intentional reproduction of anxiety as a signal of danger. (1926, p. 137)

Signal anxiety may thus be conceptualized as a function of the protective shield: breaches are still possible should the amount of excitation exceed the capacity of the anxiety (as a function of the *Reizschutz*) to bind it. With the advent of signal anxiety in development, it is now possible for the child to consider the *sources* of danger (loss of object, castration, etc.). When sources can be considered, the child has achieved the capacity for sophisticated unconscious symbolization, which was not possible at an earlier stage.

While we are here talking about what are seemingly psychological factors in the traumatic situation, Freud in fact saw the stimulus barrier and its component anxiety as biologically determined and, he believed, the strength of each may vary according to temperamental and constitutional factors. Other analysts have pointed out that the physiological processes which accompany shock are the same whether or not the shock arises from a physical or psychic event (M. Stern, 1951), and the question has been raised as to whether the protective shield exists as a type of homeostatic regulatory mechanism (M. Stern, pp. 179-181, Menninger, 1954). Modern-day research in

neuropsychology (Gaensbauer, 1995, van der Kolk, 1994) echoes these conclusions, finding that trauma causes profound alterations in hormone secretion (the physiological component of a 'rent' in the stimulus barrier) and memory processing.

Freud's final thoughts on trauma came in his 1937 book *Moses and Monotheism.* Here he points to four factors at work in trauma: (1) trauma occurs in the first five years of life (with the greatest likelihood of such an event occurring during the oedipal period); (2) trauma involves the libidinal and aggressive instincts; (3) the traumata undergo repression; (4) the traumata are either external events or internal perceptions. As regard the sequelae of trauma, Freud writes:

> The effects of traumas are of two kinds, positive and negative. The former are attempts to bring the trauma into operation once again -- that is, to remember the forgotten experience or, better still, to make it real, to experience a repetition of it anew, or even if it was only an early emotional relationship, to revive it in an analogous relationship with someone else. We summarize these efforts under the name of "fixations" to the trauma and as a "compulsion to repeat"...The negative reactions follow the opposite aim: that nothing of the forgotten traumas shall be remembered and nothing repeated. We can summarize these as "defensive reactions." Their principal expression are what are called "avoidances," which may be intensified into "inhibitions" and "phobias."...Fundamentally they are just as much fixations to the trauma as their opposites, except that they are fixations with a contrary purpose. (1937, pp. 75-76)

Here we see trauma coming to occupy a central place in the psychoanalytic theory of neurosis, as responsible for a

host of symptoms and defensive arrangements, and as a significant factor in the transference when working with traumatized patients. It would not be unfair to Freud, however, to point out that these conceptualizations raise many questions. How, for example, can the concept of the protective shield be integrated into our knowledge about ego development and functioning? How does this theory of trauma fit in with both drive and object relational aspects of early development? Most importantly, in terms of this study, we are left with the question of 'what constitutes trauma for the human infant?'

Contemporary Comments on the Concept of the Stimulus Barrier

Anna Freud (1967), in her consideration of Freud's conceptualizations, suggested that the protective shield/stimulus barrier is in fact a complex ego function (see also Keiser (1967) and Gediman (1971)). A. Freud described the ego as the victim in any breach of the stimulus barrier, with such trauma coming from two possible sources: environmental stimulus and/or internal fantasy related to otherwise harmless environmental stimulus. Sandler (1967), using reports gathered from work with traumatized children at the Hampstead Clinic, critiqued Freud's theory of trauma and the stimulus barrier, noting that the children in his care did not always seem to experience a passive state of helplessness (as in Freud's model of automatic anxiety). For Sandler it is the *posttraumatic state of ego strain* which determines the effect on personality

development. He also contends that Freud's theorizing does not explain how some children seem to have their ego *enriched* by trauma. (Here we might respond that such an event which enriches the ego could not, by definition, be called a trauma.)

Mahler's (1975) conception of the stimulus barrier in infancy was bound up with her description of a 'normal autistic' phase of early infant development, whereby the infant is protected from trauma through his 'inborn unresponsiveness to outside stimuli.' (p. 41) In earlier works (1967, 1968), Mahler suggested that the uncathected stimulus barrier begins to 'crack' as the infant moves from the normal autistic to the 'normal symbiotic' phase of development (at approximately 3 to 4 weeks). In symbiosis, the stimulus barrier/protective shield becomes positively cathected and 'envelop[s] the symbiotic orbit of the mother-child dual unity.' (1975, p. 44). Here it can be seen that it is *the mother herself* who serves as the protective shield/stimulus barrier for the young infant (Khan, 1963).

Another contemporary theorist who has attempted to extend and deepen Freud's conceptualizations of trauma is Henry Krystal. Krystal (1971, 1985, 1997) has suggested that because Freud's development of the *Reizschutz* was based on economic considerations, it is essentially a 'static' concept of limited utility. His point is that we must look to the *meaning* of the traumatic event, and especially the affect aroused by it (as opposed to the *intensity* of the event), to delimit the

traumatic possibility. From this point of view, the critical characteristic of the stimulus barrier is the individual's level of affect tolerance.

From yet another angle, Krystal is able to draw on his extensive experience with Holocaust survivors, in whom he observed a very high level of somatic symptomatology without corresponding ideation. As development proceeds, Krystal posits, painful affects are generally desomatized and verbalized, but trauma -- even in adulthood -- seems to affect the personality at the level of body-ego (at the formation-point of the personality, at a time before words). From this perspective, any breach in the protective shield has the potential to distort ego-integration at a point which precedes the separating off of psyche and soma. Here I also think it imprudent to entirely dispense with economic considerations, for surely the intensity of the traumatic event plays its part in determining the subsequent meaning of that event and the quality of the affect aroused. Of course, it must also be true that what is intense for one individual may be more or less intense for another, or that within an individual what is traumatic in one moment may not be traumatic in another, facts which did not escape Freud's attention (see, for example, his thoughts on states of daydreaming and autohypnosis, *S.E.* Vol. II, p. 235).

Trauma and the Infant

There have been some 'classical' analysts (Furst, 1967, Rangell, 1967) who have argued that psychoanalytic conceptualizations do not allow for the possibility of trauma in infancy:

> At the theoretical level it is questionable whether the acute physiologic stress situations of early infancy should be considered traumas in the psychoanalytic sense of the term. A break in the existing stimulus barrier, followed by a feeling of helplessness on the part of the ego, is a central feature of the psychoanalytic concept, while the early months of life are synonymous with pre-ego and pre-stimulus barrier. (Furst, 1967, p. 27)

A more sophisticated understanding of early development, however, takes into account Winnicott's statement that 'there is no such thing as an infant,' and does not take objective reality for the subjective experience of the baby. As stated, for the early infant it is the *mother herself* who plays the role of stimulus barrier (Khan, 1963), and acts to protect the child from the automatic anxiety of a helplessness of which he is not aware. This has been stated in another fashion by Spitz (1965), who described the mother's role as 'auxiliary ego' for the child. The notion that the infant is 'pre-ego' is no longer a tenable proposition in psychoanalytic thought (see, for example, Fairbairn, 1952, Winnicott, 1962a), and a variety of ego-capacities have been attributed to young infants via experimental data (Stern, 1985, Lieberman and Slade, 1989). Under the assumption that psychoanalytic theories of trauma may in fact be applied to infancy, we now turn to the ideas of

those theorists who have extended and deepened Freud's conceptualizations as regards development in the earliest months of life. Here we are attempting to delineate the 'traumatic possibility' during this period, as well as to provide a theoretical context from which to distinguish between various aspects of infantile experience.

Theoretical Considerations - Mahler and Symbiosis

Margaret Mahler's investigations into the mechanisms of infantile psychosis led she and her colleagues to postulate (1960, 1968, 1975) two early phases in infant development. The first, the 'normal autistic' phase, is descriptive of the first few weeks of extrauterine life, and may be observed behaviorally through the vehicle of the infant's sleep. Sleep allows the infant to maintain a state very similar to that of the womb, 'self-sufficient in its hallucinatory wish fulfillment' (1975, p. 41), where satisfaction is omnipotent and autistic. This is akin to Freud's conception of primary narcissism, where the main goal of the physiological system is seen as the maintenance of homeostatic equilibrium (Menninger, 1954). Dynamic conflict between impulse and defense is not seen as predominant at this stage:

> Tension, traumatic anxiety, biological hunger, ego apparatus and homeostasis are near-biological concepts that are relevant in the earliest months and are the precursors...of anxiety with psychic content, signal anxiety, oral or other drives, ego functions, and internal regulatory mechanisms. (Mahler, 1975, p. 5)

Only gradually does the infant move from a state of 'absolute primary narcissism' to one of 'conditional hallucinatory omnipotence.' (Ferenczi, 1913) The child comes to be dimly aware -- through the mother's ministrations, let-down's, etc. -- that need-satisfaction arises from outside the self, and he attaches qualities of good/pleasurable and bad/unpleasurable to such experience (primitive splitting). It is this fledgling awareness of the need-satisfying object which ushers in the phase of normal symbiosis, '...in which the infant behaves and functions as though he and his mother were an omnipotent system -- a dual unity within one common boundary.' (p. 44) Anything which is unpleasurable is projected out beyond this common boundary of mother and child (cf. -- Freud's 1915 concept of the 'purified pleasure ego'). Mahler further makes clear that she considers the mother's 'holding' -- second only to face-to-face contact -- to be most facilitative of the symbiotic state. Need-satisfaction is now perceived by the infant as arising from a part-object, but a part-object which is under the infant's (fantasied) omnipotent control. Behaviorally, it is the unspecific smile which indicates the infant's entrance into symbiosis, marking a shift in libidinal cathexis from internal (autistic) to sensoriperceptive concerns. The principal achievement of this phase is the cathexis of the mother, concomitant with the beginning of differentiation between self and non-self and the move from primary to secondary narcissism (the infant can now

begin to identify with the care he is receiving). Here we also find the all-important development of the body-ego (discussed more fully in Chapter Four), which forms as a kind of 'central core of dim body awareness' (Greenacre, 1960) in response to the rhythm of alternating states of tension and relaxation, and as a consequence of the mother's sensitive handling. Optimally, the child's attention floats freely between internal and external concerns, thus promoting smooth differentiation in later stages.

It is clear from Mahler's writings that she and her associates considered the stage of normal symbiosis to be crucial in the development of normal object relations:

> The normal symbiotic phase marks the all-important phylogenetic capacity of the human being to invest the mother within a vague dual unity that forms the primal soil from which all subsequent human relationships form. (1975, p. 48)

Trauma during this period, therefore, involves *premature awareness of separateness,* causing 'organismic panic.' If not communicated or understood, this panic may lead to an inability on the part of the infant to use the mother as an auxiliary ego. In the most severe cases, Mahler cites premature awareness of separateness as the traumatogenic factor in infantile psychosis.

Theoretical Considerations - Klein and Fairbairn on the Fate of the Object

Melanie Klein (1932, 1946), in her analysis of early mental mechanisms, pointed to the death instinct as an

endogenous traumatic element in early development. From another angle, one also observes in her conceptualizations the notion that it is 'imbalances' in frustration and/or gratification which have the potential to distort personality development and act as traumata. Consideration of her careful analysis of early anxieties and defense mechanisms is crucial in developing a model of how trauma might affect the young infant's psychic state.

For Klein, the infant's immaturity compels him to split the first object -- the breast -- into a good, gratifying breast and a bad, frustrating breast, leading to a necessary divorce in the infant's psyche between love and hate. This forces a corresponding split in the ego itself, a structural factor which helps determine personality development as external objects are introjected. The death instinct -- which is active from birth -- manifests as an intolerable destructive impulse which is partially projected into the mother's breast, with some of the remainder of the impulse being bound by libido within the infant. The incomplete nature of these projections leads to an intense fear of annihilation/persecution from an overpowering, uncontrollable object (the paranoid-schizoid position). Given these conditions, it is easy to see why the early ego is for Klein an unstable entity which oscillates between states of integration and disintegration. In order to overcome the latter, the infant must begin to internalize a good external object. ('The introjection of the good object,

first of all the mother's breast, is a precondition for normal development.', 1946, p. 9). Such introjections are consequent on satisfying breast experience -- i.e. - on oral gratification.

Klein suggests that it is in states of extreme frustration and anxiety where the good breast cannot be introjected. Instead the good breast is felt to be in pieces, as the child cannot maintain the normative dissociation between subjectively good and bad aspects of the object. This split was previously maintained by the use of defenses such as denial and good object idealization, both made possible by the infant's reliance on omnipotence as an overarching defense. What was originally projected, therefore, is in trauma felt to be caused by internal bad objects. This occurs whether or not the traumata arise from internal or external sources, through the process of introjection (Rosenfeld, 1983). The normative course of development involves the splitting off and projection of the bad object into the mother, followed by the gradual integration of good and bad as a prelude to the introjection of the mother as a whole (the depressive position). The danger here is that if paranoid fears are not mitigated by satisfactory experiences with the object, the infant may not be able to reach to depressive development, and a regressive reinforcement of persecutory anxieties may ensue, potentially leading to psychosis.

Fairbairn's observations ran parallel to those of Klein's. He postulated that '*...the basic position in the psyche is invariably a schizoid position*' (1940, p. 8), which may be defined by the presence of splits in the ego. Associated with these splits is an attitude of oral incorporation, as the ego of the infant is, in Fairbairn's words, a 'mouth-ego.' Important in this model is the distinction made between the early oral and the late oral phases. In the early oral (sucking) phase (the era we are considering in this study) the infant finds the problem of whether or not his love will be accepted and valued, and whether he will be loved for who he is. In the late oral (biting) phase, the problem for the infant is finding acceptance and tolerance of his hate.

It is deprivation in the early oral phase which Fairbairn regards as potentially traumatogenic, and such deprivation has the effect of suggesting to the infant that his love is bad, and that he will not be loved for who he is. Along with these, Fairbairn notes the following developments:

1. The mother becomes a bad object for the child.
2. Outward expressions of love become unacceptable for the child at this stage. Love is amassed within, associated with the amassing of body contents.
3. Through projective mechanisms, the child comes to feel that all love relationships are precarious.
4. The ego becomes infused with an aggressivized oral incorporative attitude. To give is tantamount to emptying oneself of precious contents.
5. One's (secret, now unconscious) love is defended

> through the substitution of hate for love, in order to keep one's objects at a distance.

The characteristic feature of the infant's relationship to the object in the earliest stage is what Fairbairn terms primary identification. This is primary identification in the absence of hatred: when something is good it is incorporated; when something is bad it is rejected. The problem is stated as such:

> If a mature individual loses an object, however important, he still has some objects remaining. His eggs are not in all one basket. The infant, on the other hand, has no choice. He has no alternative but to accept or reject his object -- an alternative which is liable to present itself to him as a choice between life and death. (1941, p. 47)

The basic danger situation for the early ego is thus described as one where libido is withdrawn to avoid contact with a hostile environment. This is the only manner in which the infant can reject his object. Since it is libido which (in Fairbairn's model) holds the ego together, if it is withdrawn we see a loss of the ego (a loss of the self). Here we may place the infant in the world of Freud's 'automatic' anxiety, the anxiety of annihilation. Guntrip (1995) was later to comment that the weakened ego of the infant is experienced consciously in adulthood as a fear of dying.

Theoretical Considerations - Winnicott and the Environmental Provision

Winnicott (1962b) criticized Melanie Klein for paying lip service to the role of the 'environmental provision' (the real mother) in early infant development. For Klein, the protective

shield is a much more fantastical creation: a 'mother' created from the infant's projections. He (1953) also critiqued Fairbairn for the suggestion that the young infant innately seeks objects. Winnicott took the more classically Freudian position that if the infant is indeed in a state of undifferentiation and primary identification (and Fairbairn's theory admits of both possibilities), he is seeking de-tension, and not an object per se (i.e. -- there can be no identification with an object if there is no object). From Winnicott's point of view, the *creation of the object* is one of the first tasks of the infant (see pp. 112-118), and this is by no means assured without a highly specialized environment.

For Winnicott (1960b, 1962a, 1963d), early development involves a progression from unintegration to integration, from absolute to relative dependence, to independence (independence being a state which includes the memory of dependence). This is conceived in object relational terms as a move from subjective (all-me) objects to objects objectively perceived (not-me objects). Whatever line of development one considers, the journey is treacherous, because its successful negotiation is dependent on the mother's ability to adapt to her infant's needs on a moment-to-moment basis, and to protect her child from her own hatred (see Winnicott, 1947). While the infantile ego is weak, the infant in the normative situation does not sense this -- or senses it only fleetingly, because of the mother's 'unclever' and active ego support (Winnicott 1960b,

1962a). This is clearly a fragile situation which is easily disrupted; therefore the very young infant '...is all the time *on the brink of unthinkable anxiety*' (1962a, p. 57), of which he is generally shielded through his mother's good-enough ministrations (the stimulus barrier). The anxiety Winnicott is referring to here is anxiety of a psychotic quality, and the infant whose environment is faulty is conceived of as being liable to schizoid states and schizophrenia (Winnicott, 1952). Hurvich (1991), in his discussion of annihilation anxiety, suggests that annihilation is in fact the first basic danger situation in human development.

In health, the mother's role is to provide holding, handling, and to present objects. The result is an infant who is integrating, beginning to feel real, and who can begin to relate to the objects presented (Winnicott, 1963d). Winnicott also (1945) points to the development of realization in this period --- a dawning appreciation of the meaning of time and space. In this earliest of moments, there is no external factor, and the mother and infant may be said to have merged in the infant's (omnipotent) fantasy, a fantasy which the mother, because of her own positive experiences as an infant, does not question or force the child to abrogate. Where there is potential for trauma is the moment when the infant is compelled to *react* in some defensive fashion to an environment which *impinges*, such reaction resulting in the return to a secret schizoid isolation in order to maintain the sense of self

(Winnicott, 1952), and/or to False Self organization (Winnicott, 1960a). The intellectual processes may also be utilized (prematurely, if necessary) to account for failures in adaptation (Winnicott, 1949b, see also Bion, 1962), with the pathological result conceived of in terms of the infant's confusion, as well as cataloguing of the impinging events. Of interest is Winnicott's contention that the earlier a trauma occurs, the more likely the traumatic event(s) will be catalogued (*in memory*), and *in the correct sequence* (see Chapter Three).

There is yet another maturational process which must be considered, one which derives from Winnicott's work. Ogden (1985) has suggested that a distinction be drawn between the child's internalization of the mother as an environment (leading to the capacity to be alone (see Winnicott, 1958)) versus the child's internalization of the mother as an *object*. An internalized environment is like the weather on a calm day: it has no borders, and though it shifts it is predictable, and most of the time it does not draw attention to itself except in a moderate fashion (and when the need arises). An internalized object (at this stage) is like something akin to a hurricane or a tornado: such an internalization can occur when the mother's needs impinge upon the infant's, leading the child to become 'addicted' to mother as an omnipotent internal object (In speaking of such an addiction we are referring to a 'bad object' in the Fairbairnian sense of the term (one with

exciting and frustrating -- but not satisfying -- characteristics), and not to Klein's description of the early infant's need to find an idealized (good), loved object, which occurs normally. Presumably the internalization of the good object is an internalization of an environment.).

In Winnicott's model of early development, the infant is found to be at the mercy of the good and bad things which happen in the environment, as he is the potential victim of id forces which he cannot know arise from within. In health, the latter become integrated into the ego's service, but *this can only happen within a context of a dependence* allowed for by an adaptive mother. In the beginning, this dependence is absolute, and only gradually gives way to autonomous functioning. The mother holds -- this is what makes possible the development of intellect, secondary processes, inner reality, and sets the stage for all future object relationships. Benedek (1938), in this vein, points to the development of confidence in the infant in his mother's care as a prerequisite to object love. In his paper on birth trauma (1949a), Winnicott describes learning from a patient of the meaning of holding as a form of environmental adaptation-to-need. The patient reports:

> At the beginning the individual is like a bubble. If the pressure from outside actively adapts to the pressure within, then the bubble is the significant thing, that is to say the infant's self. If, however, the environmental pressure is greater or less than the pressure within

> the bubble, then it is not the bubble
> that is important but the environment.
> The bubble adapts to the outside pressure.
> (1949a, pp. 182-83)

The bubble, then, is the self, or the 'central self' in Winnicott's language. In cases of infantile trauma, it is this central self which suffers the threat of invasion:

> I suggest that in health there is a core to the personality that corresponds to the true self of the split personality; I suggest that this core never communicates with the world of perceived objects, and that the individual person knows that it must never be communicated with or influenced by external reality....Rape and being eaten by cannibals, these are mere bagatelles as compared with the violation of the self's core, the alteration of the self's central elements by communication seeping through the defences. For me this would be the sin against the self....The traumatic experiences that lead to the organization of primitive defences belong to the threat of the isolated core, the threat of its being found, altered, communicated with. (1963a, p. 187)

This core self must be left by the mother 'to be', if the infant is to come into existence as a person in his own right. The alternative is the use of defenses (primarily dissociative in nature) which protect the core.

To use Freud's terminology, we could say that the young infant is protected by a stimulus barrier but has no awareness of this factor; in fact, such awareness would constitute a trauma (mother becomes object). If the reaction required is enough to fragment the self, there is a splitting of the ego (as in Freud's early papers) leading to dissociation. This

leads us into factors described by Winnicott in his paper 'Fear of Breakdown' (1963d), where he describes a fear of a breakdown which has already been experienced, but where there was no person present at the time of breakdown to experience the event. When trauma at this stage is significant, 'every detail of impingement and reaction is, as it were, etched on the patient's memory...' (1949a, p. 183), and in psychotherapy one may find the need to restage the traumatic events in the transference. It was Winnicott's contention that even prenatal infants could be forced into a position of reactivity if environmental conditions intrude, and there is mounting evidence that fetal infants do indeed manifest intense response to stimulation of acoustic or kinesthetic origin (see Niederland, 1971, also Angier, 1999). Whether or not this constitutes 'reaction' in the psychic sense is a subject for further investigation.

Khan (1963) echoed Winnicott's concern about traumatic reactivity and coined the term 'cumulative trauma' as a descriptor of how *partial* breaks in the protective shield accumulate over time and become embedded in character structure. Khan also makes the point (rather different than Winnicott's) that we as psychotherapists rarely if ever see the first impingements or failures. What we do observe are their cumulative effects as clinical symptomatology. (Solnit and Kris (1967) concur, suggesting that even an obvious and discrete trauma derives its meaning from a multidetermined

inner and outer reality.) Khan lists the following results of failure on the part of the mother in terms of her role as protective shield:

1. premature and selective ego development
2. difficulty in integration of aggressive drives
3. 'precocious narcissistic cathexis of the mother' (similar to Ogden, see above)
4. impossibility in reaching to the depressive position and the guilt with which this is associated (Klein, 1932, 1946)
5. premature cathexis of external and internal reality
6. interference with body-ego development

One might add one last point of Winnicott's. The infant in a state of near to absolute dependency is in an obvious state of vulnerability, and implicit in this situation is idealization of the good object (Klein, 1946, Rosenfeld, 1983). This idealization is a function of the primitive love impulse ('Idealization' is not in fact an accurate term -- one can guess that the infant's feelings toward the good object go so far and beyond idealization as to be outside the realm of the adult imagination). Trauma in this era breaks up idealization and creates hatred:

> [T]rauma is the destruction of the purity of individual experience by a too sudden or unpredictable intrusion of actual fact, and by the generation of hate in the individual, hate of the good object, experienced not as hate but delusionally as being hated. (Winnicott, 1965a, p. 47)

Both Winnicott (1931) and Greenacre (1967), following Freud (1914a), make the point that events can generally take on the impact of trauma only when they accompany an underlying

fantasy. If we accept the Kleinian idea that the infant's earliest fantasies are indeed of a psychotic and persecutory nature, temper this with the Winnicotian notion that such anxieties tend to come to the fore in the absence of holding and ego-support, we are led to the conclusion that infantile trauma may be seen *objectively* as a failure of the environment, and is experienced *subjectively* as an assault on existence. To use a Freudian metaphor, we might imagine a city that has been at peace for a thousand years. The city (the individual unaware of individuality) is then attacked, and the townspeople (ego-nuclei) must join together in a manner in which they have little experience or aptitude in order to defend themselves. The potential for attack was always there, and the citizens of the city were always vaguely aware of threat, but when it comes it shatters faith and the continuity of the social order (in the infant -- of being itself). Writes Greenacre: the event 'may overfulfill the child's most powerful fantasies.' (1967, p. 134) The traumatized infant breaks down to a state of severe paranoia and psychotic disintegration. These are defenses against the nonexistence implied by the attack. Winnicott and Klein both believed they had observed such schizophrenic states in live infants.

Empirical Considerations -- Studies of Shock and Deprivation Trauma in Infancy

> In making prolonged studies of the reactions characteristic of young infants, by far the most striking and consistent phenomenon encountered is the tendency, latent or overt,

toward functional disorganization.

-- Margarethe Ribble

Ernst Kris (1956) distinguished between shock and strain trauma. Strain trauma roughly corresponds to Khan's concept of cumulative trauma (trauma which accumulates -- single traumatic incidents cannot be observed as such, except over time in character analysis). By contrast, shock trauma is discrete and observable; theoretically, one could measure its effects using empirical methods. Interestingly, there are very few studies of shock trauma in infancy, in relation to how such trauma might affect development.

Perhaps one of the best examples of an infantile shock trauma is that of surgery or injury. *What is the meaning of physical pain and/or bodily invasion to the unintegrated infant?* Levy (1945) observed 145 children who had been admitted to the hospital for a brief surgical procedure (usually tonsillectomy). The majority of these children were from 1 to 6 years old, and data was collected using mother's reports. Levy observed the most emotional sequelae in the youngest group (1-2 yrs. old), including night terrors, fear of darkness, increased stranger anxiety, etc. Only 2 of the children were from 0-11 months of age. Jessner (1952) studied 143 children undergoing tonsillectomy and adenoidectomy in a Boston hospital, and related the children's responses to character pathology (for example, children manifesting obsessive features tended to see the surgery as an exorcism).

For many of the oedipal-age children in the study, the surgery brought out fears of castration and mutilation. For the younger children, anxieties seemed to center around separation from parents. The older children were more concerned about the loss of control (under anesthetic, for example). In Jessner's study, only 5 children under 3 years old were observed, and all of these were children who could speak about the event. There is also a case study of children who have been bitten by dogs in infancy (Gislason and Call, 1982). The children in this study were 20 months, 26 months, and 36 months respectively. The report noted long-term emotional sequelae in all 3 cases, including stuttering, inhibition of play, nightmares, clinging, preoccupation with dogs, etc. All 3 of the children could describe the event in detail. The authors speculate that the mothers of the children were so shaken by the injury to their child that there existed a long-term diminution in their respective abilities to act as protective shields. As far as I know, *there has been no empirical investigation of the emotional sequelae of shock trauma (surgery, injury, or any other such occurrence) in preverbal infants.* The previous reports derived their data from the children's verbal reporting of the event.

There are studies of what has been called 'deprivation trauma' in infancy (Spitz, 1945, Larsson, Bohlin, and Stenbacka, 1986). These reports focused on infants in institutional care during the earliest months and years of

life. Spitz found two factors to be crucial in the determination of future emotional sequelae: amount of stimulation received by the child, and the presence or absence of the mother (as opposed to trained nurses). In the worst-case scenarios, Spitz noted profound deficits in the areas of psychomotor development, relations to inanimate objects, and perception. In a related paper (1946), Spitz took note of yet another danger to the traumatized infant, that of anaclitic depression, developing somewhere between the sixth and eleventh month. In all of the cases observed (1946), the primary etiological factor seemed to be the removal of the infant's mother for an appreciable length of time (up to three months). Symptoms (weeping, weight loss, insomnia, greater susceptibility to illness, and eventually, frozen withdrawal) abated in all cases when baby and mother were reunited.

Some researchers (Pearson, 1941, Miller, 1951, Greenacre, 1958b, Levitan, 1978) have reported retrospectively on the phenomenon of infantile trauma. Pearson, in commenting on a number of his adult patients who had surgeries as a small children, reports:

> ...[T]he patients' adjustments in adult life have been severely handicapped by the fact that they have continued to react to the original traumatic experience as if that experience had actually injured them to the degree expressed in their fantasies. (p. 727)

Miller described two adult patients who at 5 years had tonsillectomies. In both analyses, the surgery was found to be related to a fear of punishment for infantile masturbation.

Greenacre (1958b) describes an adult patient whose recurrent facial stiffness during panic attacks was found to be a reproduction of the experience of a chloroform mask at age 27 months. Levitan (1978) analyzed two patients with ulcerative colitis, and related their condition to 'objectlessness' and rage arising from traumatic separation from their mothers at 6 months. Winnicott (1949a) also reports on birth trauma (prolonged birth, for example), leading to various somatic symptoms (headaches, breathing problems, etc.). Obviously, many of these reports might be greeted with skepticism from outside of the analytic community, as well as by those analysts who do not consider retrospective data valid evidence of actual events of infancy.

Two of the most fascinating reports on early trauma involve investigations of infants born with a condition known as esophageal atresia (Engel and Reichsman, 1979, Dowling, 1977, see also Kilchenstein, 1998). Esophageal atresia is a rare congenital abnormality where the infant is born missing a piece of the esophagus. During the time when these studies were done, the condition could not be corrected until the child had grown enough (anywhere from 6 months to 3 years) so a piece of the colon could be removed and used to replace the missing esophageal area. In order to allow the infant to 'eat', a surgical opening was made at the site of the stomach (a gastric fistula) through which the child could be fed by tube. An opening was also made in the upper part of the esophagus to

prevent aspiration (a cervical stoma). Since these children could not feed by mouth during the oral phase, analysts were able to study the effects on development of the deprivation of oral gratification. Both reports studied a small number of children over many years (one was followed to adulthood), and the results in most of the cases were severe developmental impairments: retardation of gross motor function, muted affective expression, loss of intentionality, and disturbances in self-object differentiation. Dowling believed oral experience to be so crucial to development that arrest took place *even aside from quality of parenting:*

> Infants who received no oral feeding or minimal oral feeding and who did not experience a regular rhythm of hunger and satiation, but who did receive adequate maternal care apart from the feeding situation, suffered massive, dramatic disturbances of gross motor development, that is, of postural control and of forceful large-muscle movements. Fine-motor movements and smiling responses were qualitatively normal though quantitatively diminished. Attachments to both persons and toys were weak, affective expression was generally blunted and was lacking in the normal subtleties of expression. (Report of Scott Dowling in Engel and Reichsman, 1979, p. 113)

Therese Benedek performed a diagnostic interview with 'Monica' (reported in Engel and Reichsman), an esophageal atresia patient who was followed to adulthood, and found her to be 'an adapted person, not an adaptable one.' Most of these patients, in fact, could be described as having diminished instinctual drive expression -- they were pleasant and benign,

but unassertive. Aside from confirming the developmental necessity of the fusion of aggressive and erotic elements in the feeding situation, might this not also be seen as confirmation of Winnicott's notion of reactivity as a defensive response to early trauma?

Towards A Definition of Psychic Trauma

Using Freud's conceptualizations as a starting point, we may presume that the very young infant simply does not have the ability to prepare (via signal anxiety) for any external event which involves pain and prolonged separation from its mother (Deutsch (1942), in this vein, commented that even *adults* who have not been psychically prepared for a surgery are more likely to manifest a 'shock reaction', with accompanying symptomatology). Lacking also the capacity to contain the impingement with thought (see Freud, 1911, Winnicott, 1949b, Bion, 1962), the child will -- perhaps temporarily -- suffer a massive increase in persecutory anxiety, both based on the fact of real attack on the body, and the temporary loss of the projective container (mother/mother's breast). This is a breach in the stimulus barrier which the infant will experience as a form of annihilation. Also, necessary primitive defenses which might be cast off naturally in the course of development become potential fixation points. The event is felt to be caused by internalized bad objects through the process of introjection -- such bad objects may or may not remain as

unintegrated parts of the personality. If so, they will act as hindrances in the development of body-ego (i.e. -- - libidinization of the skin as a limiting membrane), fusion of libidinal and aggressive drives, etc. Here there is undoubtedly an economic factor at work, for the quantities of pain and the time of separation from caregivers will undoubtedly have an effect in determining to what extent development is impaired or to what extent dissociation or fixation occurs.

Popularly, a trauma is defined in simple terms as the precipitating event itself ('What happened to him? He got hit by a car.'). We, however, are required to make the distinction between the precipitating event and the intrapsychic process which follows. We are also required to account for the quantitative factor of severity: to qualify for the designation of trauma, the intrapsychic process which ensues from the precipitating event must be significantly disruptive to the organism to alter various aspects of psychic functioning. This definition must also include consideration of the effect of infantile trauma on the mother-infant relationship. Writes Greenacre:

> The existence of any conditions which seriously impair the mother-infant relationship at this time interferes... with the very foundations of object relationship, increases and prolongs primary narcissism, and tends to damage the early ego in its very incipiency with special harm to the sense of reality and often to the beginning sense of identity, based as it is on the growing

awareness of the body. (1967, p. 138)

A trauma, then, may include the following elements:

1. a precipitating event or series of events, originating from endogenous and/or exogenous sources

2. the event breaches the stimulus barrier (whether actual mother, or autonomous ego function), overwhelming the capacity of the organism to prepare for the event via signal anxiety. By definition, then, a trauma involves automatic anxiety (annihilation anxiety).

3. There is a breakdown in ego capacity and control (Rangell, 1967). This is a *psychotic-level breakdown* (even in adulthood), involving disintegration as a defense against chaos.

4. The breach in the protective shield/stimulus barrier exposes the organism to the affects of vulnerability and helplessness, felt at any phase of development as destructive of the continuity of being. The core self must be protected through dissociative mechanisms.

5. The organism is forced to react to the event (intrapsychic reaction), the pathological reaction consisting in a regressive reorganization of defense in the service of adaptation to the traumatic environment.

CHAPTER TWO
METHOD OF INQUIRY

There are a number of possible ways one might think about investigating the sequelae of psychic trauma in infancy. Empirically-driven efforts are hindered, however, by one important factor: the infant's inability to articulate primitive mental states in a language which is responsive to standardized inquiry (questionnaires, projective examinations, etc.). This fact has led to an ever-widening rift between psychoanalysis and theories which are based solely on the direct observation of infants. In this regard, it must be admitted that until recently psychoanalysis did not feel compelled to justify its conclusions with statistical assessment. Winnicott, for example, maintained that regression in psychoanalytic treatment constitutes the *superior* manner in which to discover developmental processes unique to infancy (1952, 1960b), and most psychoanalytic theories of early childhood development (including Freud's) have been constructed on the basis of such regressions. (One might have reason to be astonished by this view of Winnicott's, as he had access to thousands of babies!)

On the other hand, most analysts working in this area agree that infant observation may be a used as a complementary tool when attempting to confirm the findings of clinical research. Writes Greenacre:

> ...[I]t is of great interest in working on clinical psycho-analytic research problems

> to check the developmental findings with the observations of students of child behavior not psycho-analytically trained or interested, and see how well the findings dovetail. (1952a, p. 410)

I propose, then, to take a position mid-way between that of theoretical psychoanalytic research and the direct observation of traumatized infants, and attempt use each to inform the other. The study will therefore be broken up into the following areas of investigation:

The Question of Infant Memory (Chapter Three)

With the exception of investigations into the phenomenon of the 'screen memory' (Freud, 1899), 'remembering' as a discrete subject has not occupied a significant space in psychoanalytic thought. Patients report the material of their remembering (real events, fantasies, dreams, etc.), but analysts and analytically-oriented therapists tend to think in terms of unconscious meaning and inner reality, of which the patient may not be in a position to report on directly. Thus *we must distinguish between the activity of 'remembering' and memory itself.* The latter may be derived from analysis of characterological organization, expressed in terms of defense, drive, internal relationships to good and bad objects, environmental circumstances, and a variety of other factors under which is placed the heading of 'primary process.'

The subject of infant 'remembering' has been studied by researchers working within the cognitive experimentalist tradition, particularly in the last fifteen years. As is

typical of such research, it asserts its objectivity by stripping the infant's perceptual experience of emotive content (i.e. - it is generally not concerned with the stuff of *memory* (as I defined it above) or with trauma). As a result, the cognitive experimentalists do not have a language to describe the infant in distress, for typically their studies are dependent on the subjects being in a state of quietude. This criticism notwithstanding, there is still the task of aligning psychoanalytic understanding of these matters with the findings.

Research in neurophysiology seems to hold more promise for integration with psychoanalytic theory (i.e. -- van der Kolk's (1994) notion that 'the body keeps the score' -- that memories of trauma are somatically recorded -- a finding in line with those of psychoanalysis, see also Gaensbauer, 1995). However, much of the research on memory in biological psychology is based on behavioral models (training rats to run through mazes and observing synaptic changes, see Rosenzweig et. als. (1996)). Much work remains to be done in integrating this knowledge with our theory (a task which Freud anticipated).

The initial task of the third chapter will be to determine if the research on infant memory is in any way synchronous with psychoanalytic conceptualizations. The complementary goal will be to integrate more classical ideas about memory (for example, the psychoanalytic theory of the

'fixation point') with the modern research on 'remembering.' Remembering itself will be considered as an aspect of memory. The underlying questions will be: (1) Is there evidence that the early infant can remember his experiences, especially if these experiences are traumatic?; and (2) How do such memories become consolidated and put to use in the course of personality development?

Infantile Trauma and the Body Ego (Chapter 4)

In a footnote to the English edition of *The Ego and the Id,* Freud wrote:

> ...[T]he ego is ultimately derived from bodily sensations, chiefly from those springing from the surface of the body. It may thus be regarded as a mental projection of the surface of the body, besides...representing the superficies of the mental apparatus. (1923, p. 20)

This discovery -- that the ego is a psychic structure which derives from body experience -- was to form the basis for much psychoanalytic theorizing and technique. Winnicott, for example, wrote that his preference was to 'work from the body-ego,' and he further established the absolute necessity for non-intrusive experiences of holding and handling (on the part of an adaptive mother) throughout the life of the infant and child. What is the effect of trauma in infancy on development of the ego as *body-ego*? This is the question which will occupy Chapter Four.

Though we will look specifically at the effects of trauma on ego-development, one may also consider related effects in terms of:

1. the organization of defense
2. internal object relations/representations
3. patterns of anxiety
4. drive organization

Infant Observations (Chapter 5)

Method

One or more infants will be observed in a hypothetically traumatic situation (a surgery), for the purpose of generating hypotheses and fueling discussion as to the developmental sequelae of shock trauma. A modified version of the Tavistock Method of Infant Observation will be employed (as described by Bick, 1964; see also Borensztejn et. als., 1997). This method involves non-intrusive, non-directive weekly observations of the baby in the family set-up. The observer is conceived of as a participant through his readiness to pay attention and willingness to reflect on what has been observed. One is expected to maintain a scientific objectivity which precludes judgments made on the basis of pleasure-displeasure or good-bad. The type of attention required for this task has been described as difficult to maintain, as it 'requires the kind of patience that comes from identification with an internal object that has hope in the capacity for development.' (Borensztejn, 1997, p. 75). Though the observer's presence is not specifically designed to be therapeutic, one should allow for

the possibility of helping the mother to voice anxieties associated with mothering a sick baby. The observations are unstructured to allow the observer to observe from 'inside' the family.

Conditions permitting, a brief, semi-structured interview will be administered to the mothers pre-surgery (see Appendix), as a means of gathering information about infant temperament and the quality of the mother-infant relationship. A description of the onset of the illness will be elicited. The infant will be observed for one-hour periods both prior to and after the surgery, with observations continuing (if possible) on a weekly basis for up to three months. The general question this portion of the study will seek to address will be one of how the mother acts as a protective shield in what may be an extreme circumstance, and whether the normative state of the infant's 'going-on-being' has been disturbed and can be reestablished. More specifically, the observer will be looking at:

1. sleep patterns
2. eating patterns
3. the mother's function of holding and handling in the wake of the event
4. kinesthetic events which reflect the infant's affective state (biting, inconsolable crying, turning away from the object, etc.)

The results will be written up in case report format, and subjected to inferential inquiry.

Some Questions Raised by the Method

Peter Neubauer, working with traumatized children at the Hampstead nurseries, reported the following:

> In reviewing the material at the Child Development Center, where children from the ages of two through six come to us with signs of developmental disorders...we find in most histories that it is extremely difficult to delineate the various events in terms of infantile trauma; it is even more difficult to say which of the experiences of the first two years contribute more directly to the development of infantile neurosis.... the common picture is one of overdeterminism and multidimensional symptom formation. (1967, p. 98)

Given such considerations, it is easy to see how one of the difficulties in inferential infant observation involves bridging the gap between the child's nonverbal *behavior* in the aftermath of a trauma and the *psychic processes* which underlie such behavior. The problem *may* be solved through the method of prospective longitudinal research, though the overdeterminism described by Neubauer may well give any researcher reason to doubt that a single event (i.e. -- surgery or injury) may affect development in a fashion that can be detected and explicated (this is aside from the fact that such a massive study is not logistically possible for this Ph.D. student).

Margaret Mahler (1975), in describing the rationale for her research, wrote:

> ...[T]he observation of motor, kinesthetic, and gestural (affectomotor) phenomena of the entire body can have great value. It permits one to infer what is going on inside the child; that is to say, the motor phenomena are correlated with intrapsychic events. This is particularly true in the first years of life ....Why is this so? Because the motor and

> kinesthetic pathways are the principal expressive, defensive, and discharge pathways available to the infant (long before verbal communication takes their place). We can make inferences from them to inner states because they are the end products of inner states. (p. 15)

In the discussion to follow the report on the observations, I hope to be able to reconcile the behavior of one or more live infants with psychoanalytic theories of infancy and of trauma. As stated in Chapter One, Winnicott and Klein both believed they had viewed schizophrenic states in live infants. Neither was all that specific about the behavior which accompanies such states. The observation of the traumatized infant may therefore provide the observer with knowledge of behavior indicative of a paranoid-schizoid condition. Such information would be useful in helping to re-acquaint the medical specialty of pediatrics to its orphan, which is child psychology.

CHAPTER THREE
INFANT TRAUMA AND THE QUESTION OF MEMORY

There is no question that infants -- even very young infants -- can remember. Cognitive psychologists working in this area have demonstrated that infants as young as 5 or 6 days old have the capacity to distinguish their mother's odor from that of other nursing women (Lipsitt, 1990); others have shown that week-old infants engage in imitative behavior suggestive of some memory process (Meltzoff and Moore, 1977). Watson and Lowrey (1958) found that infants of 9-12 weeks will recognize their mother's voice, and at 12-14 weeks will prefer her face to that of other women. Aside from such 'recognition' memory, empirical research has also established that young infants can develop long-term, experiential memories. Perris et als. (1990), for example, were able to demonstrate evidence of recall in two-and-a-half-year olds for an experimental event which had taken place when the children were six months old (The experimental group did not demonstrate as much anxiety as a control group when a lab room was darkened. The former had been exposed repeatedly to the darkened room at age six months.). From psychoanalysis, Bernstein and Blacher (1967) were able to convincingly demonstrate accurate recall of a traumatic event from early infancy. At age three months, an infant was subjected to an extraordinarily painful spinal tap, during which sounds of construction in the hospital could be heard. At age twenty-eight months, the child heard

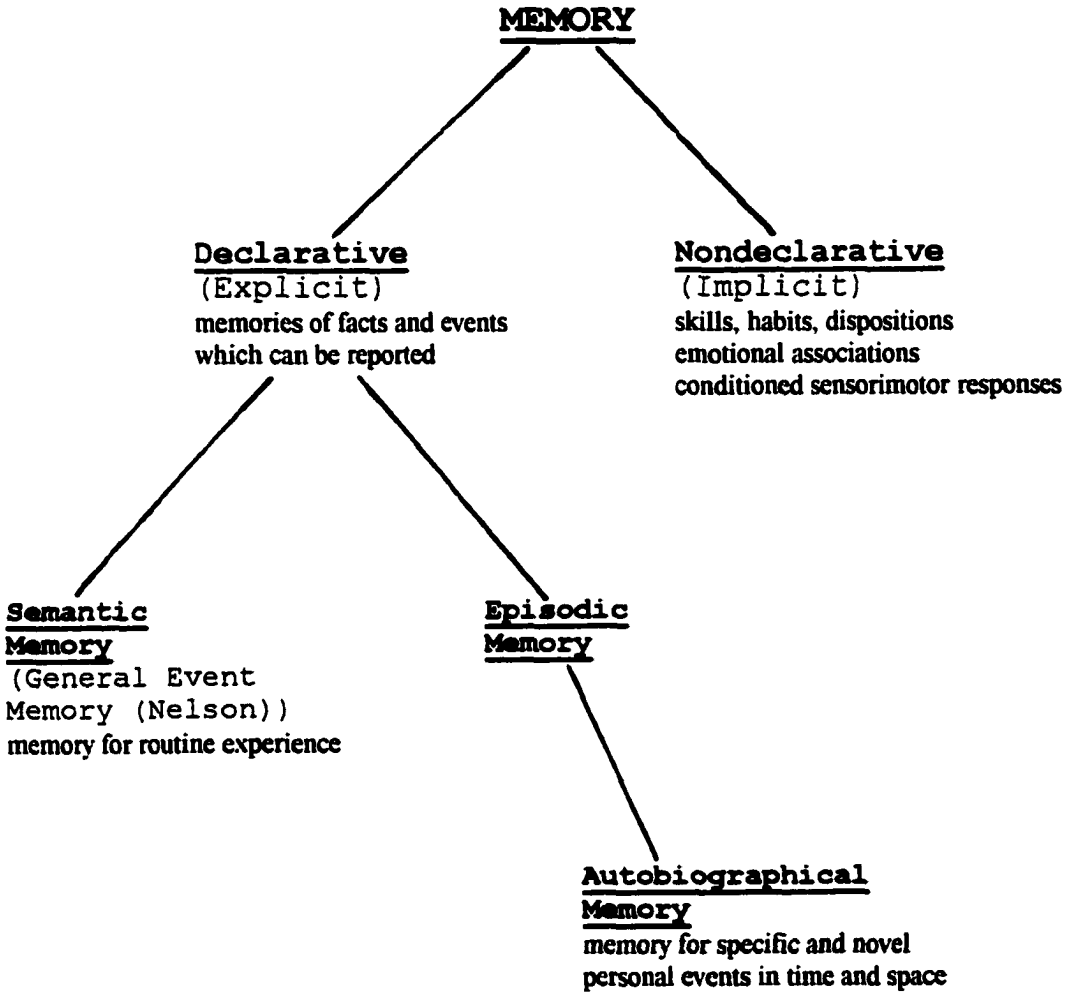
construction going on at a neighbor's house, became agitated and frightened, and spontaneously described (in words) the earlier incident. Both parents insisted that they had never discussed the event with their daughter since she had begun to speak.

Thus there is evidence that infants can remember. What questions there are lie in the details. In looking at the details we may ask questions about memory mechanisms at work in infancy, about the development of memory over time (and the causes of 'infantile amnesia'), about memories of trauma (specifically relevant for this study), about psychological versus biological aspects of memory, etc. In order to speak so specifically, we are required to artificially isolate aspects of infant functioning, but in so doing it is easy to lose sight of the most important fact of early life, which is dependence. It was one of Winnicott's fundamental contributions (1960b, 1963b, 1963e, and many others) to point to the absolute dependence of the infant on his environment, which progresses (over time and in health) through relative dependence to independence. The memory of dependence is then retained and forms the basis for complex identifications with the next generation, laying the groundwork for continuity and stability in social systems. Much of the current literature on infant development (i.e. -- Emde, 1981, 1983, Stern, 1985) seems intent on demonstrating how *capable* is the young infant; it is also worth keeping in mind how *helpless* he is.

A prefatory distinction must also be made between 'remembering' and memory itself. 'Remembering' as an act of will or association -- the ability to reference facts or events -- is expressed in cognitive psychology's use of the designation 'declarative' (explicit) memory. Declarative memory has then been distinguished from 'nondeclarative' (implicit) memory (see chart, p. 49), the latter referring to skills and habits, conditioned reflex responses, and the like. (For more on this distinction from a physiological angle, see van der Kolk and van der Hart, 1991, also Squire and Zola-Morgan, 1991.) In psychoanalysis, declarative rememberings of early life were analyzed by Freud (1899, 1901) as 'screen memories', the existence of which could be explained by intrapsychic conflict and compromise formation (see below, pp. 71-76). In the full sense of the term, however, 'memory' implies not simply what can be remembered consciously or called to mind by association, but what is *lived unconsciously in character structure.* The psychoanalyst searches for memory not in laboratory experiments, but within personality itself.

The conflict which this distinction begins to highlight -- that between cognitive and psychoanalytic approaches to the psychology of memory -- is important, as it is the cognitive empiricists who have been the most active in finding ingenious methods of testing the capacity of the young infant to remember (particularly in the past twenty years). By contrast, most psychoanalytic theories of development in

CONCEPTUAL ORGANIZATION OF MEMORY IN COGNITIVE PSYCHOLOGY*



*Source: Zola-Morgan, S. and Squire, L.R. (1990). Neuropsychological investigations of memory and amnesia: Findings from humans and nonhuman primates, in A. Diamond (ed.), *The Development and Neural Bases of Higher Cognitive Functioning*, p. 437, New York, New York Academy of Sciences.

earliest infancy have been based on the management of regression in intensive treatments of older (and often psychotic) children and adults. The cognitive empiricists would thus seem within their rights to question fundamental psychoanalytic assumptions about early infancy, since it is they who have been working with actual babies. In psychology, however, there is the task of making sense of the continuity which exists between infancy and later life. Psychoanalysis has a unique method of research at its disposal which accomplishes exactly this. Writes Winnicott:

> It will have been observed that psychoanalytic research has but little to do with rats and dogs, or with extended parlour games or with statistical assessment. The material for psychoanalytic research is essentially the human being...being, feeling, acting, relating and contemplating.
>
> For me, analytic research is the collective experience of analysts. This simply needs to be assembled intelligently...But our work does concern itself with unconscious motivation, and this cuts us off from planners. In order to find a public to read his findings, the scientist (in human affairs), alas, must ignore the unconscious.
>
> Perhaps we must just accept the fact that unconscious motivation is not society's cup of tea, except when it crystallizes out in some art form... (1965c, pp. 174-175)

From my point of view, the cognitive empiricists working in this area must give credence to the 100+ years of findings of psychoanalytic research, or their observations will have little value to those who inevitably deal with the suffering which memory can cause in the life of the individual human being, or in the life of society.

The Contribution of the Cognitive Empiricists

Empirical Data

While there are some cognitive and neurological psychologists (i.e. -- Lockhart, 1984, Squire 1986) who argue that memory cannot exist until the child develops a verbalizing capacity, most of the recent empirical evidence points to the fact that preverbal infants can, in fact, remember. One of the earliest studies of infant memory was conducted by Hurlock and Schwartz (1932), who determined that the predominant feature of any memory process in the first year is visual recognition (later researchers were able to quantify visual recognition in infants through ingenious methods such as measuring the angle of corneal reflections.) Fagan (1973) later confirmed that young (21-25 week-old) infants do visually 'remember', by showing them abstract black and white patterns and pictures of faces, to which they responded preferentially after a 48-hour and two-week delay, respectively. By contrast, Martin (1975) found that while three- and five-month old infants did habituate to familiar visual stimulus, two-month old infants did not. Haith et. als. (1988) demonstrated that three-and-a-half month old infants shown an orderly procession (in space) of a visual stimulus will anticipate the next place the stimulus will move, thus demonstrating a capacity to remember. In looking at *auditory* memory, Angrist et. als. (1987) exposed six- to forty-week old infants to various types of aural stimulation (15-19 exposures), and returned the children for

the same experiment two years later. Responses were compared to a control group, and it was found that the experimental group played more with the original sounding objects (rattles, for example) than did the control. It should be noted that -- though the children could now speak -- the original experimental event was not remembered in *words* but in *actions*.

Perhaps the foremost cognitive experimentalists in this area of 'infant remembering' are Carolyn Rovee-Collier and her colleagues at Rutgers University. In one study (1987), she was able to classically condition an eyelid response in neonates, and demonstrate that such response could be maintained for at least ten days. Later, she and her colleagues (Hill, Borowsky, and Rovee-Collier, 1988) developed an operant conditioning paradigm where infants were reinforced to kick in order to move a hanging mobile above a crib (the mobile was connected by string to the infant's leg). Using this same format, she was able to demonstrate infant memory for place information (Hayne, Rovee-Collier, et als., 1991) by draping a specific, colorful cloth over the sides of the crib in which the infant lay. Infants who were trained and placed in the same crib with a *different-colored* cloth were not able to recall their training, thus demonstrating the sensitivity of the newborn to contextual place information (the authors then speculate that the phenomenon of 'infantile amnesia' can be explained as related to such changes in encoding context).

There have been other studies (Fivush et. als., 1984, Fivush et. als., 1987, Hudson and Fivush, 1987, Nelson, 1988, Ashmead and Perlmutter, 1980) which have demonstrated early memory capacity in older children (1-6 years) who have achieved verbal ability. These studies found that specific verbal cues were often necessary to elicit recall, and that special events were found to be remembered with more ease and clarity than those considered banal. Some of the 21-27-month old children in the Fivush et. als. (1987) study were able to recall specific events from six months previous, and a few were even able to recall events which took place when they were one-year-old. Again, the more extraordinary the event, the more likely it was recalled, particularly with the older group of children.

And what of infantile memories for *trauma*? Perhaps the most well-known study in this area was conducted by Terr (1988), who looked at twenty children who had been severely traumatized before the age of five and compared their rememberings to objective reports which documented the incidents. Interestingly, one finding (in accord with the findings of the researchers above) was that a discrete, shock trauma (a special event) was more easily remembered than repeated (cumulative) trauma, and this was especially true of the older children, who could describe such incident(s) in words. However, Terr also found that the younger group of children (eleven children who were under 36 months at the time of the trauma) were generally not inclined to recall the

event(s) in words (even though they could now speak), but instead tended to act out the traumata in play. Sugar (1992) conducted a study in which he found that traumatized toddlers did in fact have an accurate temporal awareness of trauma, but such awareness was dependent on the development of verbal ability. As I stated in Chapter One, I know of no studies -- from the cognitive literature or otherwise -- which specifically examine the developmental sequelae of shock trauma in *earliest* infancy (Birth - 3 months).

Views on Memory Development and Rebuttals of Freud's Analysis of the Phenomenon of Infantile Amnesia

> Although in most theories of child development the experiences of infancy are considered to be critical to subsequent development, none has dealt adequately, if at all, with the mechanisms of how this influence might occur. If early experiences have an impact on later behavior, then they must be remembered.
>
> --Carolyn Rovee-Collier and Harlene Hayne

In the first sentence of this statement we find an example of two theoreticians' unfamiliarity with important developments in another branch of the field (psychoanalysis), which inevitably weakens the strength of their developmental conceptualizations. However, in the second sentence one can find room for agreement: for early experience to affect behavior, it indeed must be remembered. The question is *how* it is remembered. Since cognitive psychology does not account for

the workings of a dynamic unconscious, it is left to fall back on declarative remembering as its sole evidence for early memory (nondeclarative memory -- which is where one might find unconscious processes if one were looking -- seems to get short shrift in the cognitive literature). Must early experience be recounted explicitly for it to be 'remembered'?

Much of the cognitive literature on the subject of early memory seeks to rebut (or simply dismiss) Freud's explanation for the phenomenon of infantile amnesia. ('Infantile amnesia' refers to the fact that human children and adults have few, if any, declarative memories of the first few years of life (for empirical confirmation of this fact with a non-traumatized, non-patient population, see Pillemer and White, 1989).) Freud posed the question thus:

> Hitherto it has not occurred to us to feel any astonishment at the fact of this amnesia, though we might have good grounds for doing so. For we learn from other people that during these years, of which at a later date we retain nothing in our memory but a few unintelligible and fragmentary recollections, we reacted in a lively manner to impressions, that we were capable of expressing pain and joy in a human fashion, that we gave evidence of love, jealousy and other passionate feelings by which we were strongly moved at the time...And of all this we, when we are grown up, have no knowledge of our own! Why should our memory lag so far behind the activities of our minds? (1905, pp. 40-41)

The cognitive theorists have been seemingly fascinated by Freud's response to this question (a response which involves the elaboration of unconscious defensive processes, see below),

and this fascination has expressed itself in the advancement of alternative theories. Campbell and Spear (1972), for example, argue that it is naturally occurring changes in context which account for our inability to remember (we do not recall our infancies because we no longer live in the contextual world of the infant). Rovee-Collier and Hayne (1987) suggest that the term 'memory reactivation' be applied to the mechanism by which the effects of early memory endure: their research demonstrates that memories are reactivated by 'context cues', and can remain 'accessible' for long periods of time if the context remains stable. Such conceptions actually do find correspondence with the psychoanalytic description of 'transference', wherein the analytic setting may act as something of a 'context cue' for the patient, who begins to perceive the analyst as if he is an object from early life. However, Hayne and Rovee-Collier would likely dismiss such a comparison, as they believe the key to infantile amnesia lies not simply in the lack of later context cues, but that the remembering of infantile experience is 'functionally inefficient'.

Yet another, more sophisticated challenge to Freud comes from Katherine Nelson of the City University of New York, who has developed a complex theory of memory development in infancy and early childhood (Nelson and Ross, 1980, Hudson and Nelson, 1986, Nelson, 1988, Nelson, 1993). Drawing on the work of Tulving (1972), who distinguished between 'episodic' (memory for a specific event) and 'semantic' memory (all known factual

information -- see chart, p. 49), Nelson renames semantic memory 'general' or 'generic event' memory. It is Nelson's contention that the young child's mind is organized around the *general event* rather than the *specific episode*: "...[T]here appears to be a kind of dominance of the general in young children's memory." (1980, p. 99) Evidence for this is the fact that when asked to describe their memories of event, young children (and this becomes more true as the child becomes younger) tend to provide a 'script', particularly if the event is a routine one, and leave out specific or novel details. Therefore, argues Nelson, general script memory ontogenetically precedes episodic memory formation. Novel events (i.e. -- the birth of a sibling) may be noticed by the young child, but are quickly forgotten, because there is no 'script' to 'support' them. This explains why (very young) children's declarative memories seem to focus on the quotidian.

To move further along in her thinking, Nelson terms one subcategory of the episodic memory system 'autobiographical' memory. Autobiographical memories are exactly the kind of specific and personal memories which young children seem to have such difficulty recounting. For Nelson, we cannot remember our infancies not because of repression or other defensive processes, but because we do not develop autobiographical memory (a permanent memory system for the novel and specific) until about two-and-a-half years, and then

only because we are helped to do so by parents and other important persons in our life:

> ...[A]utobiographical memory may be thought of as a function that comes into play at a certain point in human childhood when the social conditions foster it and the child's representational system is accessible to the linguistic formulations presented by other people. (1993, p. 13)

This leads her to the following radical conclusion:

> ...[T]he claim here is not that early autobiographical memory is lost in infantile amnesia, but rather that it never existed as such. (1988, p. 268)

If this claim is accurate, the consequences would be enormous in terms of our understanding of trauma in early development. It would be dubious, for example, to suggest that the 'memory' of such an event as a short-lived and successful surgery in early infancy could affect emotional development in any way. A supposedly epochal event such as the birth of a sibling no longer seems so important in and of itself, at least until the sibling's presence becomes a 'generic event'. We would be compelled to dismiss the report of Bernstein and Blacher (1967 - cited earlier) of a child who spontaneously describes -- in words -- a traumatic event which took place in earliest infancy when a context cue 'reminds' her of the original incident. On the other hand, it may be possible to integrate Nelson's ideas into psychoanalytic thinking, and posit that these single, traumatic events come to take on meaning when there is a general 'script' for trauma -- i.e. -- when the child lives in an atmosphere of 'cumulative trauma'

(Khan, 1963) -- in which the single event is fused into the script. I do not personally believe that single traumatic events are 'encoded' in this fused manner, but at any rate this may form a basis for future discussion.

A Response to the Cognitive Empiricists

It was not long ago that physicians in this country were trained to believe that neonates were born blind, could not discriminate sounds, and were incapable of feeling pain (Lipsitt, 1990). Therefore science owes a debt to the cognitive empiricists, who have played a significant role in demonstrating that infants are born with a variety of ego-capacities, perception and memory among them, and in this respect are as human as older children or adults. Though I will not attempt a point-by-point refutation of the theories presented by the cognitive empiricists (which could be done), it needs to be stated that what is clearly missing from the theorizing which follows their experimentation is a coherent theory of infantile emotional development. Such a theory must include:

1. the means by which the infant is protected, or protects itself in the absence of protection, from psychic trauma (defense)
2. the means by which healthy development is facilitated (good-enough mothering)
3. the means by which development can be distorted (psychopathology)
4. consideration of the endogenous drives which compel the infant to suck, bite, urinate, defecate, etc., and the fantasies which accompany such functions

(instinct and its elaboration)
5. the enormous difficulties inherent in gathering the self into a body, and in concomitantly mastering instinctual tension over time (factors of integration and personalization)
6. the development of a dynamic unconscious, governed by conflict and compromise formation

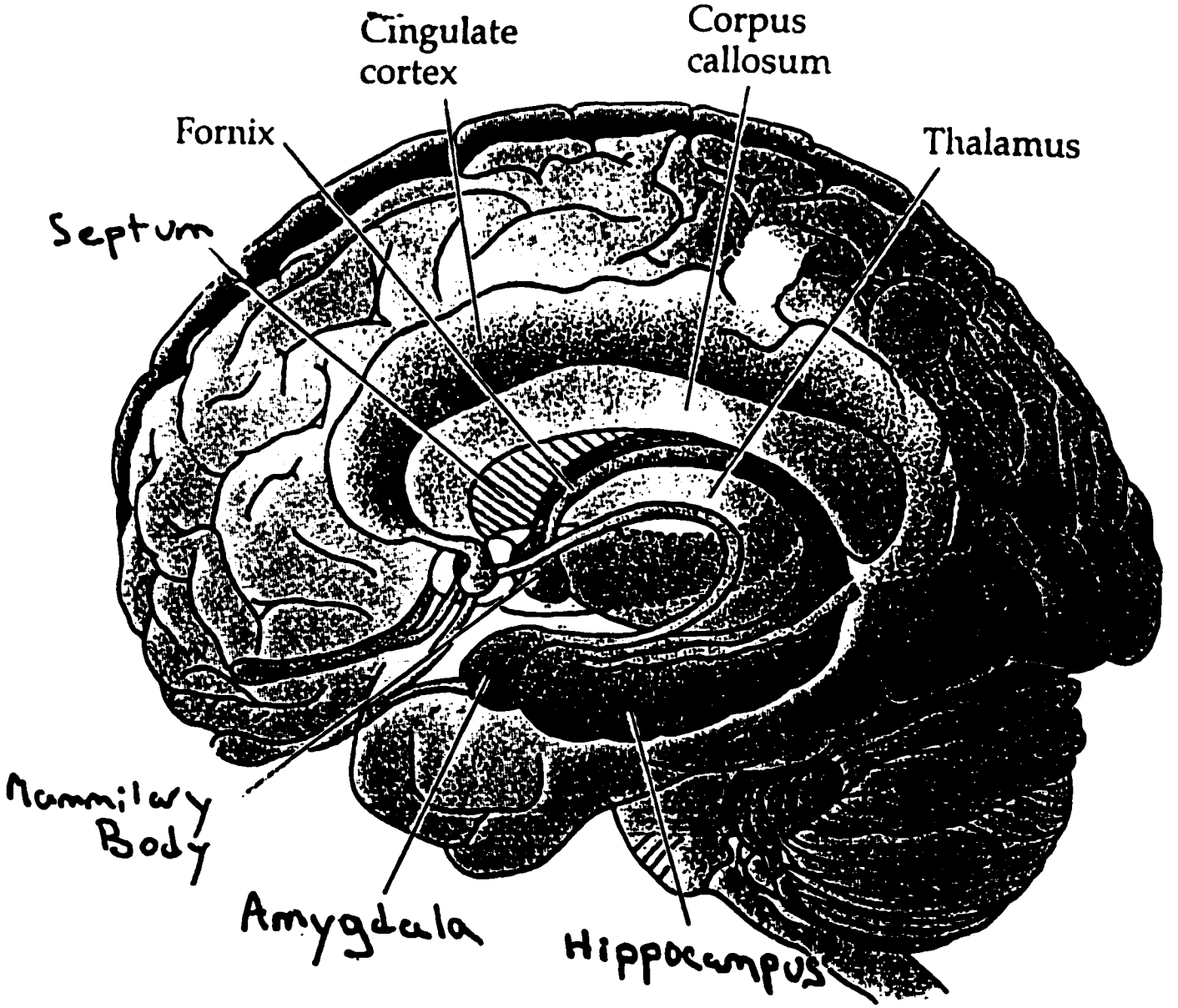
This is hardly an exhaustive list; it simply aims to demonstrate the difficulties which arise in stripping infantile experience of its emotional and developmental components. I will try to remedy this deficiency in a later section.

Infant Memory for Trauma and Physiology: Some Contributions from Neuropsychology

Neuroanatomical Correlates of Psychic Trauma in the Central Nervous System

Recent advances in neuropsychology have implicated the loosely connected group of brain nuclei known as the limbic system as consisting of structures necessary for learning and memory. Specific sites in the limbic system also seem to have localized relationships involved in the formation/expression of intense emotion (Panksepp, 1982). As part of this region, the hippocampus forms a curled arc in the basal medial portion of the temporal lobe (see diagram, p. 61), and its functioning has come under scrutiny in the study of amnesic patients with hippocampal lesions (Hilts, 1995). Mounting evidence suggests that proper functioning of the hippocampus is necessary for the retrieval of declarative memories, and that the hippocampus itself is a temporary site where new memories are bound, reorganized, and then 'sent on' to be stored

THE LIMBIC SYSTEM*



*Source: Rosenzweig, M.R., Leiman, A.L., and Breedlove, S.M. (1996). *Biological Psychology*, p. 60, Sunderland, MA, Sinauer Associates, Inc.

permanently via synaptic changes in the neocortex (for an overview, see Squire, 1992; also Rosenzweig et. als., 1996, pp. 645-689). However, many of those who have worked with the traumatized have pointed out that memories of traumatic events or situations do not, in fact, seem to be stored in the declarative memory system, but are often dissociated and recorded as 'somatosensory' (visual, olfactory, auditory, kinesthetic) experience (Janet, 1925, Piaget, 1962, Gaensbauer, 1995, van der Kolk and van der Hart, 1991, van der Kolk, 1996). An interesting study (Rauch et. als., 1996) demonstrated that when traumatic memories are provoked there is a decrease in the activation of Broca's area -- that part of the brain which has been implicated in the transliteration of subjective experience into speech. Another study (Burgess et. als., 1995) looked at a group of children who had been sexually abused before age two-and-a-half, examining them five years after the events. While all of the children were thought to manifest symptomatology related to the trauma, *none* of them were able to associatively connect these symptoms to the events themselves. After reviewing these and other studies, van der Kolk commented:

> ...[Traumatized] children, like traumatized adults, are unable to integrate sensations and perceptions related to the trauma into explicit memories. Instead, the trauma is often reproduced in actions, without conscious awareness that what is played out is an actual reproduction of the past. (1996, pp. 290-291)

Neuropsychological research (reviewed in van der Kolk, 1994, 1996) is beginning to demonstrate a physiological mechanism by which the normal organizing and synthesizing functions of the hippocampus is subverted in the traumatic situation. In periods of extreme stress, mammals will secrete neurohormones (norepinephrine, vasopressin, oxytocin, endogenous opioids, and others) as part of an adaptive strategy designed to marshal energy for a fight-or-flight reaction (the secretion of endogenous opioids acts as an analgesic to prevent pain). The suggestion is that these neurohormones have an important effect on memory consolidation, particularly the norepinephrine (NE) input to the amygdala (the amygdala has been implicated as that part of the limbic system which determines the affective significance of information, before it is relayed to the hippocampus to be integrated with previously existing memories (Ledoux, 1992)). Animal studies have indicated that extreme (high or low) levels of amygdala arousal interfere with the normal functioning of the septohippocampal system (responsible for recording the spatial and temporal dimensions of experience), to which it is adjacent (Squire and Zola-Morgan, 1991). Writes van der Kolk:

> ...[T]he emotional evaluation of sensory input precedes conscious emotional experience...A high degree of the activation of the amygdala and related structures can generate emotional responses and sensory impressions that are based on fragments of information, rather than on full-blown perception of objects and events. (1996, p. 294)

What one is begins to see, then, is neuroanatomical confirmation of much of Freud's own theorizing as relates to trauma. Freud (1920) saw 'fixation' to a particular trauma as a biologically-based response to excitation breaking through the protective shield (one may hypothesize that the protective shield has as its anatomical correlate controlling structures such as the hippocampus). In speculating about the effect of traumatic excitation on the psychic system, Freud wrote:

> On the basis of impressions derived from our psycho-analytic experience, we assume that all excitatory processes that occur in the *other* systems [i.e. -- those which do not involve conscious perception] leave permanent traces behind in them which form the foundation of memory. Such memory-traces, then, have nothing to do with the fact of becoming conscious; indeed they are often most powerful and most enduring when the process which left them behind was one which never entered consciousness...[I]t...leads us to suspect that becoming conscious and leaving behind a memory-trace are processes incompatible with each other within one and the same system. Thus we should say that the excitatory process becomes conscious in the system *Cs.* but leaves no permanent trace behind there; but that the excitation is transmitted to the systems lying next within and that it is in *them* that its traces are left...[W]e lay down the proposition that *consciousness arises instead of a memory-trace...* (1920, pp. 60-61)

It is difficult to accept such a speculation on its face: that consciousness is not permanently capable of containing memories of extreme (traumatic) excitation. Yet that is exactly what both the psychological and neuropsychological data are beginning to demonstrate. Controlling and inhibitory brain

structures responsible for the integration and organization of declarative (conscious) memories are subverted in the traumatic situation by excessive endogenous neurohormone secretion and amygdala activation. Memories of trauma may be retained, but are stored in the nondeclarative (unconscious) memory system as primitive part-sensations, which have as a neurophysiological storehouse an ontogenetically older part of the central nervous system.

Infant Memory Development and Neuroanatomy

And what of the developing infant? Interestingly, the observation that the hippocampus develops late (it is not thought to be active until the eighth or ninth month of postnatal life, and is not fully myelinated till the child is three or four) was originally thought by some to explain the phenomenon of infantile amnesia (Schacter and Moscovitch, 1984). Some cognitive empiricists have effectively challenged this belief, however, as their research clearly indicates that infants have the ability to form memory for place as early as the third month (Rovee-Collier and Hayne, 1987, Hayne et. als., 1991). These theorists suggest that either the hippocampus is active at an earlier time than once thought, or that context memory is stored somewhere else in the brain. Based on the notion that the hippocampus plays a fundamental organizing and synthetic role in perception of time and space (ignoring the question of when it fully matures), I will join in the

phrenological frenzy and speculate that the development of this and related structures is connected to the separating off of consciousness from the unconscious, and with the corresponding emergence of defensive processes, such processes having as their basis the repression of instinctual impulses (Freud, 1915) and 'unthinkable anxieties' related to the fantasy or actuality of lack of ego-support (Winnicott, 1945).

Increasingly, researchers (i.e. -- Fagan, 1977, Tucker, 1992) are finding that enriching and playful early environments promote optimal brain development. Using as his model the psychoanalytically-informed attachment research literature, Schore (1995) has begun to specify neurobiological processes at work in both normal and pathological infantile development. In health, writes Schore, the mother's role is to be 'psychobiologically attuned' to her infant's affective state: she is the regulator and modulator of her child's emotions. One finds in infants whose mothers consistently 'misattune' the creation of 'orbitofrontal organizations that neurobiologically express different patterns of insecure attachments.' (p. 1) In early infancy, attunement or misattunement is conceived of as a communication between the right hemisphere of the infant and the right hemisphere of the mother (the right hemisphere as a whole is dominant for vision, and has been implicated in the expression and processing of emotional information and nonverbal communication). In a situation of attunement, the mother's face triggers in the infant nervous system high levels

of endogenous opiates (i.e. -- dopamine) and corticotrophin releasing factor (CRF), which act to increase feelings of elation and joy, and tend to stimulate the sympathetic nervous system. Schore's contention is that the quality of the mother's 'psychobiological regulation' of her child influences the patterns of development in the structure of corticolimbic systems.

There are some interesting and confirmatory studies which demonstrate the impact of perceptual and psychological factors on the developing nervous system. Hubel and Weisel (1970) found that the major neural network responsible for vision in one eye will simply not develop if the organism is subjected to unilateral eye closure. In an earlier study, Krachkovskaia (1959) took the leukocyte counts of 102 healthy nursing infants, one hour and then fifteen minutes before feeding. For the first five days of life, there was no correspondence between time of feeding and number of leukocytes. By the eighth day, however, there was a consistent increase in leukocyte counts just before feeding for most of the infants. Here, then, are two examples where the nervous system follows the psyche, demonstrating a physiological correlate for nondeclarative memory.

To return to the work of Schore, he posits a critical period for brain growth and development at ten to twelve months. At this point increasing amounts of dopamine and other endogenous opiates stimulate growth in the prefrontal cortex,

especially the orbital prefrontal cortex. The orbitofrontal cortex is hypothesized to be 'critically involved' in attachment processes, as well as subserving memory functions. Schore maintains that this brain area holds the image of the mother's expressive face, which can be maintained even when the child is alone. This physiological process (if accurately described) has as its psychological correlate the development of libidinal object constancy (Mahler et. als., 1975), and perhaps could also be related to the introjection of the loved and hated mother-as-whole-person that Melanie Klein (1935) identified as the depressive position.

Parental misattunement during this critical period of brain development and into the second year, and particularly (for Schore) the experience of shame, tends to elicit the production of corticosteroids in the nervous system as a stress response. The result is a reduction in endogenous opiate and CRF production. In the normative situation, there is an 'interactive repair' of the damage, but extreme misattunement balefully affects the organization of the orbitofrontal cortex, interfering in the individual's ability to adapt to the demands of reality. In yet another study confirming the effects of environmental conditions on the brain (Lewis et. al., 1990), primates who were artificially isolated were found to have permanent, pathognomonic alterations in numbers of serotonin, noradrenaline, dopamine, and opiate receptors. (I cannot resist

but to say that I find such animal studies repugnant, whatever increase in knowledge they may bring.)

Writes Schore:

> I suggest that the origin of mixed patterns of sympathetic and parasympathetic dominance that are found in individuals originates in the first two years of life. The developing individual's particular socioaffective imprinting experiences fine-tunes the final, mature distribution of the innervation pattern of the orbitofrontal columns,... thereby influencing the final excitation-inhibition balance of a particular prefronto-limbic regulatory system.
>
> This dyadic psychoneurobiological mechanism ontogenetically sculpts the enduring temperamental features of the child's emerging personality. (p. 19)

Thus, neurobiology is finding itself in a position to confirm the psychoanalytic hypothesis that memory (as distinct from 'remembering') -- if it is to be found anywhere -- is housed in the structure of personality itself (as it is, apparently, in the structure of the brain). While psychoanalysis might welcome such confirmation, the danger is that this interesting data will come to be overvalued. The insistence (derived from phrenology) that all functioning of the developing psyche must be localized in neurochemical or neuroelectrical transmissions, or anatomical structures, may or may not be accurate -- this all depends on where one locates the psyche (the original Greek definition of the word *psyche* is not 'brain' but 'soul'). Writes Winnicott:

> Let us attempt...to think of the developing individual, starting at the beginning. Here is a body, and the psyche and the soma are

> not to be distinguished except according to the direction from which one is looking...I suppose the word psyche here means the *imaginative elaboration of somatic parts, feelings, and functions*, that is, of physical aliveness. We know that this imaginative elaboration is dependent on the existence and the healthy functioning of the brain, especially certain parts of it. The psyche is not, however, felt by the individual to be localized in the brain, or indeed to be localized anywhere. (1949b, p. 244)

This is a critical point in considering the relative merits of a psychoemotional versus neuroanatomical approach to what are essentially psychological processes: that the individual does not feel the psyche to be localized in various brain areas or neurotransmitter receptor sites (eventually the individual does come to feel that his mind is localized in the head, but this may be a matter of development, see Greenacre, 1945). One can then see the dilemma which presents itself to the neuroscientist: he is bound to the psychological theory he chooses as a matrix in which to apply his findings. Thus, neuroscientists who have sought to utilize classical and operant conditioning paradigms as a basis for brain functioning have discovered a simple neural circuit for the conditioning of the eye-blink reflex (Thompson, 1986). If they remain wedded to such a model, they will discover little more than if they were observing a rat. Schore (1995), by contrast, has widened the scope and attempted to fuse his findings to those of attachment research (add a sprinkling of separation-individuation theory) -- a noble effort -- but one which leads

him at times to imprecise conceptualizations (i.e. -- 'psychobiological attunement' -- imprecise because it confounds two events: a subjective experience and an alteration in brain chemistry). There also remains the question of whether attachment research itself possesses a compelling theory of early development.

Thus, though we may search for the neurological correlate in the examination of psychological processes, the psyche must come first, because for the individual the psyche is what there is.

An Attempt to Intelligently Assemble the Collective Experience of Analysts

Here I will endeavor to place the discussion of infant memory squarely within the theory of infantile emotional development devised by psychoanalysis. Before doing so, however, it is necessary to briefly summarize Freud's conceptualizations as regards the formation of screen memories relative to infantile amnesia, and of memory as a function of unconscious character formation.

Freud on Memory

> The bend to link present to past experience reflects the very structure of man's mental apparatus.
>
> --Ernst Kris

Freud's initial attempts (1899, 1901) to understand memory processes derived from his discovery of a correspondence between the phenomenon of infantile amnesia and the hysterical amnesia he had observed in his neurotic patients (who were typically oblivious to the details of illness onset). A 'screen memory', like the hysterical symptom (and later (1905), the fetish), can be thought of as a compromise formation. In any compromise formation there are two forces working in opposition: one which seeks to bring the memory (associated with an instinctual impulse) to light, and the other which acts to repress it (often because the memory/impulse is disagreeable or unacceptable). With a typical screen memory, the result of the compromise is a displacement of the original memory onto something banal. In one example given by Freud, a man who was traumatized by his grandfather's death when he was three years old remembers only one thing from this period of his life -- a table set for a meal and a basin of ice. In another case described by Glover (1929), an adult patient recalled being burned on the hand at three years in a specific house which was not his own. After questioning his mother about this incident, the patient found that the only day he was in this house he was not, in fact, burned on the hand, but was rather unceremoniously circumcised by an unscrupulous physician. Such examples abound in the psychoanalytic literature, and Freud maintained that by utilizing the psychoanalytic method, one can often reconstruct the functional, associative connections to a

particular screen memory from the original memory which the screen memory seeks to displace. The screen memory may then be understood as part of a larger memory which has undergone repression, or it may be an idea which has accreted to itself remnants of later impressions or fantasies (or some combination). Its particular construction may also relate to psychic factors operative at the time of recall:

> It may indeed be questioned whether we have any memories at all *from* our childhood: memories *relating* to our childhood may be all that we possess. (Freud, 1899, p. 249)

Kennedy (1950) was able to demonstrate how such memories are formed in children. Ms. Kennedy was the primary therapist and mother-substitute for a deprived child first brought to the Hampstead nurseries at age nine months, and who remained there until she was five years old. Some time after the child was discharged, she returned and spent some time strolling around the grounds of the hospital with Ms. Kennedy. They walked by a baker's shop and the child said 'Once you brought me here on a walk and bought me a bun.' This event never happened, though the little girl had seen during her stay that older children had been brought to the bakery to buy food. Here is a clear example of the effect of hallucinatory wish-fulfillment on memory. Later the girl reports that she remembers a particular piano: 'Once I kept on playing the piano and you told me to stop, but I continued and you got very angry with me.' This event also never took place, but there was indeed a piano in the nursery school and the children were not allowed to play

it. Furthermore, there *had* been a battle between the child and Ms. Kennedy -- over the issue of the child's toilet training. Kennedy asserts -- and it is easy to believe it -- that the 'memory' of the piano incident 'covered' the memory of a conflict relating to instinctual (anal, urethral) control.

Later in his thinking, Freud (1905, 1914c, 1920) began to connect the question of memory to the theory of infantile sexuality and of trauma, describing the 'fixation point' in the adult patient as one which has its basis in early infantile (sexual) conflict. Fixation points develop when the gratification-demands of a particular erotogenic zone are dissociated and displaced in the form of the neurotic symptom ('...[T]he sexuality of neurotics has remained in, or been brought back to, an infantile state.' (1905, p. 38)). An example would be the symptom of nervous insomnia, which Freud traced to a lack of sexual satisfaction ('sensual sucking') in early infancy.

Many analysts would follow suit in analyzing aspects of symptom and/or character as reminiscent of infantile phenomena. Isakower (1938), for example, was able to trace the psychic phenomena at work in falling asleep and waking up to the revival of early (infantile) ego-attitudes. Anthony (1961) was one of many analysts (see also Tausk, 1933, Fenichel, 1945)) to compare the 'primitive archaic formations' of schizophrenia (i.e. -- loss of ego boundaries and identity, oceanic feelings, etc.) to the world of the young infant. Winnicott (1949b)

would connect a woman's need to throw herself off the analytic couch as reminiscent of the need to relive a traumatic birth experience.

The Freudian position, then, may be summarized as one in which the psyche of the developing child comes to contain unconscious *prototypes* -- what we might call memory models -- to which the older child and adult tends to be drawn by the compulsion to repeat. In 1920 Freud described the compulsion to repeat as an even more powerful motive force in the human animal than pleasure, and traced its origins to the death instinct. The tendency for traumatized persons to re-enact traumata in physiological and psychological terms makes it clear that the repetition compulsion -- whatever its source -- plays a major role in post-traumatic stress, and its discovery led Freud to the (1914c) conclusion that we do not, in fact, remember; rather, we *reproduce*. What is reproduced is understood as repressed material that has permeated the character (such reproductions being themselves subject to elaborate distortion, see Freud, 1918). Therefore:

> ...[W]e must say that...the patient *remembers* nothing of what is forgotten and repressed, but that he expresses it in *action*. He reproduces it not in his memory but in his behavior; he *repeats* it, without of course knowing that he repeats it. (1914c, p. 359)

What Ellman (1991) has referred to as the 'pathogenic memory model' is thus central to psychoanalytic thinking and technique. For Freud, psychoanalytic psychotherapy is about

the uncovering of lost memories and conflicts associated with them.* Human beings (and this must apply to the normal as well as the neurotic) live out prototypic configurations of instinctual conflict, object-relationship, and compromise formation which have as their origins unconscious 'memories' from the first years of life.

The Role of Memory in the Development of the Infant

Psychoanalysts -- trained as they are in the analysis of whole human beings -- have generally not been inclined to look at memory as a discrete subject. When psychoanalysis began to shift its attention from instinctual (id) drives and their derivatives to the relationship of the ego to internal and external reality, commentators such as Hartmann (1950) were to categorize memory as an ego-function which is (along with perception) initially autonomous from drive. The fact that such autonomous ego-functions can then be influenced by endogenous impulses and conflicts associated with them creates what Pine (1985) termed an 'interactional' issue for psychoanalysis:

> What are the consequences for cognition, perception, and the like of the fact that

*Fairbairn (1943) would later attempt to modify this conceptualization, by asserting that it is neither memories nor impulses which undergo repression, but bad internalized objects (a record of a 'bad' relationship with the object). Memories or impulses may be repressed only if they are connected to such 'bad objects.' This was Fairbairn's explanation for infantile amnesia, but Fairbairn does not explain why it is that good or neutral memories from early life are forgotten as well.

> the development of these apparatuses goes on in a person who also has powerful urges and affects, as well as complex object relationships? (Pine, 1985, p. 75)

In the beginning, then, we might say that the infant is born with both instinctual impulses and a nascent perceptive faculty. Following Glover, we can also posit the existence of 'ego nuclei' associated with various sensorimotor experiences (skin nucleus, breathing nucleus, fecal nucleus, etc. (see Winnicott, 1949a, p. 185)). At birth the individual nuclei are strong; what is weak is the integration of such nuclei into a total ego organization. The infant is in a state of unintegration.

The age at which perception begins is in dispute: some (Greenacre, 1945, Winnicott, 1949a, 1988) have argued that perception begins in the womb and that the memory of the birth process is recorded down to minute details. Whether this is true or not, memory traces certainly must begin as remnants of perceptions, and perception at this stage in life is connected to the body and its functions (writes Fenichel: 'Primitive perception is characterized by its closeness to motor reaction.' (1945, p. 36)) One may presume that there is an 'imaginative elaboration' of body functioning as well -- fantasies which color and alter perception -- but there is disagreement in the psychoanalytic literature on this point. Theorists from the British object relations school (Klein, Winnicott, and others) have described the prototypic infant as one engaged in oral sadistic and consequent persecutory

fantasy. More recent analysts (Emde, 1981, Lichtenberg, 1983, Dowling, 1990) have pointed to the lack of evidence for the existence of fantasy at this stage of development, and suggest that fantasy can only develop later, when the child has developed the capacity for representational thought. The question here is whether reconstruction in analytic treatment may serve as evidence for actual processes in infancy, and this is a question I will try to address in the last section of this chapter.

Now we have an infant who is beginning to perceive, to have experiences, and to remember. The infant is also finding itself moved by very powerful predatory urges and appetites, which it experiences as need-tension. There are two methods by which tension can be reduced -- the ministrations of the doting mother (feeding the child when he is hungry, keeping the child warm, etc.), or the infant may rid itself of noxious substances (through coughing, urinating, etc.). It cannot be assumed that the child can differentiate between self and nonself at this point -- he is thought to be in a state of primitive (omnipotent) fusion with the mother (Mahler and Gosliner, 1955) and perhaps even with the nonhuman environment (Searles, 1965). What eventuates over time is the accumulation of sensory impressions, leading to the buildup of memories. In the beginning, the affective quality of such memories are presumed to be 'primordial' in nature and, under the sway of the pleasure principle, are attached to attributes of *either*

pleasurable/good *or* painful/bad (see Hartmann, 1939). A more sophisticated understanding -- that an event/person/object may have both good and bad qualities -- is not possible at this point in development. To force such an understanding upon the infant would constitute trauma.

Mahler and Gosliner (1955) have described the formation of 'memory islands' as 'scattered foci of memory deposits within the hitherto oceanic feeling of complete oneness with the mother...' (p. 113) Such memory islands form when the infant is forced to *wait* (to be fed, for example), or to deal with separation (Pine, 1985). Only then does the dim realization arise that need-satisfaction comes from outside the self.

At this point memory comes into the service of delineating the border between self and nonself, and now primordial qualities of good and bad can be attached not to an omnipotently conceived and controlled object, but to part images of self *and* mother which are beginning to escape omnipotent control (omnipotence is assumed as a feature of earliest development -- the good-enough mother is indeeed a slave to her baby). Here is a monumental achievement on the way to the establishment of a reality-sense, leading eventually to the unification of part-images of self and nonself into an integrated object-representation and an integrated self-representation (see Jacobson, 1964). If these processes go smoothly, the older child comes to appreciate that he, his

mother, and other individuals are separate and complex beings, each with positive and negative characteristics, and that reality has a life of its own.

Of course, it cannot be assumed that such developmental processes will proceed in every case in the same fashion. The degree of success or failure of maturational process is very much dependent on the quality of the environment which the child finds to be his. This leads us (yet again) into the work of Winnicott, who saw the accumulation of memories as essential to facilitating the integrative processes of personalization and realization in any given child. In accordance with the theorists mentioned earlier, he (1971) describes the development of memory as resulting from the infant's need to tolerate the mother's failures, and the collation of such memories allows for the development of *anticipation* and *prediction* (each of which serves to preserve infantile omnipotence -- Winnicott, 1965b). But Winnicott's more original contribution was in the notion that the memory of *positive* experiences (holding, handling, feeding) would give the baby the material to *create*:

> Gradually it can be said that the baby is ready hallucinate the nipple at the time when the mother is ready with it. Memories are built up from innumerable sense impressions associated with the activity of feeding and of finding the object. In the course of time there comes a state in which the infant feels confident that the object of desire can be found, and this means that the infant gradually tolerates the absence of the object. Thus starts the infant's concept of external reality, a place from which objects appear and

> disappear. Through the magic of desire one can say that the baby has the illusion of magical creative power, and omnipotence is a fact through the sensitive adaptation of the mother... (1988, p. 106)

Here memory is called into the service of what might be called 'primary creativity'. Later the infant will attempt to preserve omnipotence through the creative use of a transitional object (an object which is somewhere between inside and outside, but is neither one nor the other). Such an object would have no value to the child were it not connected by memory to the original omnipotence for which the mother provided when the infant was in a state of absolute dependence.

Trauma is always a possibility in earliest development, but trauma is kept at bay through good-enough mothering, and by the infant's growing ability (utilizing memory) to keep the mother alive (even in her absence) with an internal representation. If the mother is away for too long, however, this internal representation will decathect (Here the conception 'mother is away' is defined broadly, referring not only to the absence of the 'mother-in-the-flesh', but to any external events (i.e. -- an illness) which interfere in the administration of the *techniques* of mothering.). Winnicott attempted to explain this process using mathematical terminology:

> The feeling of the mother's existence lasts *x* minutes. If the mother is away more than *x* minutes, then the imago fades, and along with this the baby's capacity to use the symbol of the union [transitional object] ceases. The baby is distressed, but this

> distress is soon mended because the mother returns in *x* + *y* minutes. In *x* + *y* minutes the baby has not become altered. But in *x* + *y* + *z* minutes the baby has become *traumatized*. In *x* + *y* + *z* minutes the mother's return does not mend the baby's altered state. Trauma implies that the baby has experienced a break in life's continuity, so that primitive defences now become organized to defend against a repetition of 'unthinkable anxiety' or a return of the acute confusional state that belongs to disintegration of nascent ego structure [experienced as madness].
>
> ...After 'recovery' from *x* + *y* + *z* deprivation a baby has to start again permanently deprived of the root which could provide *continuity with the personal beginning*. This implies the existence of a memory system and an organization of memories. (1971, p. 97)

For Winnicott, early development is all about the maintenance of a continuity of *being* which predominates over *reacting*. Reacting disturbs and breaks up being. In health what is retained from earliest infancy is an unconscious memory of good-enough mothering (Winnicott, 1956) and of a constancy which may be traced to womb-life. In trauma, however, what one retains is the unconscious memory of disintegration (madness), and a loss of the capacity to connect oneself to one's beginnings.

A Note on the Question of Reconstruction

> Memory can only come through re-experiencing.
>
> --Winnicott

I have been personally vexed by the question of accuracy in reconstruction since my first year of graduate school. At that time I came across the following passage in Winnicott:

> My experiences have led me to recognize that dependent or deeply regressed patients can teach the analyst more about early infancy than can be learned from direct observation of infants. At the same time, clinical contact with the normal and abnormal experiences of the infant-mother relationship influences the analyst's analytic theory since what happens in the transference (in the regressed phases of certain of his patients) is a form of infant-mother relationship. (1960a, p. 141)

After reading this, I had the chance to ask a well-known infant researcher (analytically-oriented) his thoughts about the matter, and was told that Winnicott's statement was something of an old analytic fiction. This answer has not satisfied me, and here I will attempt to provide evidence to the contrary.

The following is a summary of five analytic case reports; in all cases the pathology was traced to a disturbance of development in early infancy:

1. Case of a 36-year old Norwegian man with an obsessional neurosis. The patient increasingly made bending and stretching movements with his neck during sessions. It was found that as an infant he had surgery shortly after birth for a defective right neck muscle; he was then given physiotherapy three times per week from the age of six months to three years. When the analyst began to connect the bending and stretching of the neck to the events of infancy, the patient's tone -- which had been flat -- became spontaneous and varied. He felt that his body became more relaxed and free. (Anthi, 1983)

2. Case of a 19-year old schizophrenic man. He reported a dream that he was lying in an Arctic region on an ice block for an extended period of time. The analyst asked the patient if he had ever had a real experience like this. The patient talked to his family about it, and his parents said that when he was less than one year old, they had 'by mistake' left the window

in his room open all night, ignoring his cries on the advice of a pediatrician. This patient also wore heavy sweaters in every type of weather. Upon connecting the dream and the symptomatology to the events of infancy, the patient began to recover. (Niederland, 1965)

3. Case of a 6-year old psychotic boy with a phenomenal memory (not unusual for psychotic patients, a phemomena linked by Mahler to a grave pathology in the ego's ability to repress). The child could not tolerate any discussion of babies without a massive affecto-motor reaction (uncontrollable crying). The patient was understood as being fixated at the symbiotic stage of development; his reaction to outside sensory stimuli was like that of a young baby. (Mahler and Elkisch, 1953)

4. Case of a 47-year old woman who began to hysterically throw herself off the analytic couch. It was found that the need to relive the birth process underlay this phenomenon. The birth process was then re-experienced in the treatment over a dozen times, with birth memory evidenced by breathing changes, body constrictions, alterations in pressure sensitivity around the entire body, and anxieties presumed to be active at the time of birth (i.e. -- of the head being crushed). The analyst felt that each time the birth process was remembered in an exact and complete form, even in terms of the sequence of events. (Winnicott, 1949a)

5. Case of a 6-8 year old Dominican boy (my own patient) who in the course of treatment began to climb into a curled up gym mat in the corner of the therapy room, where he could not be seen. He would complain that he was choking and that I must save him. Then he would require me to pull the mat to the floor and he would tumble out of it onto the ground. This scene was re-enacted at least twenty times. Upon reviewing the material from the intake interview with the boy's parents, I found that he was delivered prematurely by cesarean section, because the umbilical cord was wrapped around his neck.

All of these examples provide, in my personal view, compelling evidence for the storing of infantile experience in

unconscious memory. Yet psychoanalysis *as a science* finds itself on the defensive for not being in a position to empirically demonstrate the validity of its findings. Even some modern-day analysts in infant research (i.e. -- Lichtenberg, 1983) have come to the conclusion that one needs to validate one's position with large numbers of subjects in broad-based, experimental studies in which depth is inevitably sacrificed.*

Though such research is not to be dismissed, the work of the cognitive empiricists demonstrates the limits of attending only to the observable phenomena of infant memory. If psychology constricts its findings about infant life to experimental data, the psychologist loses the ability to connect present to past, which is the essence of the psychoanalytic method of reconstruction. In the example I presented of my own patient, I doubt the birth trauma could ever be found by experimentation, nor even perhaps by long-term longitudinal study (there being too many confounds). Such trauma could only be discovered in the treatment situation, with its emphasis on partial and controlled regression (Kris, 1956), and its inclusion of my willingness to function as

*Lichtenberg writes: '...[T]here is no experimental evidence that the infant retains an image of the mother when she is no longer perceived. The infant's joy on the return of the absent mother signifies her importance to the infant -- not necessarily her internally represented image.' (1983, p. 71). Since we know that even a 5-day old infant can discern his own mother's odor, Lichtenberg must possess a quite limited conception of what is an internally represented image.

a mother to a delusional and dependent patient. Winnicott (1954) spoke of the 'freezing of the failure situation' in infancy, and of the attempt made by the patient to get back to the failure through *breakdown*:

> Breakdown means a failure of defences, and the original breakdown ended when the new defences were organized which constitute the patient's illness pattern. *The patient can remember the breakdown only in the special circumstances of a therapeutic setting, and because of ego growth.* The patient's fear of breakdown has one of its roots in the patient's need to remember the original breakdown. Memory can only come through re-experiencing. Hence the positive use that can be made of a breakdown if its place in the patient's tendency towards self-cure be recognized and used practically. (1959-64, p. 139, italics added)

I have italicized the sentence in the above passage because -- if it is true -- it is also true that the infant hides its most significant memories from everyone *except* those engaged in analytic research (research data derived from the study of patients in analytic treatment). We may grant that reconstruction in analysis is indeed subject to fantastical distortion arising out of current conditions, or to the specific circumstances prevailing at the time of the development of a particular memory (see, for example, Greenacre's comments on pregenital patterning, 1952a). Yet when infant researchers come upon the limits of their method of inquiry (the infant will never speak), they may have to admit of the possibility that there is no better means than

psychoanalytic reconstruction to determine how memory comes to make us who we are.

CHAPTER FOUR
INFANT TRAUMA AND (BODY-)EGO DEVELOPMENT

> [T]he infant's body scheme eventually comes to include everything.
>
> -- D.W. Winnicott

At the theoretical start (at a time which is most likely before birth) the incipient ego is bathed in a stillness which has neither beginning nor end. Stillness is the condition which houses the undifferentiated psyche-soma at the beginning of psychological life, before structuralization begins to occur under the pressure of impulse-tension. In womb-life this atmosphere is maintained not simply because of the lack of instinctual urgency, but also because of the protection offered by the amniotic fluid and vernix caseosa, with the consequent minimization of surface intrusion. Stillness is the required condition for unintegration, and in it the early ego is permitted to be itself, which is to say, it is permitted *not to exist* and, perhaps later, to exist in pieces. Thus we see that existence has roots in non-existence.

By contrast, we know that the calm of womb-life may be disturbed. Infants *in utero* may react to tactile stimulation (Gesell, 1946, Greenacre, 1952b), and some recent efforts have been made to analyze the prenatal infant's apparently strong responsiveness to the expectant mother's state of mind (Angier, 1999). One may also observe the beginnings of reflexive instinct activity, as the child *in utero* may kick, suck, and/or

grasp, though without knowledge of objects (Hoffer, 1950a, Spitz, 1955). Still, it seems reasonable to postulate an extended experience (in health) of absolute prenatal bliss, the source of the 'oceanic feeling' described to Freud by Romain Rollard (Freud, 1930). (Greenacre, 1952b, referred to the 'relaxed relatively sleepy narcissistic state of the fetus' where the libidinal charge is suffused throughout the infant's body.) This early state will be maintained by infant and mother in infancy through what Mahler termed the normal autistic and symbiotic phases (Mahler, Pine, and Bergman, 1975). Though we are told that Mahler repudiated the phase of normal autism towards the end of her life (Bergman, 1999), for me autism simply means that the postnatal infant *sleeps*, and through sleep a 'continuity of being' (Winnicott, 1960b, 1962a) is preserved with roots in womb-life. In Winnicott's work we find the conception of the individual as an isolate; the 'central core' of the personality is understood to be incommunicable, and communication with the core results in the infant's use of primitive splitting mechanisms to prevent exploitation (Winnicott, 1963a). After birth, stillness will be disrupted by id-tension, at which point ego-care on the part of a mother or substitute becomes essential to ensure that the effects of the drives are not traumatic (Winnicott, 1962a). At this point (before and just after birth), the ego is at most a very flexible potentiality, an unintegrated set of nuclei

(Glover, 1939); its outer limits are set by genetic inheritance.

Birth is a massive disruption of continuity, and in Freud's metapsychology it is the paradigmatic trauma, responsible for the pattern of anxiety in a given individual (Freud, 1926). There is, in fact, tremendous danger to the infant during the birth process: the head is pounded by uterine contractions, and Greenacre likened the effect as of a blackout akin to death. As a result, newborns are relatively unresponsive to surface stimulation for the first few days, in contrast to the earlier era of prenatal reactivity. During the birth process, the ego has yet to assume functional properties as a 'special organ of adjustment' (Hartmann, Kris, and Loewenstein, 1946) or steering organization; the affective equivalent of such an upheaval as birth is a feeling of annihilation (in Freud's language: 'automatic' anxiety).

It can be postulated that the birth experience typically involves the infant's temporary awareness of individuality through intensive head and skin libidinization. The experience of individuality at this stage has a persecutory quality, however, and it may be that it is the actual experience of birth, and not the death instinct (as in Klein's theorizing), which orients the infant around a 'paranoid' position (Winnicott said as much in his paper on birth trauma (1949a), where he suggested that the birth experience sets the pattern of persecution in the infant psyche). Could it be that there

is more which goes on before and during birth which determines the character of the ego than has yet been grasped analytically, and which was previously ascribed to temperament and/or constitutional factors? Certainly medical science will give the psychoanalytic researcher more opportunity to scrutinize this period of development, as the age at which premature infants can be kept alive is pushed farther back into what was previously considered prehistory.

The Early Ego and the Body in Psychoanalytic Theory

Anna Freud (1967) posited that it is the ego which is the victim in a trauma, and it is therefore reasonable to ask a deceptively simple question: what is this thing that is the ego that is being traumatized? It is well-known that psychoanalysis came only gradually to analyze the ego as a structure with its own functions and developmental history, and one can understand Freud's slow journey to ego-analysis as an attempt to protect the hard truths of the drives (Even today it seems we feel ourselves to be on safer ground when discussing defensive operations -- without reference to raw love and hate.). James Strachey, in his introduction to *The Ego and the Id* (1960), points to changing uses in terminology as regards the ego: in the early years of Freud's work the term is often used to refer to a person's self as a whole; later it is utilized to refer to a particular *part* of the mind with various functions and attributes (see also Bergmann, 1963). The

original view (1900) was that the ego was wholly conscious and responsible for the repression of the unconscious (this belief may in part explain the rather interrogatory technique Freud utilized early in his career). Soon it had to be admitted that a patient may not be aware he is resisting, and with this the part of the ego which resists discharge of libidinal energy could be unconscious as well. In *Three Essays* (1905), Freud referred to the mental representation of libido as *ego-libido*, and suggested that when such libido cathects objects it becomes accessible to study as *object-libido*. (The distinction between ego- and object-libido derived from Freud's original notion of ego-instincts (self-preservative) and sexual instincts.) The fact that object-libido could then return to the ego was to form the basis for the theory of secondary narcissism in schizophrenia (1914b); here it can be seen that the term ego is still being used in a global sense to refer to the self, although we begin to see more structural differentiation with Freud's development of the concept of an ego-ideal. The ego-ideal represents the 'lost narcissism of childhood', and will form the 'conditioning factor' of repression.

In his paper on melancholia (1917), we begin to observe what will become Freud's more mature view regarding ego-development. Here it is posited that the melancholic sets up a lost love-object inside his ego, which then becomes the victim of the disillusion and self-reproach which originally belonged to the object. This is accomplished via oral (introjective)

mechanisms. Later (1923) Freud came to the conviction that the character of the ego itself (as a structural entity) forms in such a manner in earliest development: the ego is a 'precipitate of abandoned object cathexes...it contains a history of these object-choices.' (1923, p. 24) The ego is here considered to be a specially differentiated part of the id, which has assumed the features of the object which has rebuffed it. It has become the love-object of the id through the process of introjection:

> ...[I]t may be said that this transformation of an erotic object-choice into an alteration of the ego is...a method by which the ego can obtain control over the id and deepen its relations with it -- at the cost, it is true, of acquiescing to a large extent in the id's experiences. (p. 24)

This shift marks the changeover from the pleasure to the reality principle: instincts are defused and a model for future sublimations becomes established (though the ego will continue throughout life to encounter difficulty maintaining homeostasis, due to pressure from the drives (Menninger, 1954)). Seen from this perspective, the ego's affiliation with the body may be found in the infant's attempts to deal with pleasure/unpleasure and satisfaction/dissatisfaction related to the feeding situation in early infancy:

> At the very beginning, in the individual's primitive oral phase, object-cathexis and identification are no doubt indistinguishable from each other. We can only suppose that later on object-cathexes proceed from the id, which feels erotic trends as needs. The ego, which to begin with is still feeble, becomes aware of object-

> cathexes, and either acquiesces in them or tries to fend them off by the process of repression. (1923, p. 23)

Orality must therefore be given consideration as the libidinal expression of introjective (identificatory) mechanisms, but we then have a statement of Freud's (in a footnote for the English edition of *The Ego and the Id*, cited in Chapter Two) which suggests that the ego is a mental projection of the *surface* of the body, thus giving the role of reality-perception its due as an ego-faculty. Here I would like to think that Freud was intuiting his way to matters which would be taken up by later theorists -- that is to say -- that the infantile experience of being held and handled (Winnicott, 1960b, 1963d), and the consequent libidinization of the surface of the body, would play a major role in ego-development from the very beginning.

With the advent of ego psychology, it became possible for psychoanalysis to consider the types of splitting mechanisms to which infants are prone in a traumatic situation, and Freud anticipated the importance of such inquiry in his brief communication on psychosis:

> ...[I]t is always possible for the ego to avoid a rupture in any of its relationships by deforming itself, submitting to forfeit something of its unity, or in the long run even to being gashed and rent. (1924, p. 254)

One wonders, however, whether Freud had infants in mind with this statement. Certainly many classical analysts (i.e. -- Fenichel, 1945, Furst, 1967) assumed that the infant was 'pre-

ego.' Later, Hartmann and his colleagues (1946, 1952) postulated an initial phase of undifferentiation, from which ego and id gradually emerge. Child-oriented analysts like Winnicott, Mahler, and Spitz (all who studied actual babies) commented on the mother's role as 'auxiliary ego' for the infant. In any event, if the ego is primarily a body-ego, what we mean by saying it may be 'gashed and rent' is that *bodily functions may be dissociated in a trauma.* When this occurs, both the function itself and the accompanying fantastical elaboration tends to be housed somewhere else besides in the body (in the intellect, for example, see Winnicott, 1949b). The infant simply may not come to live in his mouth, or his muscles, or he may split off his need for stillness and rest.

The Role of Perception in Early Ego Formation

Orality and Experiences of the Surface

In psychoanalytic theory, perception plays the part in the ego that instinct plays in the id (Freud, 1923) -- that is to say -- perception and instinct are the activities of their respective structures. In either case it is the body (the body-ego) which is perceiving or attempting to make sense of impulse and reality, and one must find one's way to the body of the infant if one is to understand what happens to the somato-psyche in a case of early psychic trauma. What does the infant perceive? Writes Spitz:

> We can assume that the baby, if it indeed perceives anything, perceives moving,

> shifting, gigantic, vaguely colored and even more vaguely contoured inchoate masses. In the midst of this chaos certain of these shifting masses reappear periodically and are associated with certain recurrent sensations, feelings, emotions. They become associated, in short, with need satisfaction. (1955, p. 218)*

Need-satisfaction at this time can be thought of as a two-pronged affair. On the one hand is *oral* (id) *need* and on the other is the *need for care* (ego-need). This corresponds with a normative split in the infant's perception of the mother -- that he has in fact *two* mothers -- the mother who is the subject of id-attack, and the mother who is the source of the environmental provision (Winnicott, 1963c).

One cannot underestimate the importance of oral experience (excitement, frustration, satisfaction, and/or seduction) in the experience of the very young infant. The infant perceives the world largely through his mouth (he has a 'mouth-ego' (Fairbairn, 1940)), and Spitz acknowledged this fact in referring to the mouth as the 'primal cavity.' (the mouth 'fulfills the function of a bridge from internal reception to external perception' (Spitz, 1955, p. 220)). Cavity perception (Spitz, 1955, 1965) involves a fusion between a variety of different types of perceptual experience (visual,

***Clearly this is a statement which might be challenged by modern-day infant researchers (i.e. Beebe, Emde, Stern), whose experimental data suggests that infants are much more capable perceivers of reality than Spitz suggested. However, such theorists often do not include the concept of impulse-tension in their considerations, nor do they admit that body-functioning may be subject to 'imaginative elaboration.' The omission of this type of experience makes it difficult for contemporary developmental psychologists to make sense of the interrelationship between mind and body.**

aural, tactile, and 'labyrinth' (inner ear) sensations) under the overarching dominance of oral need. Though the infant may feed at the breast, it is the mother's expressive *face* which the infant gazes at while feeding; therefore, concludes Spitz, the human face is the first *percept*. Breast-experience and the mother's facial expression are then merged into a total Gestalt in which any part of an experience comes to represent the whole experience. One sees how complex a situation this is for an infant: the primary source of libidinal tension is hunger felt enteroceptively as unpleasure and met at the mouth with breast or bottle. The valence of the mother's attitude toward feeding is, however, given its affective coloring not only by a particular quality of her breast, but also by a variety of factors initially associated with the unique features of her face. Here the mother indicates her initial attitude towards her role as an object of predatory acquisition -- the first identifications derive from such face-to-face communication.

One can very quickly observe the progressive development of ego-functioning in noting the differences between infants up to ten-weeks old and infants from twelve to sixteen-weeks (Hoffer, 1950a). Whereas the younger group is something of a passive victim of id-tension and the hopeful recipient of relief and care, the older group is *purposeful*. After twelve weeks, for example, a definite oral-sucking pattern has been established, suggesting the development of such important ego-functions as motor control, memory, and reality-testing. The

changeover may also be related to the incorporation of aggressive muscular activity (lips, mouth, hands, arms) into the body-ego. Oral sadism only now becomes possible with the fusion of erotic and aggressive elements, and it is here that we see what accounts for the passivity and affective blunting of the esophageal atresia patients described in Chapter One (pp. 33-34). Without the ability to feed by mouth, there is no outlet by which aggressive and erotic elements may be incorporated into the scheme of the mouth, to which all other types of perception are attached at this point. In the normal situation the use of the hand as an extension of the will of the mouth will come to play an important role (Hoffer, 1950b), and the coordination of hand activity with oral need is reflective of increasing integration of the infant as a psychological unit. Here are the first feelings of efficacy, which find their way into the infant's psyche by way of the mother's provision of an experience of omnipotence.

Then there is the matter of surface (skin) perception, which actually precedes mouth experience in the sense that such perception is theoretically possible in the womb. As stated, the normal birth process gains its psychic significance through intensive skin libidinization, and it is the skin which is held and handled by an attentive mother. Writes Bick (1968):

> ...[I]n its most primitive form the parts of the personality are felt to have no binding force amongst themselves and must therefore be held together in a way that is experienced by them passively, by the skin functioning as a boundary. (p. 484)

The suggestion is then made that for the infant to develop a sense of inner space bounded by the skin, the 'containing function' must be introjected. It is here, however, that Winnicott's (1962b) criticism of the Kleinians has relevance. Introjective and projective mechanisms cannot have meaning for the infant until there is a bounded space into and out of which objects may move. By the time projection and introjection are operative, therefore, the skin must already have been incorporated into the body-ego by some earlier mechanism. This early stage Winnicott referred to as the I AM (1962a) stage or the stage of self-assertion (1963d), and it involves the infant's emergence from unintegration via limited experimentation with individuality. Following integration the infant is temporarily in a paranoid state (Winnicott, 1952) -- and it is only now that projective mechanisms have relevance. Now the mother must hold and adapt, so such states might be survived (Symington, 1985) as the infant returns to the core state --- which is unintegration.

Though perception is often thought of as relating to the individual's estimation of inner and outer sensations, it is wise to keep in mind that this is true only of perception in a mature ego-apparatus. In psychoanalytic theory the mother is understood to be an omnipotently controlled or fused part of the infant in these early stages (this essentially involves an illusion (Winnicott, 1951)), and the experience of *individual* perception is thought to carry the potential for trauma. If

this is true, then it is also true that *most of what the infant perceives flows through the mother's strong ego.* It is the mother who introduces the infant to the world through attention to need, facial expression, and her presentation of objects. Such activity strengthens the ego, as does need-frustration, which tends to mobilize aggressive forces. Eventually the infant develops confidence that periods of waiting may be survived, at which point the infant ego begins to separate out from that of the mother, as the skin comes to represent a boundary (Scott, 1949) that can contain the results of both satisfying and dissatisfying experiences with objective reality.

So we see that -- as predicted -- the infantile ego is gradually gathering unto itself a variety of different experiences at a pace which is tolerable; the reality principle is introduced by the mother in a dosed and titrated fashion (Winnicott, 1962c), though she is always tolerant of the infant's need to return to the isolated core. The individual's body-scheme contains the story of earliest development.

Speculation Regarding the Earliest Stage(s?)

Even Winnicott had to admit that this was an obscure area. We are working backwards, referring to the period prior to integration. In speaking of an infant who is integrating experience into a body-scheme, Winnicott (1945) formulates the concept of primary *un*integration. What is unintegration? So

far, analysts have been able to speak about this era mainly in terms of what it *is not* than what it is (autistic, preobjectal, etc.). Writes Winnicott:

> *(1) Integration from what?*
>
> It is useful to think of the material out of which integration emerges in terms of motor and sensory elements, the stuff of primary narcissism. This would acquire a tendency toward a sense of existing...[T]he rudiments of an imaginative elaboration of pure body-functioning must be postulated if it is to be claimed that this new human being has started to be, and has started to gather experience that can be called personal. (1962a, p. 60)

The effort of apprehending the beginning is difficult, and may be likened to an attempt to reconstruct the moment at which amino acids formed the first protein in the primordial ocean. This coming together of inorganic substances forms the basis for Freud's (1920) concept of the death instinct, a notion which acknowledged the *regressive* pull of the instincts toward restoration of an earlier period. The earliest period may be provisionally described as a state where elements of the ego which are to cohere are at rest, *with no pressure to cohere* ('death' may be an inaccurate word for this state). Forces of biological life exert maturational pressure on these elements, which then become agitated and restless, though with a continued pull towards rest (or stillness, or 'quiescence', to use Freud's term). The eventual result of maturation is a sense of existence, but psychology must begin somewhere *in between* existence and non-existence. My thoughts on the matter

were summarized in a concise fashion by Dr. Anni Bergman, who said that 'being [the sense of existing] is itself an impingement' (personal communication, 1999). The continuity of being which Winnicott describes therefore has its roots in something (still elusive to scientific inquiry) which is on the border between being and non-being. When a trauma occurs in early infancy, the individual may be cut off from his roots in non-existence, and a regressive attempt may be made to find a way back to this earliest state. Seen from this perspective, it is inaccurate to refer to death as an *aim* of the instincts; rather, non-existence serves *Eros* as the only possible starting point for life.

Defensive Processes at Work in Early Trauma

This subject has already undergone limited consideration in the first chapter; here attempts will be made to speak of such processes in terms of the body-scheme.

Dissociation of Body-Function as a Result of Ego-Splitting in Earliest Infancy

Early ego-defense mechanisms have been thoroughly analyzed by theorists from the British object-relations school, particularly as relates to split good and bad object experience. I feel it is important therefore, when speaking of infants, to be able to correlate these psychical processes with bodily function, since at the stage under consideration the capacity for unconscious symbolization is at most rudimentary.

We can see, for example, that Klein's metapsychology is based on bodily experience when considering her views on the route of oral sadism. The full fantasy of oral sadism includes the devouring and destroying of the contents of the mother's body, and is too awesome for the infant to contain within himself (Klein, 1930, 1935). Accordingly the child's tendency is to project this extraordinary aggression into an external object, leading to primitive paranoid fears of retaliation. Using the language of the body, we can say that such wanton and unchecked destructiveness is simply too anxiety-provoking to be included in the body-scheme, and projection itself has its physiological correlate in the expulsion of bodily substances (which imaginatively and magically enter the external object for control purposes). In Klein's metapsychology, it is cycles of projection (of aggression and bad objects) and introjection (of good objects incorporated orally) which stimulate ego development, and the character of the ego is in part determined by the conditions under which objects are incorporated and expelled. In this situation the real mother must be able to contain the infant's projections (Ogden, 1990), and she is in the difficult position of having to prove again and again that she is not the bad, attacking mother of the infant's fantasy (Klein, 1932). Again, speaking in body terms, I would say that the containing function of the mother is represented behaviorally by her loving attention to bodily function. The introjection of the good object as a whole is the penultimate

achievement of infantile development in Kleinian thought, and it is only at this point that the infant may become distressed about his sadistic and predatory impulses (Klein, 1935), as they are now felt to be a part of his body-plan.

Though we may speak of projection in terms of bad objects and introjection in terms of good objects, one can also observe the opposite -- projection of internalized good objects, and introjection of projected bad objects. Klein accounted for this in pointing out, for example, that excrement is not only expelled in hate but may also be felt to be a gift representing a loving part of the self (Klein, 1946). But Klein also expressed concern as to the dangers of excessive idealization (through excessive projection of good parts of the self) at this stage, such idealizations acting to impoverish the ego:

> [W]hen persecutory fear is too strong, the flight to the idealized object becomes excessive, and this severely hampers ego-development and disturbs object-relations. As a result the ego may be felt to be entirely subservient to and dependent on the internal object -- only a shell for it. With an unassimilated idealized object there goes a feeling that the ego has no life and no value of its own. (1946, p. 9)

Here I would renew my objection (outlined in Chapter One) to Klein's omission of a certain type of infantile experience, that of *normative and massive idealization of the good object* consequent on projection of the good parts of the self (this is not to dispute Klein's appraisal of the very real dangers implicit in excessive flight to the idealized object). Just as

the mother must be able to contain the projection of unassimilated aggression, she must also be able to manage the dependence which is implicit at the stage of idealization (thus the argument can be made that the early ego *does not have* a life of its own). The fact is that the infant will attempt to preserve perfection through fantastical means (Kohut, 1968), and this must be allowed for and tolerated if ego-development is to be facilitated.

In trauma the infant has very few options available to him, and his tendency is to split. Splitting may appear in a variety of forms, but I would say that in every case where there is a split in the psyche in infancy, a body-part or function is split-off as well. For example, when Klein (1935) speaks of the denial and scotomization of psychic reality as a defense against persecutory anxiety (restricting projection and introjection), it is the *skin* which is being dissociated. Thus I have a patient -- a boy child of latency age who suffered severe traumata in early infancy -- who refuses any objective statement of transference or even empathy. This is because I do not exist for him except as a subjective phenomenon and he will only listen when I speak from this position. For a long time he was virtually insensitive to pain, throwing his body against walls and doors without any sign of discomfort. At some point in the treatment he began to develop what I now understand to be a skin, which he represented by covering a table with a sheet and then hiding in quiet under the table.

The sheet is the skin -- the boundary between me and not-me: the only time when he is not prone to manic restlessness is when he is sitting in stillness under the table and sheet-covering.

In Klein's view development proceeds normally if the ego can come to tolerate the anxiety-situations of a wholly fantastical infantile life. By contrast, ego-development is endangered in situations of excessive frustration; oral sadism increases and must be projected. If a normative balance of projection and introjection is not maintained, the ego can become weakened and incapable of assimilating good internal objects, and it is the introjection of such objects which acts to strengthen the ego against persecutory anxiety. Relating this to the body-scheme, we can see that a weakened ego is one which cannot include not-me elements under the magic spell of its own omnipotence. It is possible, for example, to imagine a situation where the infant hand-mouth is projected, which would be experienced as a fear of being devoured (in Klein's view this is a normative process). Or, during the introjection of projected bad objects, the infant may experience introjection as excessively forceful and controlling, with the corresponding fear that one's mind is being held or controlled (Klein, 1946). In health the body-ego comes to include that which was originally projected.

As I have already stated in Chapter One, Fairbairn's views run parallel to Klein's, though Fairbairn took a step

which Klein did not, which was to usurp rather than emend Freud's view of ego-development. From Fairbairn's perspective (1944) the ego is not (as postulated by Freud) a specially differentiated part of the id which forms under the pressure of object-cathexes and subsequent identifications. The ego for Fairbairn is -- from the beginning of life -- an active source of impulse-tension, with the reality principle consequently operative from birth (libido is thought to seek real objects, not pleasure). In this original state, the ego is considered to be a *unitary* ('pristine') *phenomenon*. Notes Guntrip:

> Fairbairn is explicit that the infant from the start is a whole, if primitive, dynamic ego with a unitary striving, at first dim and blind towards the object-relationships he needs for further ego-development. (1995, p. 55)

Subsequent splits in the ego derive from the frustration of bodily needs, according to the following sequence: (1) the infant experiences need-frustration and incorporates a bad object as part of a defensive process where dissatisfying experience is brought under omnipotent control; (2) the body-ego is, however, not yet sophisticated enough to contain an ambivalent relationship to a bad object, which is both exciting (because it exists and tempts) and frustrating (because it denies); (3) the infant must split the bad object into an exciting and rejecting object; (4) the exciting and rejecting objects are *repressed*. The infant's splitting and repression of parts of the bad object is primary; this consequently forces

a secondary split in the ego to which I have already referred. A 'central ego' aggressively represses a 'libidinal ego' (related to the exciting object) and a 'persecutory ego' (related to the rejecting object).

It is interesting to compare the two views -- Fairbairn's and Klein's -- which seem to have so much in common in their attention to internal object relationships but which differ in key respects. Both Klein and Fairbairn posit the presence of splits in the ego corresponding to the splitting of the object (for Fairbairn only the bad object is split). The difference for each theorist lies in the mechanism by which this happens. In Klein the focus is on projection and introjection of good and bad parts of the personality under the sway of oral sadism. Fairbairn considered Klein's views in this regard and wrote of them:

> ...Melanie Klein has never satisfactorily explained how phantasies of incorporating objects orally can give rise to the establishment of internal objects as endopsychic structures -- and, unless they are such structures, they cannot be properly spoken of as internal objects at all, since otherwise they will remain mere figments of phantasy. (1949, p. 154)

So we see that Fairbairn claims to have taken a step that Klein has not in his hypothesis that a specific type of endopsychic structure (a tripartite ego) results from the introjection of bad object experience. This part of Fairbairn's theory seems to me untenable, however, as it has repression of parts of the ego as its basis. Repression is a relatively sophisticated

defense requiring the existence of a coherent ego structure or body-scheme. It assumes the development of consciousness and ideas associated with instinct and affect (A. Freud, 1966, p. 43) In other words, I cannot find a basis for repression of parts of the ego in the body of the infant, though it seems to me that projection and introjection (which are ego-defense mechanisms) are easily located (after the child has achieved a modicum of individuality) in the infant's expulsion and assimilation of bodily fluids.

I wish to return to the notion of the early ego as a pristine *unity*. It is only possible to accept this idea if one abandons the structural theory, reverting to Freud's earlier definition of the ego as the self. Fairbairn was prepared to do this, but I personally find the concept of the ego as a structural entity too valuable to dismiss. However, it may be worthwhile to examine the question of what there is in infancy that is unitary in nature, for I do believe that there is something pure and singular which may be dissociated in cases of early infant trauma.

The Dissociation of the Unitary in Early Infancy

There are actually two separate unities which can be identified in early infancy, and these may be related to what Winnicott has called quiet and excited states (Winnicott, 1954-55). In the excited state we are examining the primitive love impulse, a powerfully acquisitive urge which is expressed in

the undifferentiated (libidinal-aggressive) attack on the mother's breast during feeding. The excited type of interaction may also be seen (in sublimated form) in aggressive play. Thus we see that one type of trauma in infancy involves the dissociation of this loving part of the personality, which may show up clinically in feeding disturbances or compulsive autoerotic activity or in social phobia, for example. In this regard, Fairbairn (1940, 1944) and Guntrip (1995) have commented eloquently on the fear of love's destructive power in the schizoid personality, and Greenacre (1952a, 1967) has -- from a different vantage point -- examined how infantile trauma can induce premature erotization of the genital area (It seems to me that premature erotization due to trauma can be the only possible source of early-onset of the oedipal situation.).

The other type of unity I have already alluded to, and has its roots in the stillness of womb life. It is an *ego-condition*, which is maintained only when mothering is good-enough (i.e. -- the infant is left to be). Federn described it as

> an enduring feeling and knowledge that our ego is continuous and persistent...because we feel that processes within us, even though they may be interrupted by forgetting or unconsciousness, have a persistent origin within us, and that our body and psyche belong permanently to our ego. (1952, Chap. 9)

When a split occurs here, something whole is indeed hidden (Winnicott called this the 'basic split', 1952), and a False Self will be used by the infant to fool the environment into

believing he is there. Actually he is not there (again, this may be related to skin dissociation), but presents an organized defense which protects against breakdown of the ego-organization (Winnicott, 1963d). Drive elements may also be hidden in this 'secret inner life', and it is here that Winnicott's important modification of psychoanalytic theory becomes relevant. I am referring to his statement, and others like it, that '[i]t would be wrong to put the instinctual gratification...or object relationships...before the matter of ego organization.' (1960a, p. 49) In other words, if id-satisfaction occurs outside of maternal (ego) care, the effect is of trauma, as the infant is not yet able to make sense of instinctual impulse as personal. Drive elements in the False Self are useless to the infant (and may result in a variety of body-image disturbances and perversions (see Bonaparte, 1952, also Greenacre, 1958a, 1962, 1967)). In psychoanalysis with a person so impaired, it may not be possible to introduce the secret inner self to reality or to the self's impulsive elements until the analyst has convinced the defense organization that he can titrate and contain the intensity of the persecutory fears attendant to this stage. The defense organization is, however, charged with the maintenance of low levels of anxiety and has little interest in exposing the self to psychotic fears (depersonalization, derealization, etc.). This constitutes a formidable technical problem for the treatment of such patients, and requires the analyst to play

the role of an adaptive mother, though with few of the advantages of motherhood.

In health the mother's adaptations allow the infant to include both quiet and excited elements into his body-scheme. This results in guilt or concern (Winnicott, 1954-55, 1958b) over the effects of instinctual attack. At this point the infant may relate to his mother as an introjected whole person for whom he has complex feelings of love and hate (Klein, 1935), and this sets the stage for the oedipus complex as a whole-body experience. We can expect that in early infant trauma the capacity for the fusion of quiet (ego) and excited (id) states may be impaired; there are those who for this reason never reach to depressive development and the ambivalence with which this is associated.

The Pathology of Primary Creativity and its Relation to Transitional Phenomena

Freud's description of the earliest phase of orality was of a period where object-cathexes and identifications are indistinguishable (1923). This is the same as saying that the infant takes its own body, or parts of its body, as the first object(s) (objects of autoerotic satisfaction, or of primary narcissism). When infant life came under closer scrutiny, however, it became clear that the body of the child could not be taken for granted as something which exists in the beginning as an object (see, for example, Little's (1956) comments on basic unity, also Mahler, 1967, 1968), or even a part-object.

It is not, therefore, a given of development that self- and object-representations will become firmly established and demarcated in the psyche of the individual; in the delusions of the psychotic one sees the results of failure in this regard (Jacobson, 1954).

The infant in the earliest stage is therefore preobjectal. 'Transactional' theorists do not like this, and wish to ascribe to the infant a wide variety of inborn ego-capacities and interests. I understand such theories to involve a denial of the infant's (initially absolute) dependence on the environment, and also of impulse-tension which arises endogenously and which acts to give body-feeling to love and hate. Both of these factors are alarming features of human nature: the 'attuned' mother must adaptively attend to each if the infant is to become a person in his own right.

If the infant is initially preobjectal, then the first object must be created. This was Winnicott's view, and it is a very different view from that of Fairbairn, who argued that the infant innately seek objects, or that of Klein, who posited oral sadistic urges towards an object from the beginning of life. I believe Winnicott's view to be more in line with the Freudian concepts of primary narcissism and the pleasure principle, regardless of Freud's use of terminology (object-cathexis=identification) more appropriate for later stages.

What is involved in object creation? Writes Winnicott:

> ...[T]he breast is created by the infant over and over again out of the infant's

> capacity to love or (one can say) out of need. A subjective phenomenon develops in the baby which we call the mother's breast. The mother places the actual breast just there where the infant is ready to create, and at the right moment. (1951, 238-239)

The subjective phenomenon referred to is the first object, which cannot come into existence without the devotion of an ego-adaptive mother. The mother presents the object without insisting that her child become aware that it is she who presents it. This object -- if all is going well -- is felt to be omnipotently controlled and has illusory qualities. The illusion involves an 'overlap' between what is objectively presented and what is subjectively created. Eventually the substance of the illusion may be transferred into the infant's use of a 'real' object such as a blanket or doll, which psychologically has properties of both inside and outside but is neither one nor the other.

In early infant trauma a break-up may occur in the process of creation leading to illusion. The creative process has its origins in the drives and in impulsive activity, and as Winnicott indicated these may be dissociated and housed in a secret inner life. It may be said of certain schizoid individuals that the body-ego is not seen as a place to live from, but is rather a source of persecutory anxiety, consequent on the projection of the intolerable drive elements. One may also observe obsessional activity, which Klein (1935) viewed as binding the psychotic anxiety attendant to fixation during this period.

There are certain extremist and mystical personality types whose analysis may prove useful in demonstrating the results of failure in the creation of the object. Writes Winnicott:

> In thinking about the psychology of mysticism, it is usual to concentrate on the understanding of the mystic's withdrawal into a personal inner world of sophisticated introjects. Perhaps not enough attention has been paid to the mystic's retreat to a position in which he can communicate secretly with subjective objects and phenomena, the loss of contact with the world of shared reality being counterbalanced by a gain in terms of feeling real. (1963a, pp. 185-186)

One can observe the struggle of such a mystic in the tragic story of Christopher McCandless (reported by Krakauer, 1996), the young man who disowned his family and society and disappeared after graduating with honors from Emory University in 1990. In April 1992 -- after journeying around the country as a vagrant -- McCandless hitched a ride into the Alaskan wilderness with the intent of living alone and off the land. He had with him a rifle, a ten-pound bag of rice, and a number of works by such authors as Tolstoy, Solzhenitsyn, and Thoreau. Four months later he died of starvation after accidentally ingesting a potato seed which made it impossible for him to digest any food.

On the back pages of his journal -- written while McCandless was alone in the wild -- one finds the following statement:

> I am reborn. This is my dawn. <u>Real</u> life

> has just begun.
> Deliberate Living: Conscious attention to the basics of life, and a constant attention to your immediate environment and its concerns, example→A job, a task, a book; anything requiring efficient concentration (Circumstance has no value. It is how one relates to a situation that has value. All true meaning resides in the personal relationship to a phenomena, what it means to you)... (as quoted in Krakauer, 1996, p. 168)

In addition to the obsessional attempt to disown time, here one finds a statement of infantile omnipotence as it exists in a world of subjective objects ('All true meaning resides in the personal relationship to a phenomena...'). For the very young infant, it is true, circumstance has no value. But this is an *illusion* provided by an adaptive mother at the stage of absolute dependence, and the internal object cannot be made real until there is a human external object (not initially felt as external) which adapts and frustrates (graded frustration being more important in this regard). Here we find a fixation to concerns of early infancy, and an attempt to integrate lost aggressive impulsiveness (through conscious attention to task) into the body-scheme. The hope is to begin to feel alive.

What follows is an excerpt from a letter written by McCandless to an eighty-year old man who befriended him for a short time while McCandless was bumming his way through southern California:

> ...Ron, I really enjoy all the help you have given me and the times that we spent together. I hope that you will not be too depressed by our parting. It may be a very

> long time before we see each other again. But providing that I get through this Alaskan Deal in one piece you will be hearing from me again in the future. I'd like to repeat the advice I gave you before, in that I think you should make a radical change in your lifestyle and begin to boldly do things which you may previously never have thought of doing, or been too hesitant to attempt. So many people live within unhappy circumstances and yet will not take the initiative to change their situation because they are conditioned to a life of security, conformity, and conservatism, all of which may appear to give one peace of mind, but in reality nothing is more damaging to the adventurous spirit within a man than a secure future. The very basic core of a man's living spirit is his passion for adventure. The joy of life comes from our encounters with new experiences, and hence there is no greater joy than to have an endlessly changing horizon, for each day to have a new and different sun. If you want to get more out of life, Ron, you must lose your inclination for monotonous security and adopt a helter-skelter style of life that will at first appear to you to be crazy...But I fear that you will ignore my advice...
>
> You are wrong if you think Joy emanates only or principally from human relationships... (Krakauer, 1996, pp. 57-58)

It is easy to see how the attempt to omnipotently dominate this old man represents an aggressively-charged effort to externalize persecutory self and object images via projective identification (Kernberg, 1985). One may also observe -- in the search for an 'endlessly changing horizon' -- a bid to refind an early environment which was tantalizing and seductive. However, it is the final leg of the journey (the 'Alaskan deal') which holds the promise of getting back behind

the phase where projections and introjections hold sway. The tragedy is that when this man finally began to feel alive in aloneness, there was no possibility of *joining up the feeling of the real with reality*. This requires a live person who can provide transitional space and the subsequent illusion of creation. The need was to find a position from which to create what should already be there.

I would add one last point as relates to McCandless. One may analyze his journey to Alaska as part of a repetition compulsion, the idea being that he was searching for an experience reminiscent of an earlier annihilation. However, I believe that McCandless was not seeking annihilation so much as *non-existence*, and the stillness from which existence is borne. In nature one can sometimes find stillness, but the earth itself is not endowed with the capacity to adapt to individual need in the same manner as a mother. The feeling of the earth as a symbol of provision is derived from good-enough experience at the phase of oral ruthlessness and dependence.

(It is interesting and evocative to note that during the pregnancy with her son McCandless's mother gained only eight pounds. The baby was born underweight and was described as 'fussy.' Though this is the only data we have about the infancy, we also have an anecdote from the parents' visit to the bus on which their son died. At this point, Mrs. McCandless made the following interesting statement: 'He must have been very brave and very strong, at the end, not to do

himself in.' Could it be that a maternal depression (and corresponding oral conflicts) prevented this mother from ever granting her baby existence?

The Central Core and its Relation to Respiratory and Cardiovascular Function

I return to the idea of a central core with roots in the ego-condition of stillness. The continuity of being described by Winnicott is disrupted by any condition which disrupts stillness (i.e. -- penis envy in the mother) and it is in stillness that the central core comes to be discovered as a part of the body of the individual.

Though we often consider the mouth (oral/enteroceptive) and other sensory organs when discussing the course of early body-ego development, it is *breath* and *heart-function* which form the initial sources of the inner core of the body image. These provide a continuous rhythm of being beneath all other sensory concerns. It may be that breathing (and not oral/anal/urethral functioning) supplies the initial model for introjection and projection, beginning in the incorporative and expulsive activity of the lungs. In deep sleep breathing becomes slow and relaxed and heart rate slows; here is a return to the earliest prenatal state, leading towards non-existence. In health, therefore, the central core of the personality comes to be localized in the chest (respiratory and cardiovascular function), and in considering cases where infant trauma is a factor one may find a need to return to a state where nothing

exists but breathing and heartbeat. This may also explain the importance of breathing to those engaged in focused meditation; such individuals are engaged in an attempt to return to the state where the self is housed not in the intellect, but in the natural rhythm of the body.

This stage of being may antedate the concept of a True Self based in spontaneous (instinctually-derived) gestures (Winnicott, 1960a). It is stage of extreme passivity, and like the spontaneous True Self it requires the provision of absolute dependence to be negotiated successfully. In terms of object relations, this phase may be termed autistic in that the infant is wholly unrelated to objective phenomena. I believe we may learn more about this period in the analysis of children and adults born prematurely and/or by cesarean section.

CHAPTER FIVE
NATURALISTIC OBSERVATIONS OF INFANTS

In this chapter I will present two sets of data, reports on observations of infants hospitalized for surgery, conducted under the auspices of the Schneider Children's Hospital of Long Island Jewish Medical Center (see Appendix for IRB proposal). My discussions with doctors and with parents of infants with medical problems have led me to believe that it is unusual for the specialist in pediatrics to make explicit room for psychological considerations in his calculations. Two reasons for this may be identified: one is that the physician is attempting to limit his responsibility as regards such matters (Winnicott, 1988); the other -- related to the first -- involves the unwitting collusion of medicine with society's distaste for the dependence which the infant represents. (In making such claims, I do not mean to disparage the quality of care at the Schneider Children's Hospital, which as far as I could see was excellent.) One finds, then, a split dividing infant psychology and pediatrics, representing a dissociation in the mind of society. This is unfortunate, as psychology at this stage is truly a psychology of the body. The matter presented itself to me when I asked one of the physicians (who cares for infants) how the anesthesiologist knew when an infant was anesthetized. His response was that he did not know, and the fact that he didn't seemed to astonish him (as it astonished me).

Naturalistic observation of an infant by an objective observer -- particularly a male observer -- also puts a strain on the mother, and this strain becomes even more burdensome when the observation is of a child who has been subjected to attack from some outside, unknown force (as in a surgery). In such cases it is all-too-easy for the investigator's investigations to become associated with the phallic aggression represented by the surgeon's scalpel. The observed mother must also contend with anxiety and guilt associated with insecurity about her maternal skills, as she knows intuitively that for her infant she and the vicissitudes of the environment are inextricably linked. Thus, the traumatizing agent comes to stand for the mother's own hatred, a hatred which could be managed in unconscious fantasy (see Winnicott, 1947) but which in the surgery has come terribly to life.

Given such considerations, I felt myself to be in an awkward position when interviewing mothers (and fathers) whose concern had been previously focused on medical matters, and on survival. My presence as an observer of behavior had the potential to upset defensive processes in the parents, such processes acting to place the mother and father in a state of passivity as regards the infant's illness, and to assign (project) to the physicians the active role of experts and saviors. This resulted in one mother of a sick baby becoming something of a medical expert as regards the child's condition, so she might take back the maternal authority which she felt to

have been taken from her. Since I was not in a position to do anything but watch, I felt myself to be a reminder to the parents that their child was suffering and that the matter was out of their hands. The researcher in infant psychology thus has reason, perhaps, to be envious of those pediatricians who chose the path of psychoanalysis, for these had a natural access to infants which cannot be duplicated. Still, I hope the data that I have gathered -- particularly in the case where I was able to observe an infant for a relatively long period -- may contribute something substantive to what would otherwise be a wholly theoretical endeavor.

A Report Based on Two Brief Encounters

The infant in this case -- age five weeks -- was diagnosed with hypertrophic pyloric stenosis, a congenital illness characterized by an enlargement of the circular muscle of the pylorus, causing an obstruction at the outlet of the stomach. A child so disposed will typically begin to vomit during the second to fourth week of life, with the frequency of vomiting increasing until it becomes projectile and sometimes tinged with blood. Dehydration, loss of skin turgor, constipation, fretfulness, and apathy quickly appear, and the infant will nurse ravenously. Since food cannot get to the intestine, however, failure to gain weight or weight loss usually supervenes. A cause of the disease has not been identified.

The treatment is a surgical procedure known as pyloromyotomy. The surgeon makes a small incision to the abdomen, finds the enlarged pylorus and divides the muscle, which then shrinks and heals. Most infants will continue to vomit for a short time even after the procedure is successfully completed and, importantly, there is no known explanation for this phenomenon. The child will typically return home one to three days after the operation, and few subsequent medical complications have been reported.

The baby under observation -- a boy -- had begun to vomit at three weeks old, before which feeding (the infant was bottle-fed) had been normal. The mother called the family doctor immediately, but a definitive diagnosis was not made until two weeks later. At this point the child was admitted to the hospital with the surgery scheduled for the following day. My first observation took place on the eve of the operation; the infant had not eaten in over fifteen days. The mother was clearly tense during the interview, which was for this reason kept brief. The baby was asleep, but looked pale and agitated: little else could be observed.

I next visited the mother a few hours after the surgery, which was successful, and she was visibly more relaxed. The infant was sleeping in the crib next to her. She informed me excitedly that the first feeding would begin at 6 PM that evening. I made what I hoped would be an empathic comment, saying that the hard thing with a baby is that you don't get

the chance to explain what is happening. She responded that 'I think it's better this way...it would be much harder with my four-year old [girl] and two-year old [boy] to deal with. With him it's over and we can get back to normal.' At this point the infant began to show signs of distress (crying, overflow activity into hands and feet, scrunching up face as if in pain). The mother calmly placed a pacifier in his mouth, which he took and sucked avidly, calming down immediately. Our discussion continued, but one minute later the child exhibited the same signs of discomfort. The mother picked him up and put the pacifier -- which had fallen out -- back into his mouth. The infant's body relaxed and seemed to melt into the mother; his eyes were fixed intently on her's.

At this point I asked her if she would allow me to continue my observations in her home, which she refused, explaining: 'My house is a real mess...I left everything in chaos.'

Discussion

The importance of this very brief observation lies in the fact that this child who was in pain and starving to death *could be comforted even aside from actual instinctual gratification*. There was clearly a relationship there for him to use, in which earlier satisfactions could be kept alive as a memory-trace, which we might infer was hallucinated, as

evidenced by avid sucking on the pacifier and the infant's capacity to relax and be calmed by his mother's holding.*

What can be made of this mother's insistence that it would be more difficult to manage such a trauma with her older children? First it must be stressed that such a statement may be interpreted differently dependent on whether one is dealing with maternal psychopathology. In this regard, though she was considered by hospital staff to be unusually anxious, I felt that this mother's anxiety was warranted and constituted no reflection of impairment. Here, then, one finds a *denial* of the psychic trauma, and it may be that denial in this situation is a normative phenomenon. When communicated to the infant, denial provides the space for hope in recovery (but at a price -- see following observation). The domestic chaos and mess to which this mother referred may be seen as a projection of a hatred (experienced delusionally as persecutory anxiety) which is *shared* between the fused mother and baby, but which the mother unconsciously holds in abeyance in a split-off location, while a variety of attempts are made to keep hope (love) alive. I observed such a state of normative denial in a number of mothers who refused to participate in the study, as I did in the case where I was able to observe an infant

***While it would be tempting to see this encounter as evidence of the infant's *innate* object-seeking activity (à la Fairbairn), I do not believe the facts justify such a conclusion. The act of object creation (which must precede object seeking) may go on very early indeed, and we do not have direct access to the already rich historical experience of mutuality between mother and infant, which led to the observed relationship.**

over the long-term. It could be that the mothers' rejection of my study (or generally -- of a psychological perspective) constitutes an act of self-healing and protection, in that the projection of persecution may be taken back and experienced as hatred in one's rebuff of the psychology investigator, the latter being associatively connected to the medical authorities, and to the attack on the infant's body. Put simply, my request to investigate presented these mothers with the only opportunity they would get to say 'no.'

A Report of an Infant in Recovery

Medical History

The child -- a girl -- was diagnosed with Pfeiffer syndrome just after birth. This condition is inherited and rare, and is primarily characterized by coronal craniostensosis and abnormalities of the face, hands, and feet. Craniostenosis is distinguished by premature closure of the cranial sutures, resulting in an abnormally shaped head. Treatment is symptomatic: surgery is indicated to prevent intracranial pressure and possible brain damage, and may also be performed for cosmetic reasons.

The mother reported that the pregnancy was normal, though birth was induced two weeks after the due date and an epidural was given. On the day of the birth, doctors informed the parents of the possibility that something may be 'missing in

the brain', but that the child would 'probably be normal.' A neurologist was on-hand for the delivery, and when the child was born the mother knew something was 'not right', as the infant's left eye was bulging out of its head. During the first day there was no word on a diagnosis from the medical staff, but the mother peeked at a medical textbook at the nurse's station and found a description of Pfeiffer syndrome on the page. Two days later the parents were told the child would need cranial surgery, though there was still tremendous uncertainty as to what the future may hold. There was particular concern about the child's intellectual development. The family was discharged after five days, but the parents returned the infant to the hospital numerous times over the next six weeks for testing. The mother described this as a very difficult time, as hydrocephaly was pronounced and the baby was very uncomfortable.

The first surgical procedure -- a C1 laminectomy -- took place at six weeks. The surgeon removed the bone in the back of the head (part of the skull) to relieve the pressure on the brain caused by swelling of the ventricles. The infant was on a respirator for 24 hours after the procedure, and remained in the hospital for another nine days. The parents were very nervous about holding the child's head after this, since the brain at this point was flush with the skin. On the day after the family returned home, the infant smiled for the first time.

Over the next month, a CAT scan indicated that the ventricles were still swollen and the concern continued to be that these might crowd the brain. A second surgery was indicated: a hollow shunt was put into the brain; this acts to drain the fluid from the ventricles into the colon. This procedure took place when the child was almost three months old. The original incision (which extends from ear to ear over the top of the head) was reopened, and a small incision was made into the stomach. The child was 'very gassy' after the surgery, had more difficulty sleeping, and was generally more uncomfortable than after the first procedure.

At four months yet another surgery took place -- a cranioplasty. The purpose was to reconstruct the back of the skull and relieve any remaining impediments to normal brain growth. I began my observations shortly after this third procedure. One week after this last surgery -- and one day after my first visit with the mother -- the child had a severe withdrawal reaction to the attempts of the nursing staff to insert an intravenous needle. The child's eyes rolled to the back of the head and did not return for some time; she would scream maniacally if any person (including the mother) tried to come near her. There was also some vomiting. The mother referred to this as 'that terrible day', and she had difficulty getting the hospital staff to acknowledge that something was indeed wrong with the child. The following morning the infant's normal responsiveness returned. Shortly after the

family had been discharged, the mother and father had to return to the E.R., as the infant had contracted a severe case of croup.

The parents were informed of the probability that the child will need another surgery at age seven or eight, in order to prevent progressive malformation of the upper jaw, and because one of the nasal passages is blocked. As a result of the latter, the infant's breathing is typically labored.

Results of Initial Interviews

My first two observations took place at the hospital, shortly after the third surgery (Age of child: 4 months). Mother and infant were in the pediatric ICU; the infant was catatonic and heavily medicated. Though the child's eyes were open (and bulging out of the skull), there was no affective responsiveness. The head was wrapped in bandages and swollen to twice the normal size, and the infant sucked on a chest tube in a blank, automatic fashion. The mother for her part had become well-versed in medical parlance, and recounted the details of her daughter's illness using sophisticated terminology. Apart from this she seemed calm and resigned to the situation, and readily agreed to the home visits.

At some point we began a discussion of the baby's demeanor, and of her reaction to the medical intervention. The mother described the infant as 'pleasant', and said she 'doesn't cry a lot.' Feeding had been normal throughout the

experience: the mother's original plan was to breast-feed, though this became impossible due to the upset in routine caused by all the testing and surgeries. In comparing the infant to her older children (two boys, ages 5 years and 16 months -- no medical problems) when they were babies, the mother said that this baby was more alert, though she 'does not eat as much.' The mother's main concern at this point was that the condition might lead to an intellectual impairment, and her hope was that the child would be able to speak and toilet train normally. After some discussions about my study, the mother asserted that the infant was not bothered by the various surgeries; rather it was 'normal stuff' which upset her -- gassiness, breathing difficulties, etc. (this may be related back to the phase of normative denial which I discussed in the brief observation).

I next visited the hospital one week later. The baby had been moved to a regular room, and was with the father. He explained that doctors were now concerned that the child had a bacterial infection, and described the events of the day before, which was 'that terrible day' referred to by the mother, when the infant's eyes had rolled away. The father was obviously tense and concerned, but was friendly and open to observations.

The infant for this visit was awake and alert. Head swelling was greatly reduced. There was overflow activity in hands and feet, though *the child did not make an effort to*

grasp anything (this fact becomes important in light of future observations). She was also sucking on a pacifier which kept falling from the mouth, at which point the father would replace it (accepted by the child). After a time the infant fell asleep; this lasted for one minute, at which point she had a noticeable startle reaction and woke up. Seeing this, the father said she had not slept yesterday; today was the first day she was starting to sleep. Later the mother informed me that the child -- who had been smiling quite often since the first surgery -- had stopped smiling for eleven days following the third surgery. It was four days after this when she began to babble again.

Results of Home Observations

Home observations were conducted on a once-weekly basis for more than three months. Out of a mass of material, I will attempt to present those behaviors and interactions which are relevant to the question of trauma and recovery.

> **Initial Observation (2 weeks after last surgery, Age of Infant: 4½ months)** - I arrived and was welcomed by the mother, who was in the process of feeding the baby. The child was having a difficult time with the bottle, however, and was sputtering and crying. The nanny, a young woman who worked for the family full-time, said she was surprised that the baby was in such distress, as typically she 'never cries' and is 'always smiling'. The mother for her part seemed relaxed, and explained that the child was still getting over the croup. Breathing was indeed labored. The infant fed in a very passive manner, with arms outstretched and palms facing up and open. The father came in and both parents spoke about their concern that a plate which had been put in the child's head during the third surgery would erupt through the skin. If this happened, another surgery would be necessary. When

the father pointed at the plate, which was visible through the skin, the mother snapped at him not to touch it.

The mother stopped feeding with the bottle halfway done, and the infant -- though alert -- had a look of satiation. The mother brought out two soft toys and mother and child began to play, with the child showing a particular interest in a yellow stuffed lion. The mother said this was a preferred toy, and in the same breath informed me that the child had only recently begun to suck her thumb and mouth her toes.

In the middle of the play the infant smiled, a smile seemingly directed at myself though it was hard to say. She smiled at least a dozen or so times through the observation, usually at me, though I was trying hard not to encourage it. At some point the child's breathing became labored yet again, and at this the mother patted her on the back and cooed to her. She leaned the child back into her, and at this the infant smiled at mother, seemingly comforted.

Now the infant went into something of a stupor. Her head became heavy and listed forward, as if she were staring at her toes or something below her feet. The mother at this point could not interest her in objects, and became anxious about my presence, asking me what I wanted to see, and if she should put the child on the floor. The stupor went on for a time, with the mother attempting to get the baby's attention. 'I'm not sure if I should give you more [milk],' she said. 'Here, I'll let you choose...' She held up both the pacifier and the bottle to give the infant a choice (this had the feeling of some type of performance for my benefit). Then she tried giving the baby the bottle, but the child rejected it. Now the mother tried the pacifier, which the infant accepted and sucked avidly, sinking into mother's arms. I questioned the mother about the vigorousness of the sucking pattern as compared to her other children, and she said that she thought this child did not suck as vigorously, nor did she eat as much as the other children, though she really does love the pacifier.

We spoke for a bit about 'that terrible day', and I asked if the mother had seen the same type of reaction (eyes rolling to back of head) since then. She responded nervously and in the affirmative, saying she has seen her do that when she is in pain, or just before she goes to sleep. 'I'm not sure what it means,' she said. The mother had been told by the physician that the purpose of my study was to determine the effects of pain on infants after surgery, and she now volunteered that she did not think that her daughter was in any pain in her head, but that she was uncomfortable from the croup, and from the shunt, which made her gassy.

Observation #3 (4 weeks after surgery, Infant Age: 5 months) - For this visit, the mother (with whom I had made an appointment) had forgotten that we were scheduled to meet and was not home. The

father was present, however, and allowed me to stay in the room and watch the infant sleep. Initially she slept with the pacifier in her mouth, while clutching the tail of her favorite yellow lion. Soon after I arrived the pacifier fell out of the mouth and she let go the tail of the stuffed animal while continuing to sleep. As she slept she sucked rhythmically at approximately ten second intervals, followed cyclically by a series of deep breaths. I had the impression she was dreaming. Sucking was preceded by shaking of lips in some cases. There was also occasional opening and closing of the hands, something I had not seen up to this point while the baby was awake. The child slept comfortably throughout the entire observation.

At this point I would point to some general things I was beginning to notice about this infant. One was the general slowness of her movements (when awake). When she was interested in an object, for example, she would move towards it in a labored, herky-jerky manner, though she may otherwise be smiling and engaged. The other noteworthy characteristic was the child's cry, which was a kind of a passive, helpless wail. I believe it is possible to relate both behavioral features to the trauma (see 'Discussion' below).

Observation #6 - (7 weeks after surgery, Infant Age: 5½ months) -- I arrived today to find the mother and infant in the middle of the living room floor with the physical therapist (it had been pre-arranged for me to observe the child while in physical therapy, the purpose of which was to help the baby 'catch up' as regards motor and muscular development). The child was on the lap of the therapist, who was pulling her up by her arms in an attempt to get the infant to take some weight on her legs. (This I found disquieting.) The child was alert, though looking confused and disoriented, and her babbling had a quality to it as if she were mildly curious and alarmed about what was happening. The mother watched on with loving concern, and would attempt to get the baby's attention with a toy if she became distressed. Now the therapist raised the child up, saying 'OK, now we're going to fly.' She held the infant under the stomach and moved her through the air. (The purpose of this was to help develop those muscles in the neck which were undeveloped due to the medical intervention.

The infant still could not lift her head up without assistance.)

Now the physical therapist put the infant on her stomach. This the baby had a very difficult time with, and her breathing became increasingly labored, though she did not cry. I was impressed with how extraordinarily compliant the child was throughout all this unnatural maneuvering.

After this the therapist tried to get the baby interested in her favorite lion. She took the lion and put it on the floor next to the child, who stared at it in distress for a few seconds, and then reached for it. (This was the first time I had seen her reach for anything.) The therapist took it away, and put it a little farther away from the child. This time she reached for a toy just *beyond* the yellow lion. This caused the mother and the therapist to laugh. Finally the therapist gave the child the lion, who was happy to grab it and began to mouth its head.

Now the therapist announced that it was time to stretch the baby's arms. Apparently there was some concern that the infant's elbows would not be able to extend normally as a result of her condition. The therapist put the child on its back and began to straighten her arms. To this the infant had a very strong reaction, crying and screaming (though again the cry was rather muted and passive). The therapist attempted to give the child a pacifier, but she spit it out. The mother herself took an active role in trying to redirect her daughter's attention to a variety of toys, but by the end of this forced stretching the infant was inconsolable.

Later I asked the mother what she thought explained her child's strong reaction to the arm-stretching. She said 'I don't know, I've been trying to figure that out. I don't think it hurts her...' At this point I interpreted to her that perhaps it has to do with the memory of nurses attempting to put IVs in her arm, as in 'that terrible day.' The mother was surprised by this, and said, 'Oh, I don't know, I never thought of that.' It is interesting to note that by the time I terminated my observations the child's arms could be stretched without such a reaction.

Observation #7 (8 weeks after surgery, Infant Age: 6 months) -
On this day I observed the infant go through a similar physical therapy

regimen as the previous week. After the therapist left, I was able to stay to observe the mother, who was left with the formidable task of calming the child after the arm-stretching routine. For the first minute or so the mother cooed and spoke soothing words to the infant, but then quickly jumped up, saying 'she's probably hungry', and disappeared with the baby into the kitchen. She returned and sat on the couch, and began to try to get her to feed. She eventually took the bottle, but would pause to cry (still the 'passive wail'). Finally she began to feed more vigorously, though I would again point out the manner in which she fed, with her arms spread out and upraised, and her palms open. Only once did she almost move to grab the bottle with her own hands, but rather than do this she briefly took hold of her mother's index finger.

After feeding for a time, the baby turned her head away from the bottle. She looked satisfied and sleepy. The mother checked the bottle and waited, then inserted the nipple into the mouth again. The baby took some food, but then turned her head. The mother waited and tried again. This time the infant took the nipple and finished the contents of the bottle. Her tongue became swollen, and she looked increasingly sated and relaxed. Eventually she fell asleep in her mother's arms. For the last ten minutes of the observation she slept peacefully.

While the infant was asleep I asked the mother some questions about the physical therapy, with whose progress she seemed generally pleased. She related that the therapist had advised her not to hold the child under the arms in such a tight position, because this meant the infant would not have to use her neck muscles to feed. 'I didn't realize that until she told me.'

In an observation the following week (same scenario -- physical therapy followed by feeding), the infant grasped at the bottle while feeding (the first time I had observed this phenomenon), though only briefly.

Observation #10 (11 weeks after surgery, Infant Age: 6½ months) - It had been some time since I had been to the house without seeing the physical therapist involved with the baby. By this point I was getting to know the family some, and the one-year old was beginning to make his presence felt, having a tantrum upon my arrival. The mother was busy with him for about five minutes, giving me the opportunity to observe the infant -- who was in her crib -- on my own. She was very active with her hands in and around her mouth, making a variety of gurgling sounds, and she seemed much more calm than in previous visits (where she was being stretched). She found her way to her favorite lion and picked it up in a very specific fashion, holding it by the mane which surrounded the face. The body became involved when the lion fell onto her chest, as the child

rolled over onto her side as if to meet the toy.

Now the nanny came in and put her hand into the crib to touch the infant's belly. The child used both hands to grasp the nanny's hand from both directions. This was new to me. Now the pacifier came out and the baby gurgled dissatisfaction; the nanny put it back into her mouth and she was placated. The lion fell out, and the infant used her hands to substitute, bringing them to her mouth and drooling.

Mother came in and the infant smiled, clearly a knowing smile. The mother gave the child the lion and said 'she really loves that lion.' The baby grabbed the lion by the mane and became preoccupied with it. Now the *oldest* boy (five years old) came in, announcing his presence by saying 'I love mommy...but I don't like daddy', a comment which was no doubt intended for my benefit. The mother became involved with him, while the infant continued exploring the lion, moving her hands about it and mouthing it. The exploration seemed to reach an orgiastic peak at a certain point, as she brought the head of the lion to her mouth as she sucked her fingers.

The mother returned and told me that the infant had begun to play with rattles, and excitedly asked if I wanted to see. She returned with a rattling series of rings and a number of soft toys. When the child saw the rattling rings she smiled and reached for them, grasping them and bringing them close to her mouth. At this point she was also sucking the pacifier. Now the mother engaged the child with the soft toys, one a squeaky toy, the other a soft cow, and the third being a sheep ('we don't like the sheep', she said, and tossed it to the corner of the crib). Play began around the cow, but was interrupted by the oldest boy, who was violently and playfully throwing himself to the floor. The mother joked to me that I should study children of her son's age.

Now she said to her son, 'C'mon and say hello to the baby,' and held him up over the crib. The infant was interested and reached up to him. He began to pick up and gleefully toss toys on top of his sister. The mother halfheartedly tried to stop him, and she became firm about it only when he picked up quite a large animal and dropped it on the baby's chest. The infant for her part was not disturbed and seemed fascinated with everything her older brother was doing.

Now the mother took the boy out of the room. The infant seemed to look for her, but did not react strongly to her leaving. She did look at me, however, with a mildly curious gaze. The mother had placed the pacifier in her mouth and now it fell out, and the child began to become distressed, almost breaking into a cry. Finally I heard the

mother say 'the baby's crying', and then she came in and put the pacifier back into the child's mouth. She was calmed immediately. The mother told me how she believes her daughter gets 'mad' when the pacifier falls out. 'She will take it out of her mouth, but cannot get it back in...she can't get her finger out of the loop and gets frustrated.' As if on cue, the infant took the pacifier out and then unsuccessfully tried to get it back into the mouth

Observation #11 (3 months after surgery, Infant Age: 7 months) - For this observation the infant was mostly seated in a high chair in the T.V. room. The child was more alert than I had ever seen her...looking around the room and gurgling. She had in her hand a rattling toy, which she proceeded to bang on the tray in front of her. After a bit she dropped it, and the mother came in and handed her a book, which she explored while mom vacuumed the Cheerios that the 1-year old had spilled all over the floor. Now the infant dropped the book, made sounds indicative of frustration, and began to suck her fingers, which calmed her. She looked at me, and I smiled at her, and she shyly turned her head away from me.

Soon mother came over for a play session, and handed the infant the rattle. The child was fascinated, and there was a long spell of handing the rattle back and forth, with the baby mouthing and fondling it and making excited noises. Three times she dropped the rattle after it was in her possession, and each time seemed more purposeful than the last. Whenever she dropped it the mother would say 'Timber!' with much affect, and the infant responded with smiles and with the tongue swelling and lolling in the mouth.

The mother left for a time, and the child became very involved with the rattle, aggressively pushing, turning, and mouthing it, and finally dropping it. She slapped the tray with her open hand a number of times in frustration, and when the rattle was not replaced she put her hand to her mouth and began to suck her thumb and fingers. The mother returned and gave to the child a plastic book, which the infant violently crumpled and tried to mouth. 'You see, she's angry,' said the mother. I asked her to speculate as to what she might be angry about, and the mother said, 'I don't know, maybe because she can't fit the whole thing into her mouth.' Later another rattle was brought out, which could spin around its axis. This the infant began to hit, trying to make it turn.

After a time the child began to cry, for a reason which was not clear to me. The cry was different, however, than in

previous observations. *It had lost the passive, helpless quality with which it had been characterized, and was now filled with intentionality.* The mother turned the spinning rattle in a certain way, and this appeased the child immediately.

Observation #12 (13 weeks after surgery, Infant Age: 7½ months) - This was the day of my final observation, and the first day that the mother was attempting to induce the infant to eat solid food. The child took the food from the spoon with a mixture of interest and disdain. The mother was for her part attempting to make it a more exciting experience by smiling and gesticulating, and increasing the pitch of her voice when the food reached the infant's mouth. The oldest boy came in and wanted to feed the infant, though he instead pushed the food into her nose. This everyone enjoyed, until finally the mother put a stop to it, saying that he should put it in her mouth...'so she'll learn.' At one point he tried to clunk his sister in the head with the spoon and she moved her head out of the way, and he missed.

Now I asked the mother if I could conduct an experiment with the child (Winnicott's 'set situation', 1941). She readily agreed. I had brought for the child a soft toy -- a very colorful lobster -- which I placed on the corner of the table in between myself and the mother, who held the infant on her lap. I instructed the mother that neither of us were to give encouragement to the child to take possession of the lobster. Immediately the infant took interest in this new toy, particularly after I began to rock and shake it (it had a bell in it). She did not once look at me or back to her mother. After a time of fascination, she finally reached for it, *though she did not grasp it while it was in my possession*. Rather, she 'pawed' at it as if there were no digits attached to her hands. At times I thought it might be in her possession and I let go, but the lobster simply fell to the floor. The toy certainly excited her, however, as she began to drool and spit up, and become very excited.

Finally I indicated to her that she could take the lobster into her possession, which she did...

Discussion

We may begin with Mahler's contention that the motor and kinesthetic behavior of the infant will tell us something about

intrapsychic events. What one observes in terms of the psyche is, however, very much dependent on the lens through which one looks. In previous chapters I have attempted to lay the groundwork for an interpretation of infant behavior based on those models of early development developed by theorists from the British object relations school. One may be compelled by such theories only if one accepts the notion that regression to dependence in psychoanalytic treatment is a legitimate and scientific means of discerning infantile developmental processes. Analysis of the observed infant can tell only part of the story; one needs the theory to round out the picture.

For my part there is no doubt that this was a case of infant psychic trauma -- that is to say -- that the events of this child's early life were too much to bear, breaking through the stimulus barrier (the mother) and causing a reorganization of forces within the infant (as within the mother). The trauma may be discerned behaviorally through the following events:

1. the infant's compliance and passivity, in regards to feeding, physical therapy, etc. (note mother and nanny's description of child as 'pleasant' and 'not crying a lot')*

2. the infant's cry, which told a story of hopeless suffering in a hostile environment

3. the lack of grasping of objects (possibly representing an inhibition of the acquisitive urge)

***This may be compared with the behavior of esophageal atresia patients (see pp. 33-34), who were also described in such terms.**

4. the manner in which the infant moved, which was herky-jerky and labored (also a potential sign of inhibition)

5. delayed use of autoerotic objects (thumb, fingers, feet) for self-comforting purposes

6. evidence of a 'return to the trauma' (repetition compulsion phenomena):

   a. occasionaly withdrawals to 'stupefied' states

   b. 'rolling of the eyes' to the back of the head during sleep time and when the infant was uncomfortable (reminiscent of 'that terrible day')

   c. upset at the physical therapist's stretching of the arms

Here we might say that hopelessness heard in the cry is hopelessness felt in regards to the aggressive aspects of love and loving, or of need-satisfaction. As part of a protective strategy, mother and infant establish a premature ego-relationship with an object (involving the too-early acknowledgment of separateness and dependence), which substitutes for an id-relationship with a part-object, or with no object. In other words, the child cooperates with the demands of an impinging external reality at the price of splitting off a full-bodied id relationship to an object. We see the results of this inhibition in the child's inability to grasp (to take possession), as we know that for the infant grasping is the physical representative of the use of an object. In the trauma the child's own aggression -- which initially and ideally is unconcerned as to effects -- is

usurped or upstaged by the aggression of the environment. Here we might also speculate that the intellectual impairment which occasionally results from Pfeiffer syndrome may have a nonorganic basis. The infant who misses the opportunity for full-blown ruthlessness in early infancy (and I am postulating that this is just such an infant) also misses out on the frustration which accompanies intense id-excitements, and it is such frustration which constitutes one of the main sources of intellectual development.

In the recovery process what one observes is the gradual re-integration of aggressive intentional activity into the body-scheme, and a corresponding increase in liveliness. The recovery is absolutely dependent on the mother's ability to nurse the infant, and in so doing to allow the child to re-introject aggression which had been projected and assigned to the environment. I wish to emphasize that this mother's capacity to return the child to health was not -- as far as I could see -- dependent on conscious recognition of psychic trauma, though one might imagine that this may help in certain cases. Rather, the decrease in anxiety caused by the return of the family to normal home life allowed the mother to relax her vigilance as regards volitional activity, which was dangerous in the earlier environment. In her loving attention to bodily need, in her allowal and encouragement of the use of transitional objects, and in her recognition of the infant's oralized greed, this very good mother allowed the space

necessary for the infant to create herself and her objects out of need.

Given the above considerations, it is easy to see how a therapeutic opportunity was missed in my adaptation and use of Winnicott's 'set situation' experiment (1941). In this procedure, the infant is given the opportunity to take interest in -- and then possession of -- an object of great appeal, though without explicit encouragement from external authorities. In his pediatric work at the Paddington Green Children's Hospital, Winnicott ran the set situation on infant after infant, and identified what he believed to be a normal sequence: the infant shows interest in the object, but only after a period of hesitation and shyness is he able to take it into his possession. Soon after he will drop it, and if it is returned he will drop it again, this time with more purpose than originally. Winnicott was particularly interested in the 'period of hesitation' and saw it as evidence for the existence of superego concerns (fantasies) at this very early age. He also notes:

> In the set situation the infant who is under observation gives me important clues to the state of his emotional development. He may only see in the spatula a thing that he takes or leaves, and which he does not connect with a human being. This means that he has not developed the capacity, or he has lost it, for building up the whole person behind the part object. Or he may show that he sees me or mother behind the spatula, and behave as if this were part of me (or of mother). In this case, if he takes the spatula, it is as if he took his mother's breast. Or, finally, he may see mother and me and think

> of the spatula of something to do with the relation between mother and myself. In so far as this is the case, in taking or leaving the spatula he makes a difference to the relationship of two people standing for father and mother. (1941, p. 64)

In this case it was observed that over a two or three minute period while the experiment was performed, *the child never took the stuffed lobster into her possession*. Further, though there was indeed a period of hesitation, the infant did not seem to be concerned with either mine or mother's reaction to her feelings about the toy. It is unfortunate, then, that the experiment was terminated prematurely. It would have been fascinating to let the situation develop for as long as necessary, to see when and if the child could make the lobster her own. Such an event might have served as a therapeutic object-lesson for the infant, who was clearly inhibited as regards the acquisitive impulse. In thinking about the symbolism of the lobster, I would put this child in the first group of infants listed by Winnicott, those who see the object as a thing in itself, unrelated to a human being or part of a human being. In the normative situation an infant of this age should demonstrate evidence of superego concerns; the absence of such concerns may be related back to what has already been discussed -- that is -- the splitting off of the aggressive instinctual impulse as a defense against the traumatic environment (it was Freud (1923) who delineated the close affiliation between the id and the superego). The object is felt to be real only after survival of maximum aggression.

It will be interesting to follow this child's progress over an extended period. Though it is clear she is on the road to psychic recovery, there is indeed a rather serious dissociation present in the psyche due to the trauma, and one may speculate that this child may always have a passive and somewhat depressive disposition interwoven into her ego. The situation is complicated by the mother, who is certainly good-enough but who also (unconsciously, and perhaps because of the trauma) tends to encourage the child to take a receptive and inert role (as regards feeding, for example). The challenge for the mother and family (and I believe they are up to it) will be to find enough patience with this child to allow the time necessary for the development of emotion as a full-bodied experience.

Concluding Remarks

Trauma is that which produces hatred, and hatred requires an object, and an object requires a self with whom to have relations. For the infant then, trauma acts to seduce aggression away from its natural role, which (at this stage) is to endow the primitive love impulse with energic intent (sucking, tearing, devouring, etc.). This creates a split between the core -- which is alternately still and loving -- and a false and premature individuality, an individuality based on dissociated hatred. The original aim of aggression is not murder but ruthless acquisition. This is not to say that man

does not hate, but hatred is the price to be paid for individuality, and in this study we are not speaking of the very young infant as having reached the point of individuality.

Winnicott wrote that there are (roughly) two classes of persons in the world -- those who have had a breakdown in early infancy and those who have not. The infants which I observed were undoubtedly subject to breakdown, and recovery in such cases depends on the readiness of the environment (mother or substitute) to recognize and tolerate the need for a regression through primitive agony, as the child attempts to find the point before which aggression was dissociated. In some cases where the trauma was very early, the need will be to find a place of non-existence, non-existence (and not death) being the ultimate aim of the regressive pull in the human animal. If the infant is not permitted to recover, the traumatic dissociations may become more or less fixed, and in later developmental stages, covered over and condensed with more complex defensive mechanisms. When this happens it is axiomatic to say that the only hope for full recovery is in psychoanalysis, for only the psychoanalyst has recognized the need of certain individuals to omnipotently gather (in the transference) the traumatic situations of early infancy.

APPENDIX

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Psychological Considerations of Surgery in Early Infancy:
A Research Protocol

Objectives of the Study

The purpose of this study is to examine the psychological sequelae of necessary surgical procedures on young infants and on the mother-infant relationship. The careful observation of infant behavior both before and after a surgery will yield data which, when analyzed, will contribute to the growing body of literature on infant psychological development. The primary objective is to answer the question: what constitutes psychic trauma for the human infant?

Background Material

Though the concept of 'trauma' is well-researched in the psychological literature for the older child and adult, the same cannot be said of potentially traumatogenic situations of *infancy*. There are studies which examine the psychic effects of surgery on children from 1-6 years old (Levy, 1945, Jessner, 1952); there are also studies which scrutinize the effects of 'deprivation trauma' (Spitz, 1945, 1946, Larsson et. als., 1986) in the older infant and child. From psychoanalysis, one finds research which has investigated infant trauma *retrospectively*: the assumption is made that a particular early trauma has produced specific symptomatology in the child or adult patient (Pearson, 1941, Miller, 1951, Greenacre, 1958, Levitan, 1978). There are also a small number of longitudinal studies which examine groups of patients who suffered from a condition known as esophageal atresia (Engel and Reichsman, 1979, Dowling, 1977), and the attempt has been made to understand how this condition affected personality development over the long-term. There are *no* studies (in psychology) which specifically examine the (potential) effects of a discrete shock trauma in earliest infancy, and it is this void in the literature which this study seeks to address.

Drug Information

not applicable

Inclusionary Criteria

The study will examine two (2) infants suffering from a congenital condition known as hypertrophic pyloric stenosis. Pyloric stenosis is the most common condition -- after inguinal hernia -- requiring surgery during the first few months of life, occurring in 1 of every 500 births. The disease involves an increase in the size of the circular muscle of the

pylorus, and it is usually an illness of the full-term infant. Though a few babies are symptomatic at birth, the study seeks to examine those infants who become symptomatic *after* having been in the care of their parents (at home) for at least two weeks.

Exclusionary Criteria

Premature infants, and those who are symptomatic at birth, will be excluded from the study.

Recruitment Procedures

Subjects will be recruited once a diagnosis of pyloric stenosis has been made in the Emergency Department. The Pediatric Chief Resident will then inform the investigator of the admission and location.

Methodology

The methodology used in the study is naturalistic observation, the specifics of which are derived from procedures created at the Tavistock Institute in London (Miller, et. als., 1997). Infant Observation was introduced as part of the training for child psychotherapists at the Tavistock Institute in 1948, by the child analyst Esther Bick (Bick, 1964). Using Bick's method, the researcher will simply observe the infant in the hospital prior to the surgery and, if possible, interview the parents as to the temperamental features of their baby and their understanding of the genesis of the illness. When the infant is returned home, the researcher will visit the family at a set hour on a once-weekly basis for three months (one-hour visit), with the intent of observing the baby's general behavior and recovery, and the role played by the mother in that recovery. After each encounter, the researcher will record -- in as much detail as possible -- what he has seen. The results will be written up as case studies, to be included in the final chapter of a doctoral dissertation entitled 'Psychological Considerations of Trauma in Early Infancy.'

Discomfort and Risks

The investigator is a simple observer. There are no medical risks or side effects from this study.

Confidentiality

All patient data will remain anonymous. The results will be published in a doctoral dissertation in which all names will be changed.

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EXPANDED LAY SUMMARY

1. The disease under study is hypertrophic pyloric stenosis, a congenital condition of early infancy.

2. The standard treatment for pyloric stenosis is pyloromyotomy, a surgical procedure which is conducted after dehydration and electrolyte imbalances have been corrected. A small incision is made into the abdomen. The surgeon then finds the enlarged pylorus and divides the muscle, which then shrinks and heals.

3. I seek to answer the following question: what is the *psychological* meaning of surgery and recovery to a young infant?

4. There is no experimental treatment. I will act simply as an observer.

5. In my capacity as observer, I will meet with the parents prior to the surgery to discuss the temperamental features of their baby, and to assess the infant's and the parents' reaction to the illness. If possible, I will observe the child's behavior both prior to and immediately after the surgery. When the child is returned home, I will visit the family there at a specified hour, once-weekly, for three months. After each meeting, I will record in detail the behavioral patterns of the child, and of the infant-mother relationship.

6. There are no risks, as there is no experimental treatment.

INFORMED CONSENT AGREEMENT

I am being asked to participate in a research study. I am encouraged to ask questions before deciding whether I wish to participate or at any time during the course of the project. I will be told of any new findings that may influence my decision to continue to participate in this research project.

TITLE: Psychological Considerations of Surgery in Early Infancy

SPONSOR: City University of New York Graduate Center
North Shore-Long Island Jewish Health System

INVESTIGATOR: Barry J. Shrem, M.A.

EXPECTED DURATION OF SUBJECT'S PARTICIPATION:

Your child will be observed in the hospital, and will be followed at home for another three months.

PURPOSE OF STUDY:

The purpose of this research is to study the potential psychological effects of necessary surgical procedures on very young infants and their parents.

DESCRIPTION OF PROCEDURES:

The investigator will meet with you to discuss the behavior of your infant, both prior to and after the onset of the illness. If possible, the investigator will then observe your baby in the hospital both before and after the surgery. When the child is returned home, the investigator will visit you at a set hour on a once-weekly basis for three months (approximately 12 one-hour visits), to observe the behavior of your infant in recovery. The role of the investigator is one of simple observation of your child in the natural setting of home life.

POSSIBLE DISCOMFORTS/RISKS:

The investigator will act only as an observer of naturalistic behavior; there are no medical risks

 Subject's Initials_____

to your child in this type of study.

POSSIBLE BENEFITS:

Though there are some studies which investigate the psychological effects of surgery on the *older* child and adult, there are no studies which investigate these (potential) effects on the very young infant. Your participation will thus help future parents and professionals to better understand the needs of children and families who are facing surgery. You are encouraged to take part. For the duration of the study, you will also have at your disposal an investigator whose specific training is in infant psychology.

ALTERNATIVE TREATMENTS:

There is no specific treatment which this study will utilize, therefore your alternative is not to participate.

COSTS:

There are no increased costs as a result of your participation.

VOLUNTARY PARTICIPATION:

My participation in this project is voluntary and I may withdraw at any time without prejudice to medical treatment at North Shore-Long Island Jewish Health System or North Shore University Hospital. Any decision to leave the study should be reported to the study investigator. If necessary the sponsor may discontinue a subject from the study.

COMPENSATION FOR INJURY:

In accordance with Federal Regulations, we are obliged to inform you about the North Shore-Long Island Jewish Health System's or North Shore University Hospital's policy in the event physical injury occurs. If, as a result of your participation you or your child experience physical injury from known or unknown risks of the research procedures as described, immediate medical care and treatment, including hospitalization, if necessary, will be available. No monetary compensation, however, is available and you will be responsible for the costs of such medical treatment, either directly or through your medical insurance and/or other forms of medical coverage.

Subject's Initials_____

CONFIDENTIALITY:

Your identity and participation, as well as the identity of your child, are confidential to the extent permitted by law.

CONTACT QUESTIONS:

For questions concerning this research project you should call Barry Shrem at (212) 946-5392 or Dr. Steven Ellman at The Psychological Center of City College ((212) 650-6602)). In the case of a medical emergency you may report immediately to the nearest emergency room or call 911. For further information concerning your rights as a research subject you should call the office of the Institutional Review Board (IRB) at (516) 470-6428. The IRB is the committee that oversees research at this institution.

Subject's Initials_____

CONSENT:

I have read the above description of this research study. I have been informed of the risks and benefits involved and all of my questions have been answered to my satisfaction. Furthermore, I have been assured that any future questions that I may have will also be answered by a member of the research team. I voluntarily agree to participate in this study.

I authorize the release of my study related medical records to the sponsor, FDA and the IRB.

By signing this form I have not waived any of the legal rights which I would otherwise have as a participant in a research study.

A copy of this consent will be given to me.

_____
Subject's Name Printed

_____ _____
Subject's Signature (If Subject is 9 Years or Older) Date

_____
Parent or Legal Guardian's Name Printed

_____ _____
Signature of Parent or Legal Guardian Date

_____ _____
Witness Signature (Someone Not Connected to the Research Project) Date

Witness Identification_____

_____ _____
Signature of Person Obtaining Consent Date

INVESTIGATOR'S STATEMENT:

In addition to advising the above persons of other forms of treatment and therapy which

are appropriate to the disease or condition and might be advantageous to them, I have offered an opportunity for further explanation of the risks and discomforts which are, or may be associated with this study under clinical investigation and to answer any further questions relating to it.

_____ _____

Signature of Principal Investigator Date

Subject's Initials_____

Infant Surgery Interview

Identifying Data

Name of Child: Date of Illness Onset:

Date of Birth: Date of Admit:

Name of Mother: Date of Surgery:

Age of Mother: Date of Release:

Siblings (Sex, Ages):

Name of Father:

Age of Father:

Mother's Profession:

Father's Profession:

Ethnic/Religious Background:

Observations of Infant in Hospital

Pre-Surgery:

Post-Surgery:

History...Pregnancy, Birth, Development

1. How would you characterize the pregnancy? What was your mindset during the time you were pregnant?

2. Did the birth go smoothly/not so smoothly? Was the baby on time? How long were you in labor? Was the baby delivered normally? How did it compare to the birth of other children?

3. Have you had support from other members of your family in the care-taking of the baby?

4. In the beginning, was the baby breast-fed or bottle-fed? How did child respond to breast/bottle initially?

5. What were the baby's sleeping patterns in the beginning? How has it developed?

6. Who did you think the baby looked like in your family or your husband's family?

7. How did other people in your family react to the birth of the new baby?

8. What was the reaction of siblings to the birth of the child?

9. How would you describe your relationship to the baby? How does your relationship compare to other babies you've had at this stage?

10. How would you describe your own childhood?

11. How would you describe yourself as a mother?

12. If you could predict into the future, based on what you've seen of the child so far, what kind of adult do you expect the child will be?

History...Illness

1. When did you first know that the child was ill? What kinds of behaviors was he demonstrating?

2. What was your initial reaction to the vomiting and rejection of food [for pyloric stenosis]?

2. Once you knew something was wrong, what were the steps leading up to child being admitted into the hospital?

3. What has your mindset been since you realized something was wrong?

4. How do you think being sick has affected the child's mindset?

5. What was your reaction when they told you it was pyloric stenosis and that the child needed surgery?

6. How do you think the child understands what is happening?

7. Do you feel that you have received support from family/friends?

8. How have your other children reacted to the fact of their brother/sister being ill?

9. What do you expect it will be like with the baby when you leave the hospital?

THE CITY COLLEGE
OF
THE CITY UNIVERSITY OF NEW YORK
NEW YORK, N.Y. 10037

THE PSYCHOLOGICAL CENTER
DEPARTMENT OF PSYCHOLOGY (212) 650-6602, 3, 4
NAC Bldg., 8th Floor

INFORMED CONSENT AGREEMENT

This is a request for your consent to participate in a project looking at the effects of necessary surgical procedures on very young infants and their parents. Your participation will involve answering some questions about you and your infant, and about the development of his/her illness before the surgery. Your child may also be observed in the hospital and details of his/her behavior would be recorded. After the surgery, the investigator will visit the home for once-weekly, one-hour observations to observe the recovery process within the natural context of the mother-child relationship.

Your participation in this study is confidential. All reported information will remain anonymous. Furthermore, you may withdraw from the interview at any time you feel it is necessary, even after you have signed this consent form. Participation in this study does not involve any risk to you or your child.

The purpose of this research is to help parents and professionals better understand the needs of children and families who are facing surgery. You are encouraged to take part.

In order to participate in this study, we must have your signed permission.

Thank you for your interest.

I consent to participate: sign_____

print name_____

sign_____

print name_____

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