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MODELS OF MOTHERHOOD: THE EARLY MOTHER-INFANT RELATIONSHIP

A Dissertation

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Degree

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ABSTRACT

This work is a presentation and exploration of conceptual models of motherhood, with special emphasis on the object-relations school of thought. The relationship between mother and newborn (to one month of age) baby is in focus, and is investigated and discussed from the points of view of the object-relations school, observational studies, and some cultural and religious models. An empirical investigation of one of the theoretical constructs presented--Margaret Mahler's phase of "normal autism"--is undertaken. The relationship between 19 two- to three-week-old babies and their mothers is studied, using the Brazelton Neonatal Behavioral Assessment Scale. Results of the investigation (1) indicate that a newborn infant is in fact socially responsive and not autistic (replicating numerous other studies), and (2) suggest that a two- to three-week-old infant can differentially respond to his mother vs. a stranger.

The explorations of the several models of motherhood presented, together with results from the empirical study, are discussed. An attempt is made to maintain an appreciation for the complexity of the area and respect for the several orientations and conceptual frameworks presented. Suggestions for both further empirical research and further conceptualization are offered.

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INTRODUCTION

The significance of human living lies in the relationships we have with others around us, and only in terms of those relationships does life have meaning. Without a relationship with other persons, the ego (that is, an individual himself) cannot develop. So states Harry Guntrip in an introductory chapter to his work Schizoid phenomena, object relations, and the self (1968)--but the statement itself is easily seen as a truism basic and hardly questioned. It can be asserted, in fact, that the rarely articulated assumption that human relatedness is vital to life is the pivotal point for much or most of the theorizing and research conducted within the field of psychology.

The present work is concerned with human relatedness, with how a number of theorists talk about and understand the most basic and primitive relationship possible--that between mother and newborn baby. According to Bowlby (1966), one of the most significant developments in psychiatry in the mid-1900's is the steady growth of evidence that the quality of the parental care which a child receives in his earliest years is of vital importance for his future mental health.

Psychodynamic thinkers and writers have come to focus quite intensely upon the earliest dyadic relationship, beginning to presume with Bowlby that this the first relationship in an individual's life is of major and ongoing significance. These theorists (e.g., Winnicott, 1965a, 1960; Klein, 1975a; Fairbairn, 1954; Guntrip, 1968), in what is termed the object-relations school of thought, are concerned with how a tiny infant, as he develops, established relatedness to those around

him--beginning with the relationship with his primary caretaker (usually, in the United States, the mother).

Most theorists talk about the development of object (person) relations from the point of view of the baby, developing concepts to understand how an infant's capacity to perceive, respond, and relate to another matures. The present section will first focus primarily on the other half of the dyad, the mother. If early parental care is as vital as Bowlby and others assert, then the mother's capacity and willingness to give to the infant, her warmth, her own comfort or conflicts regarding mothering and the baby, and her own expectations of herself and her baby must all be important variables in the nature of the mother-infant relationship. Much is of course said in the analytic writings, either directly or by implication, about the mother and her role in the infant's intrapsychic development, and this writer will primarily (though not exclusively) emphasize that aspect of the primitive dyad. Further, since the dyad, rather than the family triad is in focus here, the role of the father will be dealt with only in passing.

The phase of development that is of interest here is the earliest weeks of a newborn baby's life, the phase termed by Winnicott (1965b) that of absolute dependence of the infant and by Mahler (Mahler, Pine, and Bergman, 1975) that of normal autism. For the mother, this is a time of most intensive transition--especially with her first baby--as she learns to care for the needs of a totally helpless being, and as she attempts to adjust to the concurrent changing relationships with others around her. It is reasonable to assume that

the first few weeks postpartum are important ones in setting the stage for the relationship the mother and baby will develop, an assumption which is supported by research (to be reviewed later).

Each theorist that discusses either the mother-infant relationship or the intrapsychic development of an infant is, although perhaps indirectly, putting forth a particular model of motherhood. Each culture, each religious system, every psychotherapist and every mother all have their own model or ideal of motherhood. Who she is, the ideal mother, is perhaps not explicitly articulated, but the ideal or model is there, if even on a preconscious or unconscious level.

CHAPTER I

THE MOTHER-INFANT RELATIONSHIP: OBJECT-RELATIONS THEORY

The object-relations theorists, while remaining loyal to the psychodynamic approach to psychology by emphasizing the intrapsychic, nevertheless clearly acknowledge and take into account the importance of human relatedness (Sugarman, 1977). Although a few of the earlier theorists who are loosely classed in the object-relations school (e.g., Klein) are still tied to a mechanistic model such as libido theory, a hallmark of the object-relations model is that the appropriate level for psychoanalytic theory is the personal one. Unfortunately, possibly in order to remain respectable within psychoanalytic circles, these theorists chose the noun object when it is clear that persons is intended. Guntrip himself has noted the obvious inconsistency in choice of words (noted in Sugarman, 1977).

Within psychoanalytic circles there has been but a very slow movement away from the biological, mechanistic point of view of Freudian theory. Freud's aim was the study of the machinery of personal life, the mechanisms of behavior, and not of meaningful personal experience. Even some psychologists who have made attempts to broaden analytic thinking have essentially remained within a biological framework (e.g., Jacobson, Hartmann). It is difficult and perhaps arbitrary to specify who are the major theorists who can officially be classified within the object-relations school. The writer will attempt to include a discussion of all major object-relations theorists, and is guided in her choice by Guntrip's (1971) own perceptions.

A. Theorists

Melanie Klein. Klein was one of the few analysts to work directly with young children, and certainly the first to attempt analysis with the very young (2 and 3 year olds). She spun her complicated and inconsistent theory around the fantasies she heard from these tiny children, creating much dissent in the process (Giovacchini, 1975). Nevertheless, what is important about Melanie Klein is that she first introduced the concept of internalized objects. By a devious theoretical route and based on hypotheses that none but Kleinians accept, she first articulated the fundamental concept that human nature is at base object-relational (Guntrip, 1971).

Klein stressed projection and introjection in analysis to a greater extent than had previous analysts, thereby emphasizing the interaction between a person's internal world and the environment. Thus, she acknowledged the importance of the external world, which was previously denied in analytic circles.

However, Klein did not grant primary or even equal importance to the environment. She regarded the infant's mind as the arena for an ongoing struggle between the life and death instincts, sex and aggression. Life and death instincts are considered by Kleinians to be innate, and the clash between them starts at the very beginning of life and is never ending. This already ongoing internal drama is then projected onto the external world as the infant's brain and sensory organs develop sufficiently to discern external objects.

According to Klein, there is a stage of early mental development in which sadism--the fusion of sexuality and aggressive conflicts

within the individual--becomes active at all the various sources of libidinal pleasure (Klein, 1975a). It is unclear exactly when this phase occurs, but it is ushered in by the oral-sadistic desire to devour mother's breast--or mother herself--and ends with the early anal stage. It appears, in other words, that even the tiny infant's ravenous hunger is labeled greedy and oral-sadistic. Klein elaborates greatly on this aspect of her theory; although it is based on the contents of the fantasies of her young analytic patients, it seems to be applied to even very much younger infants.

Therefore, if one looks at the body of Klein's theory, the mother herself appears to have no role whatsoever until the child is developmentally mature enough to specifically perceive her. One gets the impression that any caretaker of a newborn is as good/bad as the next, since all that is required is to somehow sustain the infant's life so that his instinctual life-death drama may play on.

Nevertheless, Klein does also specifically discuss the position of the mother, saying that many threads link a woman's relationship to her child with that to her own mother in babyhood (Klein, 1975a). Klein found in her clinical work that a strong conscious and unconscious wish for babies exists in small children; if this is so, then bearing a baby is the fulfillment of a long-postponed wish. Klein claims that it therefore tends to make the woman less aggressive and to increase her capacity for loving her child. Being able to empathize with her child is closely bound up with the feelings of guilt which arose when she became developmentally capable of perception of her own mother as the object of her sadistic fantasies, and the concommitant drive to reparation. By being wrapped up with her own child--though

not too much, as an excess would lead to a self-sacrificing attitude--she can therefore repay her own mother for fantasied injuries done her.

However, Klein's description of the mother and her description of the newborn baby seem unconnected with one another. It is not clear how the mother's care and attention are connected with or related to the baby, since his internal struggle is said to be ongoing regardless of external influence.

Of course, Klein herself acknowledges what many theorists ignore: that discussion of the intrapsychic life of an infant is limited and to a large degree speculative because the baby cannot talk (Klein, 1975b). Even observations of the infant and the relationship between him and the mother, while perhaps more accurate, are limited. Since the baby cannot communicate what goes on inside his consciousness, we can do little more than theorize about how his thinking and emotions develop.

In sum, then, Melanie Klein is thought by many to be the historical turning point toward object-relations. Though her theory is largely inconsistent and still tied to concepts of psychobiology, she first took the stand that the basic nature of human beings is relational, and she first introduced the concept of internalized objects or persons.

W. R. D. Fairbairn. Fairbairn is the analytic theorist who first saw that psychological theory must be consistent, and set out to make it so (Guntrip, 1971). His publications are few and at first received little notice (but see Fairbairn, 1963, for an excellent synopsis of his theory), and his notions were for the most part disseminated and elaborated upon by his colleague and analysand, Harry

Guntrip. One rarely hears the name "Fairbairn" spoken without "and Guntrip" following directly.

Fairbairn, especially as explicated by Guntrip, emphasizes the health and wholeness of persons. For him, mental illness is the loss of the natural unity of the ego, and the goal of psychotherapy is its reunification. Fairbairn clearly rejected the impersonal, natural science approach to understanding human beings which was first established by Freud and perpetuated by his disciple-like followers. Fairbairn states that the newborn baby, even though primitive and undeveloped and undifferentiated, begins life as a whole psychic self.

This radical difference in approach to understanding human psychology is evident in all aspects of object-relational psychodynamic writing from Fairbairn on. Note that the theory is thus nonreductionistic, nonmechanistic, and without a biological emphasis. Although the object-relations school has somehow maintained at least marginal acceptance in the close-knit analytic world, it puts forth a theory which breaks with Freud's in almost every major way.

Fairbairn believed that one must be primarily aware of the fundamental dynamic wholeness of the human being as a person, which is the most important natural human characteristic (Guntrip, 1971). The preservation and growth of this wholeness constitutes mental health. The entire process of growth, and perhaps disturbance and restoration of wholeness, as an ego or personal self depends upon the ego's relations with objects. This is primarily in infancy and thereafter in the unconscious (i.e., the repressed infantile ego split and in conflict), and of course begins with the mother.

All that Fairbairn has to say regarding the ego or personal self and its wholeness applies to the mother, too. He further states that at first it is the mother herself who is a healthy whole person and who thereby enables the baby to perceive and develop his own wholeness as an ego. Whole ego development depends on good object relations in real life, preferably initially in infancy, but if necessary later on in therapy. Therefore, he sees the good or ideal mother of a newborn as someone who as a real, whole person can protect the vulnerable infant long enough--via a good object relationship--in his dealings with the real world (Guntrip, 1971).

D. W. Winnicott. Winnicott is the object-relations theorist who has the most to say directly about the mother, and he was perhaps in the best position to do so, as he began his career as a pediatrician. As such, he had years of firsthand experience in dealing with mothers of all kinds.

Winnicott's writings are filled with Freudian terms which appear to have no meaning to him (Mendez and Fine, 1976). His continued use of terms such as "id" are ill-defined and seemingly simply habit. Nevertheless, Winnicott did relate biology and psychodynamics in an essentially object-relational way.

Winnicott describes ego-relatedness as the capacity to be alone, a solitude that is relatively free from withdrawness (Winnicott, 1965b). The good internal relationships are well enough set up and defended for the person to feel confident regarding the present and the future (Winnicott, 1965b). In other words, the person can trust in his basic relatedness to others living in the world with him. This implies that the individual has had the chance through "good-enough

mothering" (Winnicott's term, widely used in the literature generally) to build up a belief in a benign environment.

Winnicott seems to take a sympathetic, if somewhat mystical, attitude toward the mother and mothering. He claims that a woman's capacity to mother does not rest on knowledge, but on a feeling attitude which comes naturally if she feels secure (Guntrip, 1971). This feeling attitude for the newborn Winnicott terms "primary maternal preoccupation" (Winnicott, 1956), and coincides with the infant's phase of life he calls absolute dependence (Winnicott, 1965b). According to Winnicott, the mother's "psychiatric condition" or preoccupation with her child develops gradually and becomes a state of heightened sensitivity during pregnancy, especially toward the end of it, and lasts for a few weeks after the birth. Other interests are excluded, and thus the mother is entirely devoted to and preoccupied by her infant. She does not easily remember this state once she has progressed out of it.

Winnicott asserts that this state of heightened sensitivity on the part of the mother is necessary in order for her to feel herself into her infant's place (i.e., empathize with him) and thereby meet his needs. If she cannot thus empathize, she is unable to protect the vulnerable infant from impingements from the environment (Winnicott, 1956). Specifically, at this stage of the mother-infant relationship--which Winnicott also later (1965b) termed the "holding stage"--the mother must be able to (1) meet the child's physiological needs (physiology and psychology are considered not yet distinct), and (2) be reliable, but not mechanically so. These take account of the

whole routine of care throughout the day and night, and are part of the infant and therefore not the same for any two infants (Winnicott, 1965b).

During these early weeks of the mother-infant relationship, the father's role is also important, although unnoticed by the child. The father's function is to deal with the environment for the mother so that she may be free to indulge in the withdrawn state of preoccupation. Mothers who have it in them to provide good-enough care can thus, by being cared for themselves, be enabled to do better. Mothers who do not, cannot be aided by mere instruction.

During the stage of holding, Winnicott considers the mother and infant merged. (It is noteworthy that other writers have perhaps implied that each is merged with the other, but have only stated directly that the infant is merged with the mother.) But there is a change which comes with the end of the merging; as soon as the mother and infant begin to be separate (from the point of view of the maturing infant), the mother also begins to change her attitude. It seems as though she realizes that the infant no longer expects the condition in which there is an almost magical understanding of his needs, and she knows that the infant can now signal and she can thus be guided by him in meeting his needs. If, on the other hand, she continues to know too well what the infant needs, this is magical and forms no basis for an object relation. It is at this point, then, that the normal mother begins to progress out of her condition of primary maternal preoccupation.

Harry Guntrip. Guntrip was an analyst and a clear-thinking writer who worked to formulate a cohesive, consistent theory of object-relations. Although his primary role appeared to be that of synthesizing the ideas of the several different object-relations theorists, he also contributed some vital concepts. The chief among these is his insistence (finally accepted in full by Fairbairn) that the necessary focus for the analyst is infantile dependence, not the Oedipus complex (Mendez and Fine, 1976).

Like the previous object-relations theorists, Guntrip's most important points are regarding infant development later than the earliest phase, which is the focus of this paper. However, because he conceptualizes in wholistic terms, it is relatively simple to talk about his model of the mother of a newborn. Whenever Guntrip discusses persons in general, it can be assumed that he is also talking about new mothers.

First of all, Guntrip does incorporate Winnicott's concept of good-enough mothering:

> . . .the infant, starting life with a primitive and quite undeveloped psyche, just cannot stand the loss of his object. He cannot retain his primitive wholeness for more than a short period in the absence of mother, and cannot go on to develop a strong sense of identity and selfhood without an object relation. (Guntrip, 1968, p. 128.)

The mother, then, is important in her steadiness; she must be available to the newborn, to shelter his fragile self. By implication, Guntrip expects she must meet the basic caretaking needs discussed by Winnicott.

Equally important, the good-enough mother must be a solid, whole person herself, for it is by forming a relationship with an integrated individual that the infant eventually is able to develop a sense of his own identity. Without this vital early relationship, an individual remains always in and out of later relationships, never able to commit himself to anyone or anything, always afraid that he will lose either his own self (i.e., merge into the relationship or other person or disappear completely) or the other person (Guntrip, 1968). He (in Guntrip's terms, the schizoid personality) cannot outgrow the particular kind of dependency on love-objects that is characteristic of and normal for infancy. If the mother, then, is withholding and unable to relate warmly to the infant there are these clear and dire consequences for later development.

Margaret S. Mahler. Mahler's comprehensive theory of early development is ostensibly based on her and her associates' observations of children and their mothers during the first three years of life. However, in reading her works it is clear that she is a psychoanalytic theorist first and an observer second. Therefore, while her massive (30 years' worth) data are doubtless quite valuable, it must be understood that what she sees is colored by the expectations of the preconceived theory.

Mahler has devoted her time for more than 30 years to studying the emergence of human individuality from the matrix of the mother-child relationship. In 1955, following their intensive observations of so-called symbiotic psychotic children and their mothers, Mahler and Goslinger introduced the hypothesis that the child grows to

maturity from an original symbiotic union with a mothering person. As this work has continued, the normal developmental process has come under the scrutiny of longitudinal research, based on observation of mother and child pairs. Although this began in an effort to obtain control group data for comparisons with the observations of psychotic children and their mothers, Mahler's studies of normal children over the first three years of life have provided data for her elaboration of a comprehensive theory of normal early development. In its most recent form (Mahler, Pine, and Bergman, 1975) this theory proposes three phases of infant development: the normal autistic phase (with which the present paper is concerned), the normal symbiotic phase, and the separation-individuation phase.

Mahler's description of the earliest phase appears to be mainly biologically based. She and her associates propose that, in the first weeks of life (i.e., about the first month), the infant's existence is rightly characterized as "normal autism":

> . . .During this phase we can speak only of primitive unintegrated ego apparatuses and purely somatic defense mechanisms, consisting of overflow and discharge reactions, the goal of which is the maintenance of homeostatic equilibrium. The libido position is a predominantly visceral one with no discrimination between inside and outside, animate and inanimate. Initially, because of his very high threshold for external stimuli, the infant seems to be in a state of primitive negative hallucinatory disorientation, in which need satisfaction belongs to his own omnipotent autistic orbit. (Mahler, Pine, and Bergman, 1975, p. 290.)

In other words, the infant is supposed to be at first totally unaware of a mothering person, and only gradually achieves awareness (as he moves into the normal symbiotic phase) that his needs must be met by someone outside himself.

This phase is seen as a necessary transition from intrauterine to extrauterine life, and has as its "task" the mostly physiological achievement of homeostatic stability in the new environment. Perception and reactions are maximally global and undifferentiated.

As she does study the mother-child pairs, Mahler does have much to say about mothers. However, she, too, skips quickly over the first phase of development, concentrating on the later, presumably more complex, ones.

B. Research

In general, psychodynamic research tends to be longitudinal, depth analysis of a very small number of subjects (Mahler's work is, of course, a notable exception). Single case presentation is common and can be considered to contribute to conceptualization and theory, if not to scientific precision.

Psychodynamic studies of early parenthood are extremely sparse, and do not follow the usual form of analytic research. (No studies have been done from a primarily object-relations approach, though object-relations are included in the studies which will be discussed.) Two researchers--G. L. Bibring and T. B. Brazelton--working independently, have each conducted studies with a fairly large number of new fathers and mothers (e.g., Bibring, 1959; Bibring, Dwyer, Huntington, and Valenstein, 1961; Brazelton, 1973).

Bibring's work is most directly related to the concerns of the present work. She conducted an exhaustive study through the prenatal clinic of a major hospital on the psychological processes

in pregnancy and the earliest mother-child relationship. Her methods were numerous and varied and her staff professional and large. Subjects were fifteen married primigravidae; there appears to be no attempt to collect a random sample for this mainly in-depth study. Although the data were gathered by an interdisciplinary team--psychological testing, social history, observation, analytic interview, medical history--all members of the team conceptualized their information within the analytic framework.

Bibring looks at the psychological processes of pregnancy, especially a first pregnancy, as comprising a maturational crisis necessary for adjustment to early parenthood. She claims that, for a presumably normal sample of people, a surprisingly large amount of psychiatric pathology emerged early in analytic interviews. However, the evident pathology subsided rapidly and the crisis was usually resolved by shortly after the baby was born.

Bibring proposes that this psychological "shakeup" is necessary in order for the woman to be ready to form the new attachment which is required of her at the birth of her child. She discusses the mother and her maturational changes from the point of view of the mother's own object relations, including that with the baby.

According to Bibring, the developmental process of pregnancy and early parenthood can be discussed in terms of the woman's relationship to her partner, to herself, and to the child. The intense relationship with her sexual partner leads in the first place to impregnation, by which a significant representation of her love object (loved one) becomes part of herself. Impregnation, according to Bibring, is experienced initially as intrusion, and to accept it and incorporate

it successfully is the first adjustive task of the pregnant woman in her relationship to her coming child. If successful, the "libidinal concentration on the self" increases, and the mother integrates and merges with the foreign body.

The quickening disrupts the fusion, and Bibring found a decided increase in evident pathology at this point in the pregnancy. The next adjustive task, then, is to accept the child as separate from the self, "another object," which is said to prepare the mother for the anatomical separation at delivery. (Note the marked similarity to Mahler's infant phases--early pregnancy:normal autism; after quickening:symbiosis; delivery:separation-individuation.)

This preparedness equals a readiness to establish a relationship to the future offspring, and the establishment of the relationship is for the mother a new developmental achievement.

During the crisis of pregnancy, the woman's (object) relationship to her own mother is of great importance. Infantile aspects of the relationship come to the fore, attitudes which have been established as resolutions of childhood experiences seem to be abandoned and replaced by various new forms of identification with the mother. This, too, is typically a tumultuous process, and the identifications may at first show scars of childhood conflicts, either by an admixture of remorse and guilt or by ambivalence and resentment. However, in the case of successful maturation, there develops a conflict-free, useful identification with the mother as the prototype of the parental figure.

The study of Bibring et al. is important mainly because these researchers are willing to look at the process of becoming a new mother from the experiential point of view of the mother herself. Behind the veil of the analytic theorizing the salient findings seem to be: (1) mothers-to-be express to an interviewer a great amount of conflict and anxiety regarding the coming baby, amounting to a sense of crisis; (2) mothers-to-be claim they do a great deal of thinking about and perhaps reorganizing of the important relationships in their lives, especially those with their partner, their own mother, and the coming baby; (3) mothers indicate that the uncomfortable conflict subsides or resolves shortly after the birth of the new baby, and they are able to establish comfortable relationships with the baby, the partner, and their own mother.

T. B. Brazelton (see, for example, Brazelton, 1973a) has studied mother-infant dyads in many parts of the world, and is in particular interested in the effect of the mother's expectations on the young infant's behavior. He, like Mahler, combines observation with analytic interview and theorizing. Further, his findings parallel those of Bibring, in that he finds much psychological pathology during pregnancy which resolves shortly after delivery. He conceptualizes this phenomenon much as Bibring does, stating that the "shakeup" in pregnancy "readies the circuits" for new attachments.

Brazelton adds the interesting observation, from the vantage point of cross-cultural research experience, that in the U. S. both prospective mothers and fathers are lonely as they go through the upheaval of their difficult role change. In this culture they are

without the supports of extended family (either physically or psychologically) or clear cultural expectations.

One final article bears mentioning, though it is a clinical conceptual work, rather than a research endeavor. Benedek (1959) discusses parenthood as a developmental phase, stating at the outset that she assumes that the intrapsychic processes of the infant apply also to the mother. Parallel with experiences which lead to confidence in the infant, the mother (through introjecting the gratifying experience of successful mothering) establishes self-confidence in her motherliness. The mother thereby achieves a new integration in her personality, and thus mothering/being mothered lead to reciprocal ego developments in the mother and the child.

Benedek asserts that the mother's object relation with her child is motivated by psychic energies which originate in: (1) a primary reproductive drive, which is expressed by the adult tendency to give, to succor; and (2) a secondary organization derived from the oral phase of development, expressed by manifestations of receptive tendencies. This facilitates identification with the child.

Therefore, Benedek also states that the mother's relationship to her own mother comes to the fore at the point of late pregnancy and early postpartum period. Because mothering a newborn involves the repetition and working through of the primary oral conflicts with the mother's own mother, the healthy process of mothering allows for resolution of those conflicts, for reconciliation with the mother. Thus, motherhood facilitates the psychosexual development toward completion.

C. Summary

Although the various object-relations theorists and analytic researchers take somewhat different points of view regarding the mother and her establishment of a relationship with her newborn, there are a few salient points which emerge from this overview. First, acceptance of the new baby and attachment to him is not seen as an easy, smooth task. Rather, for the mother, there are often anxiety and a reliving of earlier conflicts with her own parents. Secondly, it is vital for the psychological health of the infant that the mother--in spite of this crisis--be steady and emotionally warm, able to comprehend his needs and respond to them. Third, becoming a mother is a developmental achievement for the woman, enhancing her maturity and expanding her ability to relate (to form object relationships). Finally, it is emphasized or implied over and over that the "good-enough" mother is a person who is herself solidly related to other persons, related to those around her.

CHAPTER II

ETHOLOGICAL APPROACH

Discussing the early mother-infant relationship from an ethological point of view is radically different from talking about it from the object-relations viewpoint. The ethologists study human behavior from a much different vantage point, with different assumptions and language. They are unconcerned with the internal psychic processes of the people they study, and take pains to observe behavior as objectively as possible, recording only what they see, without--presumably--a preconceived theory. This results in a great deal of scientific precision, as there is little that is speculative in ethological writing.

The present paper is concerned primarily with the mothers' experience of establishing a relationship with a newborn. However, the bulk of the studies done on the early mother-infant relationship are observational, if not strictly ethological. Therefore, the present work would be incomplete without a discussion of what ethology has contributed to the area. Further, it is recognized that it is vitally important not to be tied to a preconceived theory, and it is hoped that by giving due recognition to the ethological studies the present writer can avoid thinking purely within the psychodynamic framework. Relevant observational studies which do not meet all criteria for ethological research will also be reviewed in this section.

A. The Ethological Viewpoint: Assumptions

Since the focus in the present section is so different from that of the previous section, some basic assumptions on which ethologists typically operate (according to Hutt and Hutt, 1970) will be reviewed by way of introduction.

Concern with behavioral morphology is the first hallmark of ethology. The second is a biological approach to the study of the behavior. Four key questions, from a biological viewpoint, are addressed as an ethologist studies a particular behavior: (1) What is the cause of this behavior? (2) What is its function? (3) How has it evolved? (4) How has it developed in the life history of the individual?

The question of causation is dealt with by ethologists, and a characteristic feature of ethological methodology is that of causal analysis based on action chains. Two assumptions underlie this type of analysis: (1) Behavior consists of long chains of actions and postures whose temporal juxtaposition is not random; (2) If two behaviors or postures are positively correlated in time, it may be hypothesized that they are facilitated by similar causes or that they facilitate each other; if negatively correlated, it may be hypothesized that the factors which facilitate one inhibit the other; and if not correlated, it may be hypothesized that there is an absence of an immediate relationship.

Ethology emphasizes the role in behavior of endogenous factors, and behavior may be said to be endogenously motivated if it shows

marked changes despite a relatively constant environment. Examples are "biological clocks" and periodicity in the motor activities of children.

The term "function" was mentioned as being a key biological factor, and is often used interchangeably with "survival value." This is closely related to evolutionary considerations. One influence of evolutionary thinking is evidenced in the extent to which some ethologists use findings from species other than man.

Specifically, an ethological study is one in which behavior patterns are in focus, and the description of behavior patterns is the primary problem. Clearly, when research is conducted with human subjects, attempting to compile a definitive list of behaviors is a monumental task and no worker has yet claimed to have produced such a list. The ethologist is therefore faced with recognizing stereotyped, recurring patterns in a behavioral stream, then abstracting and defining these patterns in an objective, reliable way (McGrew, 1972).

These briefly outlined, basic concepts and assumptions are those most commonly referred to in the literature to be henceforth discussed.

B. Observation of Primate Mothers and Infants

Since ethologists do look at data from species other than man, with an eye toward adding to information regarding humans, it is useful to discuss some of the literature on animal early mother-infant relationships. There is controversy over just how much can

be extrapolated from findings from lower species (Ambrose, 1969), so studies of primate mother-infant pairs only will be noted.

There is a great deal of literature on primate interaction, probably because of the obvious similarities to human interaction and the ease of observing primates in captivity. Relevant to the present paper are (1) how are the studies conducted--i.e., what do the researchers look for and under what conditions, (2) what kinds of information are thereby discovered, and (3) given (1) and (2), are the findings useful for the present work.

The major portion, though not all, of primate mother-infant studies appear to have been conducted with primates in captivity. Two representative studies--one of primates in captivity and one of primates in the field--will be discussed in the terms outlined above. The first was conducted with rhesus monkeys, the second with chimpanzees. Although of course there are behavioral differences between the two species, the similarities are more salient, and it does not appear that the differences are important for the purposes of this paper.

A precise and thorough study was conducted by Hinde (1974) on "the course of rhesus mother-infant interaction." He addressed himself to three central questions: (1) What is the nature of the sequences of mother-infant interaction at any one age, and to what extent is each of the partners responsible for their initiation; (2) Are the age changes in the relationship primarily due to changes in the mother, to changes in the infant, or both; and (3) At any one age, are the differences observed between mother-infant pairs due to differences between mothers, between infants, or both?

Observations were of small captive groups, consisting of one male, two to four females, and their young. Each group lived in a six meter long outside pen connecting with an inside room. Observations were toward behavior such as total time the infant spent off the mother correlated with age, time out of arm's reach of mother, and the relative frequency of rejections (mother and infant). The author used intricate formulae to arrive at results for some of these observations, and it is interesting that oftentimes the results were fairly self-evident without the complex analysis.

In fact, the results were basically what one would expect. During the first few days, the newborn remains in contact with the mother 24 hours per day and is totally dependent upon her. He starts to leave her at one or two weeks, and the frequency with which he leaves increases gradually. The mother often restricts her infant from leaving at first; later she rejects him more and shows less concern if he goes a distance away.

Similarly, the expectable results were obtained for questions (2) and (3), with one especially noteworthy result: the mother plays a surprisingly prominent role in the infant's increasing independence, by her frequency of rejecting his overtures to her.

Hinde's overall conclusions from the study were that an appreciation of the complexity of mother-infant interaction brings skepticism of many of the global qualities often used to describe the mother-infant relationship, such as "attachment" and "maternal sensitivity." Further, relationships depend on (or rather, are) sequences of detailed interactions, action chains.

J. Goodall (in DeVore, 1965) observed chimpanzees of the Gombe Stream Reserve. Females with young infants are shy of observation and data are sparse for them. Based on those few who were briefly observed, Goodall indicated that the infant is completely dependent on the mother for transport, food, and protection. Initially, he clings to her in a ventral position; the mother sometimes cradles him in her groin. As he gets older, he sometimes rides on her back. Rarely were infants observed suckling, and the mother seemed to initiate it. If he ventured more than two feet from the mother, she pulled her infant back.

The antagonistic behavior of the mother toward older infants which is observed in captivity (i.e., mother's rejection of the infant) was not observed in the wilds. Rather, independence seemed to be initiated by the infant himself.

Based on the foregoing representative reviews, it would seem that studies of primate early mother-infant relationships contribute only marginally to the present paper. The questions to which the observers address themselves, while leading to scientific precision, do not deal with the complexity of the issues at stake for mother attachment.

C. Critical or Sensitive Periods

The apparent existence of critical or sensitive periods in the lives of young animals was probably first noticed and discussed by ethologist Konrad Lorenz. Nearly all animals show a greater propensity to learn at certain stages of the life cycle than at others, and it is reasonable to distinguish between periods of sensitivity

occurring at many stages throughout the life cycle and periods that occur only once (e.g., imprinting) (Bateson, in Ambrose, 1969).

There has been much discussion on whether there is a critical period in the development of human attachments. Spitz, Bowlby, and Goldfarb all stress the importance of infants forming attachments sometime in their first year if subsequent behavior is not to be abnormal (noted in Freedman, 1974). A review of data by Ainsworth (1962) indicates that attachment by seven months is essential. In evolutionary terms, it is adaptive for attachment between an infant and his caretaker to form by this age so that the subsequent development of autonomy, in the newly mobile baby, may take place relatively unhindered by recurring dependency (Ainsworth, 1962).

However, it is important also to note that experiences critical for one child may well have completely different effects for another, and variability rather than uniformity of response is to be expected within the broad framework of the species pattern (Freedman, 1974).

D. Mother as Stimulus Versus Initiative of the Infant

Within the observational literature on mother-infant attachment there seem to be two main groups of theories. One focuses on the mother, describing her as a stimulus object who becomes discriminated as a "time" and a place for either the addition of positive reinforcers from it (e.g., Bijou and Bauer in Hutt and Hutt, 1973).

The second group of theories stresses the initiative taken by the infant in determining its parents' behavior (Hutt and Hutt, 1973). It is, however, also asserted that it is most reasonable to assume

that both processes must play a part in attachment. Ainsworth (1964), in studying patterns of attachment, concluded that interaction between the infant and his mother is a chain of behavioral interchange, which may be initiated either by behavior of the mother to which the infant responds, or by the infant's behavior--first his signals and later his actual attachment overtures--which evokes a response in the mother. She noted that she was particularly struck by the active part the baby himself plays in the development of attachment.

E. Maternal-Infant Bonding: The Studies of M. H. Klaus and J. H. Kennell

A major work, comprehensive and intensive, is underway and in its sixth year at a children's hospital in Cleveland, Ohio. The researchers are pediatricians associated with Case Western Reserve University who are focusing their efforts on newborns, and particularly on the newborn's parents. They are specifically studying the attachment behavior of the parents at the time of the baby's birth, and are therefore concentrating on the early relationship which is of concern in the present paper.

Klaus and Kennell and their research team have written a detailed and exhaustive review of all the studies available by 1976 on mother-infant bonding, and the reader is invited to refer to their book for further information (Klaus and Kennell, 1976). The general findings which are of greatest interest to the present work will be noted here.

Although the authors are specifically interested in attachment from the point of view of the mother, their approach is interactional,

as they feel it is misleading to focus on only one member of the dyad. They sight detailed studies (Condon and Sander, 1974) which show that a neonate sees, hears and moves in rhythm to his mother's voice in the first minutes and hours of life, resulting in a synchronized linking of the reactions between the two.

Based on their own observations and on their grasp of the literature overall, Klaus and Kennell feel that there are seven principles which are crucial components in the process of attachment:

(1) There is a sensitive period in the first minutes and hours of life during which it is necessary that the mother and father have close contact with their neonate for later development to be optimal.

(2) There appear to be species-specific responses to the infant in the human mother and father that are exhibited when they are first given their infant.

(3) The process of attachment is structured such that the father and mother will become attached optimally to only one infant at a time.

(4) During the process of the mother's attachment, it is necessary that the infant respond to her by some signal--e.g., body or eye movements.

(5) People who witness the birth process become strongly attached to the infant.

(6) For some adults it is difficult to go through the processes simultaneously of attachment and detachment (i.e., to develop an attachment to one person while at the same time mourning the loss of someone.

(7) Some early events have long-lasting effects. For example, anxieties over the well-being of an infant with a temporary disorder the first day may result in long-lasting concerns that may adversely shape the development of the child.

While all of the above points are of direct concern to the present work, of particular note is the evidence for the existence of a sensitive period in the first minutes and hours of life. Clinical observations of Rose, Boggs, and Alderstein (1960) and Kennell and Rolnick (1960) suggest that affectional ties can be easily disturbed and may be permanently altered during the immediate postpartum period. Studies of the effects of rooming-in have also confirmed the importance of contact during the early postnatal period (Klaus and Kennell, 1976). There are, in fact, numerous controlled studies (e.g., Klaus, Jerauld, Kreger, McAlpine, Steffa, and Kennell, 1972; Kennell, Jerauld, Wolfe, Chesler, Kreger, McAlpine, Steffa, and Klaus, 1974; DeChateau, 1976) showing that early close contact has far-ranging effects.

Klaus and Kennell have for years addressed themselves to the question of why the development of maternal attachment progresses so rapidly during the early postpartum period, and assert that it can only be answered by minutely examining interactions between the mother and infant during this time. Most important, they maintain, is reciprocal interaction; mother and baby are intimately involved with one another on a number of sensory levels.

Wolff (1959) described for the first time six separate states of consciousness of the infant, ranging from deep sleep to screaming.

State 4 is the quiet, alert state, in which the infant's eyes are wide open, and he is able to respond to his environment. He may, however, be in this most responsive state for periods as short as a few seconds (which helps to explain why State 4 was not detected and described until 1959). However, M. M. Desmond, A. J. Rudolph, and P. Phitakspraiwan (1966) observed that the infant is in the quiet alert state for a period of 45 to 60 minutes during the first hour after birth, after which he falls into deep sleep for 3 to 4 hours. It has been demonstrated (Klaus and Kennell, 1976) that during this first hour the infant can see, has visual preferences, and will turn his head to the spoken word. Therefore, he is well equipped for responding during what is evidently a most important first meeting with his parents.

Klaus and Kennell emphasize that it is the parents' commitment to the relationship with the infant that needs to be established early. In ethological terms, the function of early mother-infant attachment would be to ensure the survival of the infant. As a Russian proverb states, "You can't pay anyone to do what a mother will do for free." (Quoted in Klaus and Kennell, 1976, p. 1.)

F. Social Attachment

The foregoing discussion of maternal-infant attachment is in market contrast to what has heretofore been studied as attachment. Klaus and Kennell's emphasis on the mother (and father) and the laying down of her long-term commitment to the child during the immediate postpartum period is a definitive shift away from the usual approach.

Schaffer and Emerson, for example, in their careful and complete observational and interview study (1964) looked at what they termed social attachment of the infant (as did Bowlby before them). For them, the infant must be able to show his attachment in an easily observable manner: proximity-seeking. (Schaffer and Emerson use separation response of the infant as their operational criterion for the existence of social attachments.) Clearly, the infant's motor and perceptual development must be sufficiently advanced to enable him to seek proximity.

The mother's attachment and commitment, of course, must have occurred long before this clear expression of the infant's attachment, or he would never have survived until this point.

G. Object Relations Ethology: John Bowlby

Bowlby is an unusual psychiatrist, an analyst whom it is difficult to classify. He wrote on ethology--and published his works in the analytic journals (e.g., Bowlby, 1960). He specifically attempted to wed ethological and analytic concepts. Along the way, he no doubt violated many assumptions of each, yet perhaps contributed to the thinking of both.

Bowlby was first an analyst, and it was from his analytic point of view that he originally began to study the child's experience of deprivation of maternal care and separation from the mother. He reports that it was in reviewing that data that he began searching for ways of better understanding the processes likely to be at work (Bowlby, 1960). His imagination was first captivated by Lorenz's work on the following responses of goslings.

Bowlby, from his (Freudian) analytic background, asserted that he felt a kinship with the ethologists. Within the field of ethology, scientists often study the behavior of nonhuman species, sometimes for its own sake, often to try thereby to add to the understanding of human behavior (e.g., Freedman, 1974; Hinde, 1974). This evidently intrigued Bowlby, with his commitment to viewing human behavior in biological and instinctual terms.

In particular, Bowlby responded to the ethologists' evidence that in many species there are instinctual response systems present in the young which lead them to attach closely to a mother-figure, without the mother herself taking any action to encourage the attachment (Bowlby, 1960). This phenomenon can be understood in terms of evolution theory. Young who become isolated die; only those who remain in close contact with adults survive to breed. Thus, natural selection would lead to the fixation in the genetic make-up of a species of response systems ensuring attachment (see, e.g., Freedman, 1974).

From this, Bowlby went on to propose that attachment--for him, a social tie--is as biologically basic as the other biological needs discussed by analysts (e.g., for food). Note that his theorizing is within analytic terms, but his evidence is from observational studies of the young of lower species. Bowlby's unique position thus allowed him to introduce ethological concepts to the analytic world.

Bowlby went on to study human attachment and separation at length, and is considered one of the experts in the field. His

emphasis was mainly on the child (he has little to say directly about the mother), though he studied the relationship between the mother and child. He noted that babies enjoy human company; even in the first days of life they are soothed and quieted by social interaction (being picked up, talked to, caressed). The responses of babbling and of smiling in infants are increased in intensity when they are responded to by an adult in a purely social way (Brackbill, 1958; Rheingold, Gewirtz, and Ross, 1959; cited in Bowlby, 1960). By implication, then, the mother is considered to be a social being, a "stimulus" who is capable of releasing various social "responses." In Bowlby's writing, she appears quite passive in performing this function (note how struck he was by the literature suggesting that animal young attach to their mothers without the mothers doing anything to actively encourage it).

Bowlby developed a list of specific attachment behaviors evidenced by the child which have been used or elaborated upon by almost every succeeding study: sucking, crying, smiling, following, and clinging (Bowlby, 1958). He further stated, however, that one cannot really say that attachment is evident until the infant cannot only recognize his mother, but tends also to behave such that he maintains proximity to her, i.e., works to prevent separation (Bowlby, 1969). His focus is, of course, on a developmental stage of the child which is more advanced than that of the present paper. Further, it is evident in reading Bowlby that although his interest may be in attachment <u>per se</u>, it is more practical to talk about attachment in terms of separation (an observation which is actually spelled out by Schaffer and Emerson, 1964).

In 1956, Bowlby reviewed the literature available at that time regarding the effects on children of maternal deprivation. The conclusion he drew from his lengthy review is that the studies confirm and support each other in the finding that a warm, intimate and continuous relationship with a mothering person, in which both find satisfaction and enjoyment, is essential for the child's "mental health." ("Mental health" is a general term which Bowlby used and which appears to sum up the ways the various studies he reviewed talked about their findings. The opposite of "mental health" is what is actually noted in the studies--e.g., retarded development physically, intellectually, socially; emotional inaccessibility; deceit and evasion; stealing; lack of concentration.) He stated that concordance in the studies overall balances out defects in the individual studies. Note that the mother herself is mentioned here, though again indirectly. Her own satisfaction and enjoyment in the relationship with her child is said to be essential for the child's healthy development.

Bowlby, like many of the object-relations writers, specified phases in the development of the child. For him, the earliest phase is one in which the infant is in the course of establishing a relationship with a clearly identified person, the mother, and is usually the first five or six months. It is not clear at what point Bowlby considers the infant capable of actually beginning this process (perhaps at birth?), and he does not specifically mention the time period which is of particular note in this paper.

CHAPTER III

SOME CULTURAL AND RELIGIOUS MODELS OF MOTHERHOOD

For the purposes of the present paper it is sufficient to touch on some cultural and religious models of motherhood. Since these models serve a heuristic function in this work, it is not necessary that any particular model be developed in detail.

A. Early Models

For obvious reasons, in cultures of early man the concept of woman was equal to the concept of mother. She was a very powerful figure, often a sort of deity, and both good and terrible at the same time. She could give her nurture to the newborn baby or withhold it, and therefore all life depended on her (Neumann, 1963). The future of the race rested on her ability and willingness to conceive and produce new life--her fertility--and to nurture and protect it.

There was something awesome about the power of the mother in relation to the total dependence of the newborn, and early man seemed able to experience simultaneously the paradoxical good and evil, friendly and terrible. Early symbols of women--mainly in the form of figurines--therefore embodied both positive and negative attributes (Neumann, 1963).*

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*Neumann's (1963) interest, in his complex work The Great Mother, is in investigating the symbols of women and mothers in various cultures through the ages, and in tying these symbols to unconscious processes. However, he is extremely vague regarding the locations in which were found the sculptures and other art works he uses to substantiate his theories, and also regarding the time periods they represent. Further, his discussions of unconscious processes are obscure and inconsistent. Nevertheless, he offers information quite valuable to the present paper, and relevant observations will be presented here with little of Neumann's accompanying speculation on unconscious processes.

The vessel was the central symbol of woman: woman = body = vessel = world. The inside was an unknown, a mystery, and all entrances and exits of her body something special, for something could be "born" out of them. Inside woman, the "life-vessel," life is formed; this life-vessel bears all living things and discharges them out of itself and into the world. She is also the nourishing vessel that provides both the unborn and the born with food and drink.

As early man was aware of his direct dependence on the fertility of the earth, this symbol of woman as fertile, productive, nourishing, powerful was extended to the earth and all vegetation. In primitive cultures all over the world the Great Goddess, who is the deity of the growth and ripening of vegetation, is evident in some form (e.g., the Corn Goddess of Mexico). Stone Age sculptures have been found in territory from Siberia to the Pyrenees; of 60 found, 55 are female and 5 are male figures. Many are pregnant, and appear to be goddesses of fertility, symbols of fertility and of sheltering, protecting, nourishing (Neumann, 1963).

There is another side to this sheltering figure, that of the "Terrible Mother." In somewhat more advanced cultures the attributes of the woman appear to be more differentiated into good and bad, and thus gruesome figures appear--e.g., Kali, Gorgons, the Cretan snake goddess, the Rangda witch. Life and birth are intimately bound up with death and destruction (Neumann, 1963). It is not difficult to see that sheltering can shade into devouring, and protection into binding.

Woman held a position of power--at least in the deities and symbols of the culture--it seems, as long as the community was

clearly and directly dependent on the earth, and as long as almost all members were employed in producing or acquiring food (hunting). (Such a statement is, of course, an overgeneralization for so complex a topic, but the overall observations are logical.) Numerous authors (e.g., Briffault, 1959) have tried to discuss matriarchal societies across diverse cultures, offering theories and trying to find consistencies, without much success. It is perhaps more useful to talk about trends and to attempt to make sense of them, while recognizing that the discussion may be no more than interesting speculation.

A question is: At what point did the image of woman/mother cease to be so powerful (at least consciously), and why? No clear answer is available; the question serves primarily to focus the differences in models of woman and motherhood.

Woman is tied to the rhythm of her personal biological cycle and as such remains akin to nature, the earth, with all its cycles--the moon, the tides, the seasons, death and rebirth of harvest and planting. Man can more readily leave the earth behind and turn to abstract considerations. Therefore, it is reasonable to suppose (and some have proposed this as a theory) that when people began to settle and to build structures in which to live--e.g., some members of the culture became builders and were no longer tied directly to the earth--that woman as a conscious powerful symbol gradually faded.

B. The Judeo-Christian Tradition

Introduction

In any case, in the Western world of today our deity is male and a father symbol. The Judeo-Christian tradition is far from the

"pagan" cults where more primitive preoccupations with passion and fertility are acknowledged and honored.

There are several fairly recent works on the position of woman in the Judeo-Christian tradition. In the hierarchies of both Jewish and Christian churches she has been systematically excluded until very recently, and remains so for the most part. However, so many women are demanding that the churches confront the issue (e.g., Daly, 1973) that much is now being discussed and written on woman's rightful place in Western religion (e.g., Jewett, 1975; Moll, 1967; Tavard, 1973). These books, while affording an interesting perspective, turn out to be in large part an apology and an attempt to demonstrate that women have held a position of importance all along.

It is perhaps useful at this point to indicate why the author will not be discussing the issue of "equality" between male and female. In a discussion of womankind and motherhood such as the present one, the term "equality" has little relevance, as relationship is what is being explored. For example, is the woman inferior to the man because she bears and nurtures the child, or is she superior to him? The dimension inferior-superior is absurd in this case. Relationships between men, women, and children are quite complex and cannot be reduced to such simplistic terms.

In the Eskimo cultures, for example, women appear at first glance to hold a position of no importance. Women appear to defer to their husbands on every decision, girl babies are often killed at birth (especially in times of famine), and only men hold leadership positions. However, one needs to look only a little more carefully to

see the tremendous, though subtle, influence of the women in the culture. Their power is indirect, but basic (Freuchen, 1961).

Therefore, the interest of the present writer is in the models of motherhood in Judeo-Christian traditions, not in whether or not women have been granted positions of sufficient importance. The works referenced will be dealt with toward this end.

Creation of Woman

The two stories in Genesis of the creation of the world have been thoroughly discussed in theological writings, especially the tale which gives more attention to the details of the creation of man and woman. The story of the creation of Adam and Eve is a story of relationship (Tavard, 1973). Adam is lonely, he is the one from the soil, "mankind," but he is one, he is not a society. Upon the creation of the woman, he is differentiated, and new names are used: Ish (man) and Isha (woman). According to Tavard (1973), these are names of glory; the appearance of woman facing man translates him from his loneliness (adamah means the one from the soil). From his companionship with woman, man obtains his new name of glory (Ish), that which expresses his condition as a being-in-relationship.

The Temptation and Fall

The study of the temptation and fall has of course been used to demonstrate the evilness and untrustworthiness of woman. Tavard indicates that the trend of the story points toward the new name Eva, which means the mother of the living and which is a name both of shame and redemption. In other words, the movement of Ish (man)

and Isha (woman) into a relationship which is also sexual in nature.

Tavard works to justify why it is Isha who is tempted, insisting that it is not because she is the weaker. No matter; the point is that all are cursed by God, are thrown out of Paradise, and specifically that God's curse to woman is: "I will multiply your pains in childbearing [literally: 'I will multiply your pains and your childbearing'], you shall give birth to your children in pain. Your yearning shall be for your husband, yet he will lord it over you" (Genesis 3:16). And, "The man named his wife Eva because she was the mother of all who live" (Genesis 3:20).

So, in the Old Testament, sexuality and motherhood--which had been deified in other cultures--were the results of a curse. This is a much different attitude, and one which remains in large part evident today.

Early Christian Tradition

In the days of the early Christians, woman continued to be seen as under the dominion of men as a result of her weakness and the subsequent temptation and fall (Tavard, 1973, p. 89). Acting on her own, woman (Eve) could not behave responsibly, so she must for her own protection have man as her lord. She could, however, rise to equality through grace or through study (especially of the scriptures).

By the fourth century, virginity was hailed as a way of overcoming one's baser characteristics (for both men and women), including--or perhaps in particular--virginity within marriage. Marriage,

however, was not disparaged; if virginity was better, marriage was still good. However, Christians were not supposed to enter into marriage out of passion and with a view of its pleasures, but as philosophers, "with reflection, in order to organize their existence." (Quote of St. Chrysostom in Tavard, 1973, p. 81).

What is increasingly evident is that in Judeo-Christian tradition the body and the spirit are seen as quite separate, and often at odds with one another. The preoccupation with virginity here is not regarding virginity per se, but in giving due emphasis to the importance of spirituality. It is not seen as possible to be passionately involved in a relationship with another human being and at the same time involved completely with God. In order to be fully committed on a spiritual level, then, one must overcome his "baser," or more human, involvements.

Mary as the Ideal: The Catholic Model

Mary, the mother of Jesus, has been exalted in the Catholic tradition, and, though it is always vigorously denied, deified. (Perhaps she is the reappearance of the Great Goddess of more ancient times [Daly, 1973].) On her complex and contradictory nature rests the Catholic view of woman.

Mary is and was a virgin as well as a mother; a virgin before, during, and after the birth of Jesus. This blatant physical impossibility represents the lengths to which Catholic theologians have gone to deny the importance (existence?) of the human body. Mary is glorified both for her virginity (spiritual purity) and for her motherhood (giving, nurturing nature), and it is she whom women

are supposed to hold as their model, and emulate. Again, an impossibility.

But beyond this basic, irreparable contradiction are some ideas which do at least make more sense. It should be understood that contemporary Catholic attitudes toward woman may be traced back, in their basic attitudes, to St. Augustine. But Augustine's ideas have been mediated through Thomas Aquinas, for it is his philosophy which has in greatest measure shaped Catholic thought (Tavard, 1973). The philosophical approaches of the two writers are significantly different, but most important is the fact that Augustine was himself personally involved in relationships with women, and could therefore deal with the subject of womanhood with deep existential involvement. Thomas, on the other hand, always remained at a safe distance from women, so for him the topic was an interesting intellectual exercise.

The position of women in Western society has been changing quite noticeably recently, and the Church has found it necessary to deal with this fact. Accordingly, the women's issue was addressed at the Second Vatican Council in the 1960's, and, more recently, Pope Paul VI commented on the importance of the International Women's Year.

Everywhere is seen the glorification of motherhood and the family. These concepts are neatly extended to a view of woman's role in the secular world, for motherhood is spiritual and social, not only physical. For example, at Vatican II an American bishop, Bishop Sheen, enumerated the qualities proper to women: "These can be characterized as purity, protection of the weak, sacrifice, procreation, the sustaining and caring of human life." (Quoted in

Tavard, 1973, p. 128.) On the basis of the concept of social motherhood, Sheen comes out strongly in favor of the social involvement of women. "In the economic, civil, social and cultural order, she will be associated with men, and she should exercise prudence, tenderness, and the motherly instinct which is so necessary to compensate for administrative rigidity. . . . Every woman without exception is morally obligated according to her capacity and conditions in life to realize one of these forms of motherhood" (in Tavard, 1973, p. 129).

For Paul VI, too, the feminine vocation is essentially connected with home and family, with motherhood as the keeper of life, and he reminds us to "look to Mary . . . to that type of true feminine promotion, resplendent with real beauty and spotless holiness . . ." (Vatican Study Commission, 1975, p. 10).

The Catholic viewpoint of women, then, includes a glorification of motherhood--at least in its sheltering, sacrificing, giving aspects--with a concommitant ignoring or disparaging of sexuality. In this view, the two sexes appear to be those of men and mothers. Woman's relationship to everyone is to be that of mother. Thus, while relationship between human beings is acknowledged as important, what that relationship is is strictly defined and limited.

CHAPTER IV

CONCLUSIONS FROM THE LITERATURE AND IMPLICATIONS

The models of motherhood reviewed and discussed have widely differing theoretical bases, with divergent underlying assumptions. It is a puzzle that so universal a phenomenon as the relationship between mother and baby could be viewed from such different perspectives, even within the (albeit loose) confines of one field, psychology. Even the language which a given theorist uses differs greatly from the language of another. This near inability to communicate across theoretical boundaries is, of course, a problem in psychology in general, and is merely especially in focus in the present case.

Yet each major body of psychological literature reviewed--object-relations and ethology--has much to contribute to an understanding of the early mother-infant relationship. Some analytic writers, cognizant of the vast material available from the ethological viewpoint, have attempted a reconciliation--or at least a dialogue--between the two. Most noteworthy is, of course, Bowlby. However, he shared a fundamental assumption with the ethologists: that human behavior is at base biological. As we have seen, this is an assumption which object-relations theorists have moved away from; instead, they consider persons from a nonreductionistic, wholistic point of view.

More recently, a child psychoanalyst, Selma Fraiberg, has attempted to draw upon ethological findings as they relate to the

mother-child relationship. In a popularized book, Fraiberg (1977) discusses the literature and places it in the context of child care and working mothers. However, she presents the recent contributions from her own analytic perspective, drawing conclusions which would no doubt be questioned by the original investigators.

And indeed it is difficult for anyone to break out of a particular theoretical mode. The present writer would like to attempt a reconciliation of the literature herein presented. However, it seems clear that instead the battlefield has been located and the sides drawn. Perhaps it is more useful, then, to pinpoint what it is that the opposing sides claim and to investigate more fully whether they may be able to find common ground.

A logical focus is the theory of Margaret Mahler (Mahler, Pine, and Bergman, 1975). Since Mahler does claim that observation is the base of her research, she is at least attempting to follow a methodology established by the ethologists. However, what she actually sees is colored by what she already believes--i.e., her theory. (This is, of course, equally true of the ethologists.) Of specific interest in the present paper are Mahler's views regarding the earliest relationship between mother and infant, the phase she terms normal autism. According to Mahler, the infant is basically unaware for the first month or so of life of the world around him. He is unable for the most part even to perceive objects (both animate and inanimate) in his environment. What this means is that he is not aware that there is someone, a mothering person, who is meeting his needs. Rather, need satisfaction belongs to his own omnipotent, autistic orbit (Mahler, Pine, and Bergman, 1975).

Mahler's choice of the term "normal autism" is an interesting one, as generally the concept of autism is one of severe pathology. To be bound up entirely with oneself is seen as escape, as dangerously disconnected from reality. But Mahler is asserting instead that this very omnipotent insularity is normal and necessary for the neonate, in order to accomplish his task of making the transition from intrauterine to extrauterine life.

As has been discussed at length, the neonate has in fact been shown to be quite aware of the world around him, although within the confines of a fairly primitive neurological system. The implications of this observation for the mother's commitment to the relationship is what has been of concern in the present paper. Mahler has little to say about the mother's role--other than that of sustaining the infant's life--during this developmental phase. Obviously, however, if the infant were autistically unaware of anything, including the mother, he would be unable to respond to her in any way. She would therefore receive nothing from him and thus have no sense of being a member of a relationship. Klaus and Kennell (1976), on the other hand, assert that it is crucial that the mother feel the infant respond to her.

Thus, the present focus must shift more specifically to the dyad itself, and to the baby. In order for a woman to consider herself a mother, she must feel herself to be a member in a relationship with her newborn. Therefore, it is presumed that the infant would have to be at least somewhat responsive to her, and she would have to on some level be aware of his responsiveness, his ability to interact with her. The stage is thereby set for an investigation and discussion

of the conflict between Margaret Mahler's concept of normal autism as the first developmental phase of an infant and the research material which indicates that a neonate can indeed be responsive to the world around him.

CHAPTER V

"NORMAL AUTISM": AN INVESTIGATION

A. Statement of the Problem

As researchers Klaus and Kennell (1976) have stated, it is vital to the survival of a newborn infant that his mother attach warmly and securely to him, that she establish a commitment to him almost from birth. It is evident that the majority of mothers do so. Does this comprise the beginning of a relationship, with the inherent implication of give and take on both sides?

Condon and Sander (1974) found that a newborn, even in the first day of life, moves in precise and sustained segments of movement which are synchronous with the articulated structure of adult speech. They suggest that these observations show the infant to be a participant from the beginning in multiple forms of interactional organization, rather than an isolate. Is the mother on some level aware of this subtle responsiveness of her infant?

It is probable that mothers themselves vary widely in their conscious awareness of what their baby is able to give to them (i.e., how their child responds to their overtures). However, it is reasonable to suppose that without some sense of connectedness with the infant, without at least a vague perception of give and take with him, the mother could not establish the crucial commitment for his ongoing care. It is becoming more and more evident with continuing research that the neonate does respond, that he is not "normally autistic" during the first weeks of life.

To what extent does a newborn respond? How much can he perceive? Some evidence suggests that only shortly after birth a neonate already clearly prefers a human face over any inanimate objects (e.g., Stechler and Lantz, 1966; Haith, Kesses, and Collins, 1969). Does he perhaps soon learn that his mother's face and voice are different from others, and prefer hers? If so, this would comprise even greater evidence that a baby is not merely self-absorbed--autistic--during the first month of life.

The purpose of the present study, then, is to investigate further the responsiveness of newborn infants, those who are within the developmental phase of normal autism. It is proposed that evidence already suggests that newborns are not autistic. A further study to replicate these data and to perhaps add to the current findings is proposed. Further, it is proposed that a newborn very soon (by two to three weeks of age) shows actual preference for the mothering person.

It is therefore hypothesized that: (1) a two- to three-week-old infant is responsive to the persons in his environment--evidence to add to and/or replicate findings already extant; and (2) a two- to three-week-old infant shows a preference in responding to his mother over a stranger.

B. Procedure

Subjects

Data were collected on 19 subjects, all term babies in general good health, two to three weeks old. All infants were Caucasian and born to families of middle socioeconomic status. Type and setting of

delivery (e.g., kinds of medication used, amount of mother-infant contact directly after birth) varied, and subjects were not included or excluded on this basis. Subjects were recruited from a number of sources: (1) from obstetrics patients of The University of Tennessee Family Physicians Clinic, Knoxville; (2) from the Home Birth Group of Knoxville, Sumatra Troy, midwife; and (3) from the LaMaze Prepared Childbirth classes of Knoxville.

Setting

Infants were observed in their homes.

Behavioral Measures and Procedures

Selected scales--those measuring social responsiveness--of the Brazelton Neonatal Behavioral Assessment Scale (1973b) were used. The items were repeated and scored for an infant's responsiveness to his mother and to a stranger (the investigator).

The Brazelton Neonatal Scale is a standardized instrument which was developed over a number of years and is currently widely used in both clinical and research settings for assessing infant development and behavior. The following scales were used for the present study (see Appendix C for the specific scoring instructions).

(1a) Orientation response--animate visual, mother.

(1b) Orientation response--animate visual, stranger.

(2a) Orientation response--animate auditory, mother.

(2b) Orientation response--animate auditory, stranger.

(3a) Orientation response--animate visual and auditory, mother.

(3b) Orientation response--animate visual and auditory, stranger.

(4a) Cuddliness (response to being held), mother.

(4b) Cuddliness, stranger.

(5a) Consolability with intervention, mother.

(5b) Consolability with intervention, stranger.

The Neonatal Scale in current use has existed in several versions over the last ten years or so. Data collected over a number of years by many different investigators have demonstrated the Neonatal Scale's usefulness in discriminating populations and establishing individual differences among neonates. Reliabilities of independent observers tend to be high (.85 to 1.00) for observations of infants up to one month of age. (See Brazelton, 1973b, for a review of several reliability studies.) A recent review of neonatal assessment procedures (St. Clair, K. L., 1978) suggested that the Brazelton Neonatal Scale most successfully combines medically-oriented neurological information and behaviorally-oriented assessment procedures. Nevertheless, the present version of the Neonatal Scale is considered an interim publication, while more data continue to be collected to establish reliability and validity.

The scoring of the Brazelton Neonatal Scale takes into account the infant's state of alertness, a factor which greatly influences his responsiveness. Therefore, the three orientation scales used in the present study assume a "quiet, alert" state, and observations are not made on these scales until the infant is in such a state. Further, it is acknowledged that infants' abilities and interest wax and wane, and therefore the subject's best response is the one scored. Items may be presented in any order; however, the order of presentation by

the mother vs. the stranger was randomized in the current study in order to control for the possible decline of interest an infant may demonstrate the second time an item is presented.

An infant is given a score of 1 to 9 for each item of the Neonatal Scale. For the scales used, a score of at least 5 is considered to demonstrate social responsiveness (Brazelton, 1973b). The increments 1 to 9 were developed to measure not only quantitative but also qualitative differences.

In addition to the Neonatal Scale, demographic and descriptive data were collected and information was gathered on those factors which it was thought might influence an infant's responsiveness (see Appendix C for the complete data collection form): length of mother's labor, kinds of medication used during labor and delivery, setting (home or hospital, and which hospital), amount of mother-infant contact after delivery, presence of other family members at delivery, and length of hospital stay. This information was reported by the mother at the time observations were made of the infant (two to three weeks after birth) and thus was retrospective.

Observers

Observers were two graduate students in psychology (other than the investigator) who had had extensive experience with the Brazelton Neonatal Behavioral Assessment Scale prior to the present study. They established reliability (.88) with one another before beginning the current observations.

Informed Consent

Informed consent was obtained from all mothers who participated in the study with their infants (see Appendix B). A brief, written explanation was accompanied by a verbal explanation, during which the parents' questions were answered.

C. Results

Background Data

Of the 19 subjects in the present study, 12 are female and 7 male. The infant age at time of observation ranged from two weeks to two weeks, five days, with the mean age two weeks, two days and the modal age two weeks. Mean birth weight was 7.35 pounds. Parents tended to be somewhat older than might be expected--the mean age of the mothers was 26.3 years and the mean age of the fathers 27. All were married, although single mothers were not purposely excluded from the study. Fifteen of the babies were born in the several Knoxville hospitals, and four were born at home. Twelve infants were firstborn; seven had one older sibling.

More than half of the mothers (11 subjects) received no medication during labor, including 7 of the 15 mothers who delivered in a hospital (see Table 1). These data are likely skewed because of subject recruitment from LaMaze classes, although it should be noted that LaMaze classes do tend to be comprised of middle-class Caucasian families. Mean labor length was 10.5 hours. There was a nearly even distribution of the various medications used for delivery (see Table 1),

TABLE 1. Medication during labor and delivery.

Labor	N	Delivery	N
None	11	None	5
Demerol	6	Local	4
Morphine	1	Pudental	5
Phenegrin	1	Spinal	4
	—	General anesthesia	1
	19		19

with the exception of general anesthesia which is rarely used in deliveries at present (Dr. George E. Shacklett, personal communication). Two babies were delivered by Caesarean section, one under general anesthesia, one whose mother had a spinal.

Of the fifteen mothers who delivered in the hospital, only five chose to have rooming-in. Sixteen of the nineteen mothers were breast feeding their babies at the time of contact, one of these supplementing with a bottle.

It was difficult to determine retrospectively how much contact mothers had with their infants directly after birth, partly because the mothers' memories of this time tended to be clouded. Further, some mothers were allowed to hold their babies for a brief period of time, after which the infants were taken to the nursery for a short but indeterminate length, and then returned to the mothers for a longer period of time. It is difficult to determine to what extent

the brief trip to the nursery interrupted the early mother-child contact. Those infants who are not taken to the nursery are always cared for and examined by medical personnel for several minutes in the delivery room, so even though the mother is present she is not in close contact with the baby. Therefore, although this retrospective data is included (see Table 2), it should be understood that its usefulness, here and in subsequent analysis, is questionable.

TABLE 2. Mother-infant contact after birth.

Contact	N
Without interruption:	
Continual	4
90 minutes	1
60 minutes	3
30 minutes	3
5 minutes	1
With interruption:	
60 minutes	1
20 minutes	3
10 minutes	1
No contact	2
	19

Infants born at home, of course, had continual contact with their mothers from birth on. (However, two of the infants born at home also had a great deal of contact directly after birth with other family and friends.)

Responsiveness

Responsiveness of the infants is analyzed in several different ways. It should be noted that the three Orientation scales are qualitatively similar, in that they measure the infant's voluntary responsiveness to or interest in his environment under optimal conditions. The "Cuddliness," or response to being held, scale is designed to measure the infant's response to physical contact, while the Consolability scale taps the baby's response to auditory, visual and physical contact while under stress.

In gathering data, Consolability measures were generally taken only when the infant spontaneously became upset, i.e., no attempt was made by the investigator to purposely disturb the babies. Therefore, the number of subjects for the Consolability measures is less than for the other measures (mother N = 14, stranger N = 12).

Overall responsiveness. In order to assess overall responsiveness, simple means were taken on each scale for mother, stranger, and total responsiveness (see Table 3). Since all five scales are designed such that a score of five or higher indicates responsivity, it is easy to see that on all measures except Consolability the infants were clearly responsive. The babies were minimally consolable by their mothers, but not consolable by the stranger.

Differential responsiveness to mother vs. stranger. The Brazelton Neonatal Behavioral Assessment Scale is a very conservative measure to use in a study such as the present one, in which differential responses on the same scales are of interest. The Brazelton Neonatal Scale was designed such that any trained investigator would

TABLE 3. Overall infant responsiveness.

Variables	Range	Mean	Standard Deviation
Orientation visual--mother	3-9	6.37	1.92
Orientation visual--stranger	3-9	6.58	1.77
Orientation visual--total	3-9	6.47	1.82
Orientation auditory--mother	1-9	6.42	1.98
Orientation auditory--stranger	4-9	6.95	1.31
Orientation auditory--total	1-9	6.68	1.68
Orient visual and auditory--mother	3-9	6.58	1.98
Orient visual and auditory--stranger	3-9	6.89	1.85
Orient visual and auditory--total	3-9	6.74	1.90
Cuddliness--mother	3-9	6.16	2.19
Cuddliness--stranger	3-9	6.05	2.30
Cuddliness--total	3-9	6.10	2.22
Consolability--mother (N = 14)	2-8	5.57	2.21
Consolability--stranger (N = 12)	2-6	4.0	1.70
Consolability--total (N = 26)	2-8	4.85	2.04

tend to obtain the same response from a given infant as that of another tester. Therefore, in this instance any differences which do emerge can be considered to have already been modified by the nature of the Neonatal Scale itself, and to be true and stringent indications of differential responsiveness.

In order to assess differential responsiveness, a straightforward difference score was obtained for each subject (mother score minus stranger score). Differences were obtained on each of the measures individually and on a composite difference score of orientation items for each infant. Individual differences tended to be very small, with many infants in fact showing no differential responsiveness to mother vs. stranger on several scales (Cuddliness in particular). (See Appendix A for complete data on responsiveness.) However, the direction of the differences does suggest a trend, which can be subjected to analysis.

Since the possible scores of 1 to 9 on the Brazelton Neonatal Scale indicate qualitative as well as quantitative measures, the data obtained are not based on interval scaling. Therefore, the less powerful, nonparametric, statistical methods are indicated. The data were subjected to the Wilcoxin Matched-Pairs Signed-Ranks Test (Siegal, 1956), the results of which are presented in Table 4. Since the number of subjects who demonstrated any difference was small, it was difficult to obtain significance even when trends were obvious. Nevertheless, some interesting results emerged.

On all three of the Orientation scales babies were clearly not more responsive to their mothers; in fact, the opposite was the case.

TABLE 4. Difference scores in responsiveness to mother vs. stranger.

	VARIABLES					
	Orient Visual	Orient Auditory	Orient Visual & Aud	Cuddle	Console	Orient Composite
Probability,						
Wilcoxin	.252	.064	.274	1.0	.078	.09
Matched-Pairs	Two-tailed	Two-tailed	Two-tailed	Two-tailed	Two-tailed	Two-tailed
Signed-Ranks						

The obvious trend was toward more responsivity to the stranger, although this negative trend did not attain significance.

However, one infant behaved quite differently from the others, obtaining an Orientation Composite difference score of +8 while all other infants obtained composite scores of +3 or lower. It should be noted that a pattern uncommon in this study appeared to already be set up between this infant and her mother, and a more detailed discussion of the descriptive observation of this interaction will be offered in the following section. If the data are again analyzed without this aberrant subject, Orientation Auditory and the Composite score both show significant differences in favor of the stranger ($p \leq .05$, two-tailed).

The Cuddliness, or response to being held, scale yielded no difference whatsoever.

The Consolability scale--response under stress--is the only measure which evidenced a trend in the predicted direction. Since only those babies who spontaneously became disturbed and required consoling were rated on this measure, a very small number of difference scores was obtained (N = 7). Therefore, it would be difficult indeed to attain significance. Nevertheless, a nearly significant probability equalling .078 (one-tailed), was obtained for Consolability (see Table 4).

Order of presentation, mother vs. stranger. The order of presentation of each of the scales to the mother vs. the stranger was randomized in order to control for possible diminished interest on the part of an infant the second time an item was presented. It can be seen from Table 5 that there were varied effects.

TABLE 5. Order of presentation, mother vs. stranger.

	Orient Visual			Orient Auditory			Orient Vis & Aud			Cuddle			Console		
	+	-	0	+	-	0	+	-	0	+	-	0	+	-	0
Mother first	4	5	1	1	3	5	3	4	3	1	2	6	2	2	3
Stranger first	2	3	3	2	6	2	1	5	3	1	1	8	2	0	1

On the Orientation Auditory scale, the infant was more responsive to the stranger, no matter who first presented the auditory stimulus. It should be noted that this is the scale which demonstrated the largest trend toward differential responsiveness by the infant to the stranger.

The Consolability scale, again with a very small number of subjects, revealed an interesting effect. If the stranger attempted to console the baby before the mother did, she failed to console (relative to the mother). However, if the mother attempted to console the baby first, the baby responded equally to the mother and the stranger.

None of the other scales showed any particular effect on the dimension of order of presentation.

Responsiveness Relative to Background Information

There is currently a growing interest in what transpires in the earliest minutes of a newborn's life and its effect on his subsequent relationships with others. There is much speculation and mounting evidence on such variables as amount and kind of medication

during labor and delivery, and amount of early contact with family members (see, e.g., Klaus and Kennell, 1976, for a review of current studies). The background data from the present study are viewed in the context of infant responsiveness at two to three weeks.

Medication. Overall responsiveness of those babies whose mothers received no medication during labor, and little or no medication during delivery (N = 9) was viewed to see whether mean responsiveness differed appreciably from overall mean responsiveness. It can be seen from Table 6 that there was no difference on the Orientation scales or Cuddliness scale, and only a tendency on the Consolability scale for those infants whose mothers reported they received minimal medication to be less responsive to consoling.

TABLE 6. Responsiveness of infants whose mothers received little or no medication for labor and delivery* (N = 9).

	Orient Visual		Orient Auditory		Orient Vis & Aud		Cuddle		Console	
Subject	Mo.	St.	Mo.	St.	Mo.	St.	Mo.	St.	Mo.	St.
1	9	8	7	7	9	9	5	5	--	--
2	4	3	1	6	5	4	9	9	2	2
3	9	8	9	9	9	7	8	8	--	--
4	8	9	5	6	8	9	8	8	5	--
6	5	5	7	7	6	7	4	3	5	2
7	3	4	5	6	4	4	4	4	2	4
9	7	7	5	7	7	8	7	7	5	--
13	6	7	7	7	5	7	3	3	5	5
16	5	7	8	7	6	8	9	8	--	--
Means	6.22	6.44	6.0	6.89	6.56	6.22	6.33	6.11	4.0	3.25
Overall Means	6.37	6.58	6.42	6.95	6.58	6.89	6.16	6.05	5.57	4.0

*No medication labor; none, local, or pudental delivery.

Early extended contact. Overall responsiveness of those babies who had close contact with their mothers for 30 minutes or more directly after delivery (N = 11) was viewed to see whether mean responsiveness differed appreciably from mean responsiveness of total subjects. It can be seen from Table 7 that there was essentially no difference on any of the scales between the means of all subjects and means of infants who had extended contact with their mothers.

TABLE 7. Early extended (30 minutes +) mother-infant contact* (N = 11).

	VARIABLES									
	Orient Visual		Orient Auditory		Orient Vis & Aud		Cuddle		Console	
	Mo.	St.	Mo.	St.	Mo.	St.	Mo.	St.	Mo.	St.
Means	6.45	6.54	6.54	7.09	6.64	7.09	6.18	6.09	5.38	3.50
Overall Means (from Table 3)	6.37	6.58	6.42	6.95	6.58	6.89	6.16	6.05	5.57	4.00

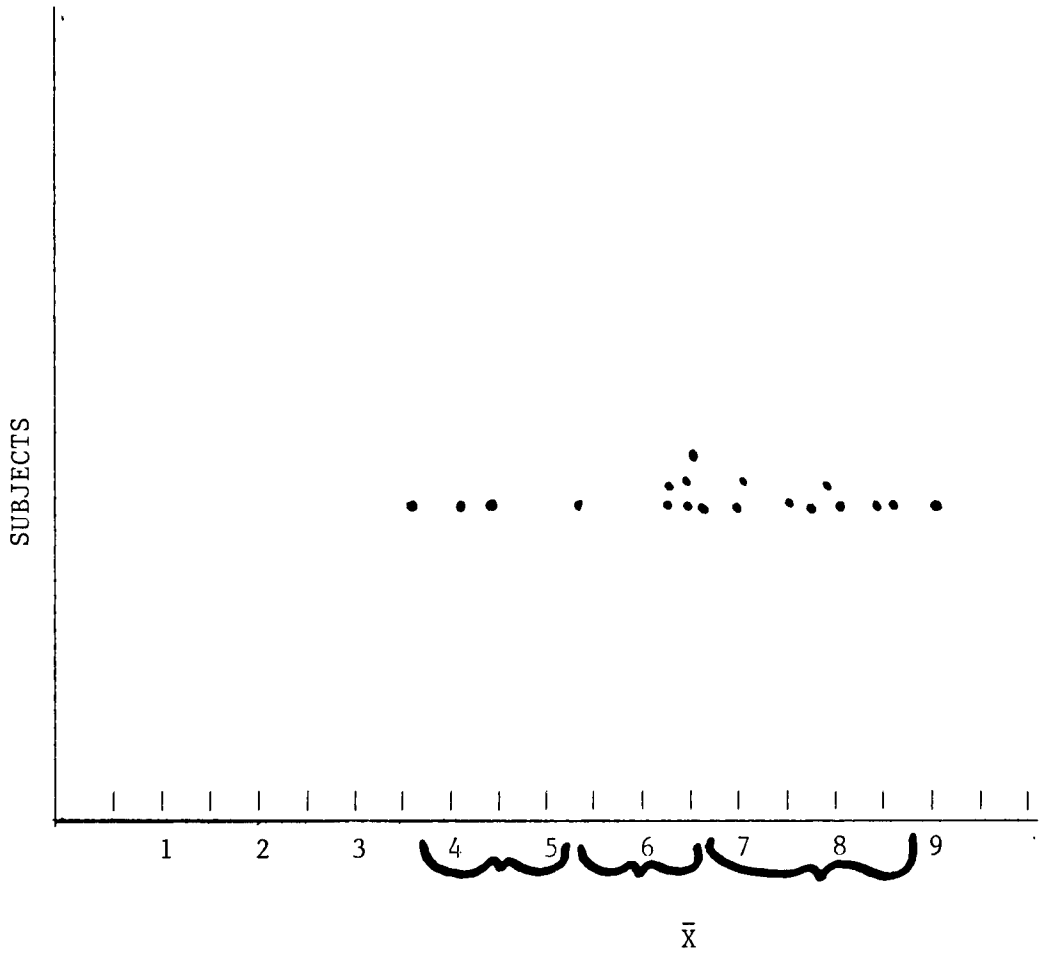
*One mother spent 60 minutes with infant after a brief interruption.

Males and females. Mean responsiveness of males and females was viewed to determine whether there is a difference by gender. Table 8 shows no differences in responsiveness for males vs. females.

Characteristics of most responsive and least responsive infants. Infant social orientation responsiveness (overall) was viewed in greater detail. Scores on overall orientation responsiveness (Figure 1) show a generally even distribution of scores from 5.3 to 9, with three subjects below these with scores of 3.8, 4.2, and 4.3. Background characteristics of these three subjects were viewed. Correspondingly,

TABLE 8. Mean responsiveness of males and females.

	VARIABLES									
	Orient Visual		Orient Auditory		Orient Vis & Aud		Cuddle		Console	
	Mo.	St.	Mo.	St.	Mo.	St.	Mo.	St.	Mo.	St.
Males (N = 7)	5.71	6.0	6.43	7.28	5.86	6.28	5.57	5.57	5.2 (N=5)	3.5 (N=4)
Females (N = 12)	6.75	6.92	6.42	6.75	7.0	7.25	6.5	6.33	5.78 (N=9)	4.25 (N=8)
Overall Means	6.37	6.58	6.42	6.95	6.58	6.89	6.16	6.05	5.57 (N=14)	4.0 (N=12)
Standard Deviation	1.92	1.77	1.98	1.31	1.98	1.85	2.19	2.30	2.21	1.70



OVERALL SCORES

$\bar{X}$ = 6.61
S.D. = 1.47

FIGURE 1. Social responsiveness--orientation

then, characteristics of the three most responsive subjects were also surveyed, although there is no clearcut gap in the distribution between these three top responders and the rest of the sample.

The three babies who were least responsive were all males. Their birth weights were similar to those in the sample in general and their parents' ages were near, though slightly above, the means. Labor length varied greatly, hitting both extremes and near the mean (4 hours, 9 hours, and 19 hours). One baby was born by emergency Caesarean section after his heartbeat dropped twice during labor. The mother was given general anesthesia for the surgical procedure. Both of the other babies were born at home and the mothers had no medication. (Note that these two nonresponsive babies comprise half of the home birth sample.) The baby born by Caesarean section had no contact with his family for several hours after birth, both other babies had continual contact with numerous family members and friends from birth on. All three were breast fed.

Two of the most responsive infants were females, one was male. Birth weights varied, parents' ages were all close to the mean, and all were breast fed. Two were born in a hospital and their mothers received some medication (demerol during labor and spinal for delivery; phenegrin during labor, no medication for delivery, respectively). The third baby was born at home and the mother received no medication. The fathers were present at all three births; mother, father, and infant spent one uninterrupted hour after the hospital deliveries, and mother, father, and infant only were together for a number of days after the home birth (no extraneous visitors).

D. Conclusions and Summary

Margaret Mahler's suggestion, by the use of her term "normal autism" for the first month of a person's life (Mahler, Pine and Bergman, 1975), is that a neonate is quite unaware of the people and things around him. We are beginning, in an explosion of evidence, to discover how false this supposition is. Perhaps one main reason for the current rethinking of just what awareness a newborn does have is the fairly recent development of observational techniques (such as the Brazelton Neonatal Scale used in the present study) which can measure an infant's responsiveness within the limitations of his neurological capabilities.

The present investigation was designed to deal specifically with Mahler's concept of the normal autism of a two-week-old baby. A simple investigation was carried out to replicate the findings that a neonate is indeed responsive to people in his environment. Using the Brazelton Neonatal Behavioral Assessment Scale (Brazelton, 1973b), it was demonstrated that a two- to three-week-old baby is socially responsive--simple evidence which adds to the growing body of research demonstrating that neonates are in fact aware of and responsive to humans in their environment.

It was further hypothesized that a newborn would show an actual preference for his mother (primary caretaker) by the age of two weeks. The unarticulated assumption behind this hypothesis is that a newborn is capable of <u>discriminating</u> between his mother and a stranger, and it is this assumption, rather than the hypothesis itself, which was partially verified.

Infants in the study tended, on the whole, not to be very differentially responsive to their mothers vs. a stranger. Responsive infants, for the most part, were responsive overall; nonresponsive ones were not interested in anyone. This is not surprising. That babies have uniquely individual temperaments at birth has long since been documented (e.g., Chess, Thomas and Birch, 1959). Nevertheless, overall differences did show a clear trend, from which some very cautious and tentative conclusions may be drawn.

Orientation

The three orientation scales all yield data regarding a baby's voluntary responsiveness to the people in his world, on the visual and auditory dimensions. The fact that the babies did show a tendency to respond in a direction opposite to that predicted--in preference of the stranger rather than the mother--warrants further discussion.

It may be suggested (pending further study) that the newborns were able to discriminate a stranger's face and voice from the face and voice of the person who had been caring for them for two weeks. It is possible that the "stranger" in this study (the investigator) was more skilled in eliciting responses from infants, or that she may have simply worked harder at eliciting responses. However, she had not previously used the Brazelton Neonatal Scale (it was the observers who were well-trained in its use), and had no more recent experience with babies than did the mothers in the study. It is therefore possible that the infants were able to recognize her face and voice as novel and were simply more interested in investigating her. Indeed, amount of time spent looking at one stimulus vs. another

is frequently used as a measure of an infant's ability to discriminate (e.g., Jones-Molfese, 1977).

Cuddliness

Touch between human beings is certainly the first and most basic form of communication. The infants in the present study showed absolutely no difference in responsiveness to touch from their mothers or a stranger.

Consolability

The Brazelton's Consolability scale taps a baby's response under stress. It is reasonable that an infant's greatest differential response in favor of his mother would be under conditions of stress, and this is the case in the present study. Under optimal conditions--such as those necessary for the Orientation measures--a baby may be able to demonstrate a general interest in his environment and a curiosity in the novelty of a stranger. But at times of stress he may prefer the more reassuring familiarity of his mother. Some support is lent to this cautious statement by the fact that the infants were more consolable by the stranger if they had already been calmed by their mothers. Perhaps the mothers' soothing lent an atmosphere of greater reassurance--or even served to remind the babies that mother was indeed present.

It is in the context of a discussion of infant responsiveness under stress that a fuller description of the one unusual mother-infant interaction pattern alluded to in the previous section is appropriate. This infant's responsiveness on the Orientation scales was clearly

aberrant from that of the other infants: she was strongly differentially responsive to her mother (+8 composite score), while four other infants only weakly preferred the mother (+3 composite score or less), and most responded differentially in favor of the stranger (minus scores).

The background data for this mother and infant are generally close to means (mother age 28, father age 30, labor length 11 hours, demerol for labor, pudental for delivery, father present throughout labor and delivery). The infant was firstborn (as were 12 infants in the total sample), and hers was the lowest birthweight (5.8 lb.). However, as informally observed by the investigator and observer, the mother-infant interaction pattern was clearly unusual in this study.

The mother reported that when the baby was born she had been through "so much pain" that she did not like the infant and did not want to hold her. She stayed in the hospital five days--a somewhat long period of time when there are no medical indications--in order, she said, to avoid caring for the baby herself. At the time of contact by this investigator, the mother reported feeling tied down (not uncommon for new mothers) and did appear extremely uncomfortable with the infant. She never spontaneously held the infant or responded to her when she fussed or cried. Indeed, she appeared oblivious to the baby's distress signals and only responded to her when her attention was called to them by the investigator. Most striking, however, was that none of this anxiety and evident displeasure with the baby was balanced by any reporting or expression of joy or

pleasure in the child. Further, the mother appeared unembarrassed and quite willing to volunteer comments on her low regard for her infant and for mothering.

It is therefore within the context of what appeared to be a fair amount of rejection on the part of the mother that the infant responded much more strongly toward her. Even the scoring system of the Neonatal Scale did not allow for the strength of the observed difference. For example, the baby oriented immediately to the mother's face and voice, and showed agitation and distress when orienting to the stranger. This child's reaction is not unlike that of older children who are under stress--even when the stress is itself induced by the mother, there is much evidence that children seek out and respond strongly to their mothers at times of alarm (e.g., Bowlby, 1961; Main, in press).

Overall, then, evidence regarding the second hypothesis and its underlying assumption--that a two-week-old infant is differentially responsive to his mother vs. a stranger--falls short of significance. However, the data do show clear trends which indicate the usefulness of further, more extensive, research.

Background Variables

None of the characteristics of the infants' and mothers' earliest experience together (as recalled by the mother) appeared to have any effect on the infants' responsiveness at two to three weeks.

However, one serendipitous finding came from the very small sample of home birth babies (N = 4). While one of these infants was one of the most responsive in the overall sample, two of the others

were strikingly nonresponsive. The reasons can only be speculated. It is of course possible that the infants were in undetected distress during labor and delivery. Both of these infants also had continual and perhaps excessive stimulation for several days, beginning immediately after birth, from numerous and varied persons. (The other home birth babies were with only their parents for several days after birth.) Certainly four is far too small a sample from which to draw any conclusions. However, continuing research on home birth and on the babies born via home delivery is warranted.

In summary, the present study sought to investigate Margaret Mahler's concept of normal autism as characterizing the first month of an infant's life. Nineteen infants were observed as they interacted with their mothers and with a stranger (the investigator). Social responsiveness of the infants was measured via the Brazelton Neonatal Behavioral Assessment Scale (Brazelton, 1973b).

The first hypothesis stated that a two- to three-week-old infant is aware of and responsive to others in his environment, an attempted replication of numerous other studies (e.g., Klaus and Kennell, 1976). This hypothesis was once again substantiated. The second hypothesis, that a two- to three-week-old infant demonstrates a preference for his mother (primary caretaker) over a stranger, was not. Results were mixed, but trends suggested that the assumption underlying this hypothesis--that a two- to three-week-old infant is capable of discriminating his mother from a stranger--may be verifiable with further research.

Other variables considered--e.g., medication used during delivery, amount of early mother-infant contact, gender of the infant--

did not appear to be at all related to the infants' responsiveness at two to three weeks.

Conclusions are of course tempered by the relatively small number of subjects and restriction of subjects to only the middle socioeconomic status. However, results are sufficiently consequential to suggest that more extensive research would be of value.

CHAPTER VI

MODELS OF MOTHERHOOD

A. Discussion

In the preceding chapters, the early mother-infant relationship has been viewed from a number of perspectives: the object-relations school, the ethological approach, some cultural and religious models, and an investigation of neonatal responsiveness. There was the hope at the beginning of this work--indeed, almost the implicit promise--that the author would formulate a systematic and cohesive understanding of the early mother-infant relationship from these divergent views.

However, the most striking result of the current undertaking has been the immense variability itself. It was stated at the outset that each theorist, culture, religious system, psychotherapist--in fact, each person--has his own model or ideal of motherhood. The single most salient overall finding of the present theoretical and empirical investigation is the corroboration of this statement.

Further, it has become more evident that each of us is locked into our way of viewing motherhood, that our unarticulated assumptions and prejudices color and shape what we see. This is certainly obvious with Margaret Mahler and her concept of normal autism as characterizing the first month of life. She herself has observed the interactions between many hundreds of babies and their mothers, yet her theory or model must have dictated that she never see the newborn's great capacity for responsivity. Mahler's theory was of

particular interest in the empirical investigation described in Chapter V, but it is neither fair nor useful to focus on her ideas alone, as she is but one example of the phenomenon observed.

Another professional observer of babies, and one with a much different theoretical orientation than that of Mahler, is the popular educational psychologist Burton White (The First Three Years of Life, 1975). Indeed, he goes so far as to state that there is little of importance in the relationship with an infant until age eight months, and that a baby's general progress in development during the early months is largely assured by nature. His comments are quite cavalier, at the least, in what has been seen to be a quite complex area.

J. H. van den Berg (1972) prepared a simple, short treatise which draws a conclusion much like that herein presented: that we all tend to view the "scientific" evidence from the vantage point of our own biases. Van den Berg cited the Spitz studies on hospitalism, especially concentrating on Spitz's conclusion that a child who has not been loved enough during his first year of life is irreparably damaged. His point is that Spitz did not follow the children beyond middle childhood, so therefore he cannot know whether or not the children suffered ongoing and irreparable damage. (Actually, Van den Berg makes a case for the opposite conclusion--that the children probably were not thus doomed--but that, too, is going beyond the evidence.) Van den Berg points out that the psychoanalytic community was, at the time of Spitz's publications, ready and wanting to hear that the seed of serious psychological problems is

planted in early childhood. Thus, the acceptance and popularity of Spitz's notions.

Fraiberg (1977) in her recent and very popular book reviews much of the same ethological literature presented in the present paper. She, however, is writing from the perspective of a child psychoanalyst, and interprets the evidence in a much different light. For example, in discussing mother-infant attachment, Fraiberg cites the famous studies of Harry Harlow. She asserts that Harlow produced a group of aberrant monkeys by raising them with dummy mothers (cloth "mother" or wire "mother"). The baby monkeys did indeed attach to the dummy mothers, but also produced a group of pathological symptoms of nonattachment, says Fraiberg: they were self-absorbed, made no social contact with other members of the species, would sit in their cages and stare into space. At sexual maturity, they were unable to copulate. In the unusual instance in which a female could be impregnated by a patient, assertive male, she ignored her offspring or tried to kill them.

However, what is actually most striking in Harlow's studies--and which Fraiberg does not acknowledge--is that these aberrant behaviors occurred only in those monkeys who were <u>also</u> raised in isolation from their peers. Those experimental animals who were reared with surrogate mothers and had opportunity to play with other young monkeys developed quite normally (much to Harlow's surprise).

Why did Fraiberg overlook this portion of the evidence? We most likely can safely assume that she does not intentionally distort the facts. But she writes from a perspective that presupposes the

all-importance of a mother in a child's life, and she therefore must look for and see evidence mainly in that light.

The present author has done the same. In conducting an investigation of neonatal responsiveness, why assume that if newborns can discriminate between their mothers and others, they would be more responsive to their mothers? Indeed, the opposite possibility--and the one which the data suggest--makes as much sense. If an infant can discriminate between his mother and another, then perhaps he would be more intrigued by the less familiar person. Yet, working from her own conceptual framework, the present author assumed that, since his mother is so important in an infant's life, he would of course be more responsive to her.

A more subtle example of the author's own theoretical preference is her emphasis throughout on the mother's impact on the baby. While emphasizing that all takes place within the context of relationship, she chose to focus on the infant. It is of course recognized that in fact the infant, too, has a profound impact on the mother.

Informal observations and conversations were conducted with the mothers in the study, and here the same pattern was found. Mothers observed their babies from the perspective of their own assumptions, their own models of motherhood. A few noteworthy examples follow.

The most responsive infant in the study attained a score of 9 (top score) on seven trials, and a score of 8 on one. In talking informally with the mother before presenting the stimuli, the

investigator explained exactly what we were going to do and that we were looking for responsivity (the procedure followed with all subjects). The mother replied that her infant would not respond at all, that she was not in the least aware of faces or voices. She was subsequently quite surprised at her infant's responsiveness. Yet it was observed that she herself was a very sensitive mother, who had clearly been interacting warmly with her child in the two weeks since her birth.

Another infant was quite fussy throughout the procedure, although conditions should have been optimal. She had been fed one hour previously, and had been sleeping well that day. Usually, under such circumstances infants in the study were content, yet not overly satiated and sleepy--i.e., a good, alert, State 4. This mother interpreted each instance of fussing as hunger, and in fact fed the infant again twice during the procedure. She herself was observed to be overweight and her husband obese. She reported that an older child (not observed) had numerous food allergies. It seems probable that this mother viewed her infant's attempts to communicate with her primarily from the standpoint of hunger and food. For her, being a good mother meant providing ample physical nourishment.

Most all of the theorists and researchers cited (including the present author) are themselves members of a culture in which the nuclear family is the rule. In such a family the mother does achieve paramount importance for it is generally she alone who cares for the children. Therefore, all responsibilities and expectations are concentrated on her. We have developed our models of motherhood based on the expectation that the nuclear family is the only kind of family which exists.

One subject who participated in the investigation lived in an extended family. The mother and father and new baby lived with the mother's family of origin, in which the mother, grandmother, and two aunts seemed to share responsibility for infant care and contact. The baby appeared to be somewhat more relaxed with the grandmother, and was more easily consoled by her.

Our ill-founded assumptions regarding pregnancy and childbirth abound. "Morning sickness," or nausea during the first three months of pregnancy is considered normal and almost expected, yet there is evidence that only women in Western cultures experience it (Gaskin, 1978). Our model of motherhood holds that postpartum depression or "blues" is usual (some say over 80 percent of new mothers experience it--Klaus and Kennell, 1976), yet it is rare in Denmark (Klaus and Kennell, 1976).

It was pointed out in Chapter III, on cultural and religious models of motherhood, that primitive cultures exalted childbirth, while the Judeo-Christian ethic relegates it to the role of God's curse upon woman for her disobedience of Him. Perhaps for the nomadic tribes of Israel infants and children were more cumbersome, maybe even at times a dangerous hindrance. In any case, the models of motherhood are certainly different, and seemingly irreconcilable.

Clearly, each of us organizes our world from within our own conceptual framework. What we observe is to a greater or lesser degree a function of our own personalities and experiences, researchers--even ethologists--included. Mitchell (1971) studied this phenomenon within the framework of hostility. His was the not surprising finding that observers' own hostility greatly influenced

their ratings of others' hostility--even though they were supposed to be impartial judges of an objective situation.

Can the only conclusion therefore be that there cannot be any reconciliation, any "true" image or description of motherhood? That we cannot observe impartially and see the "evidence" uncolored by our own experiences and assumptions? There is no direct answer to this question, but a more complete discussion is certainly warranted.

The mother of the highly responsive infant was unable to observe her infant's responsivity (or describe it as such) until the meaning of the baby's behavior was explained to her by the investigator. At that point she was able to break away from her model--which had prescribed that newborns could not respond to human faces and voices--and see what had been there all along. Some kind of negotiation thereby took place between the mother and the investigator, the result of which was the formation of a new way of observing for the mother.

A similar phenomenon has taken place on a larger scale in the general research with neonates. It was not until techniques such as the Brazelton Neonatal Behavioral Assessment Scale were developed that any of us could know how to observe newborn responsiveness within the baby's neurological capabilities. No wonder that it was radical news in 1967 when Wahler demonstrated that infants could discriminate between their mothers and strangers at the age of three months. Before that time, no discrimination had been observed in infants younger than six months--most likely, no techniques were available for observing.

What Wahler was able to do in 1967--and Brazelton and others in the 1970's--was to find a new way of observing the same phenomenon that (most importantly) could be made acceptable to others in their field. The problem which has been pinpointed in the present conceptual work is that the various theorists have little common ground, i.e., have no way of communicating with one another.

It can be said that Kennell and Klaus are observing daily the beginnings of the baby's object relationship with a significant other person. But they are most likely unaware of (and uninterested in) the vast object-relations literature which could provide them with a model or framework from which to thus understand their observations.

Further, many theorists find the assumptions of other theorists unacceptable, and thus reject their observations out of hand. Or the language or jargon of each is incomprehensible to the other. Perhaps, then, there can be no reconciliation at the present time. Perhaps there is currently no means for formulating a comprehensive understanding of the early mother-infant relationship. What would be required in order to accomplish this are ways of negotiating differences in observing the same phenomenon across conceptual boundaries, along with a means of accounting for those differences which still could not be reconciled.

The present author has undertaken to explore the early mother-infant relationship, and along the way to maintain an appreciation for the complexity of the area and a respect for the several orientations and conceptual frameworks. In effect, three broad approaches

to the study of motherhood have emerged, though boundary lines between these are of course hazy. First is the conceptual paper, with a major aim that of addressing the theoretical issue of normal autism and the implications for investigators and mothers alike. Second is the empirical study designed to test the aforementioned theory. And last is the ambitious attempt to review some of the past and present cultural, socio-political and religious aspects of motherhood.

That the various models of motherhood which have been explored are not presently reconciliable is not to say that their study is not useful, or that they have nothing to contribute to one another. It has been demonstrated in the present work that the techniques of one model (the Brazelton scale) can be used to investigate the theory of another (normal autism). The present conceptual and empirical work can be said to have contributed to an understanding of the early mother-infant relationship. Several models of motherhood have been explored in depth, and suggestions for both further empirical research and further conceptualization have been offered.

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APPENDICES

APPENDIX A

TABLE 9. Responsiveness to mother vs. stranger difference scores.

Subject	DIFFERENCE SCORES					
	Orient Visual	Orient Auditory	Orient Vis & Aud	Cuddle	Console	Orient Composite
1	1	0	0	0	--	1
2	1	-5	1	0	0	-3
3	1	0	2	0	--	3
4	-1	-1	-1	0	--	-3
5	-1	-1	-1	0	6	-3
6	0	0	-1	1	3	-1
7	-1	-1	0	0	-2	-2
8	-1	-2	-2	0	--	-5
9	0	-2	-1	0	--	-3
10	-2	0	0	0	0	-2
11	-2	-1	-3	0	6	-6
12	2	1	5	2	5	8
13	-1	0	-2	0	0	-3
14	-1	-1	-2	-1	--	-4
15	0	0	0	-1	--	0
16	-2	1	-2	-1	--	-3
17	1	1	0	0	-3	2
18	2	0	1	0	2	3
19	0	-1	0	0	0	-1

TABLE 10. Early extended (30 minutes +) mother-infant contact scores (N = 11).

Subject	Orient Visual		Orient Auditory		Orient Vis & Aud		Cuddle		Console	
	Mo.	St.	Mo.	St.	Mo.	St.	Mo.	St.	Mo.	St.
1	9	8	7	7	9	9	5	5	--	--
2	4	3	1	6	5	4	9	9	2	2
3	9	8	9	9	9	7	8	8	--	--
6	5	5	7	7	6	7	4	3	5	2
7	3	4	5	6	4	4	4	4	2	4
9	7	7	5	7	7	8	7	7	5	--
11	5	7	5	4	4	7	3	3	8	2
13	6	7	7	7	5	7	3	3	5	5
15	9	9	9	9	9	9	8	9	8	--
16	5	7	8	7	6	8	9	8	--	--
18*	9	7	9	9	9	8	8	8	8	6

*Mother spent 60 minutes with infant after a brief interruption.

APPENDIX B

THE EARLY MOTHER-INFANT RELATIONSHIP--

HUMAN SUBJECT CONSENT FORM

The purpose of this study is to explore the nature of a mother's relationship to her newborn baby. We will be looking at simple actions which a newborn is capable of as he (or she) interacts with you and with us, and writing these down. Everything is confidential--there will be no record of subjects' names, and names and identifying characteristics will not be used in the research write-up.

I will answer any questions regarding the study at any time. You are free to withdraw consent and discontinue participation at any time, without penalty.

Nancy A. Davis
Graduate Student

I have been informed as to the nature of the research project, and I agree to participate.

_____ _____

Signature Date

APPENDIX C

BRAZELTON NEONATAL BEHAVIORAL ASSESSMENT SCALE

Date:_____
Observer:_____

Infant's First Name _____ Sex_____ Birthdate_____Birthweight_____

Mother's age _____ Occupation_____ Marital Status_____

Father's age _____ Occupation_____ _____

Other Children's Sex and Birthdates:

Length of Labor _____ Medication--Labor_____Medication--Delivery_____

Hospital_____

How long were you with the baby right after delivery?

Did you have rooming-in?

If no, how often and for how long did you have the baby?

If yes, when after delivery did the rooming-in begin?

How long did you stay in the hospital after delivery?

Was the baby's father (or other family members) present at the delivery?

Breastfed or bottle?

ITEM	ORDER	STATE	SCORE
Orientation, animate visual			
Mother			
Stranger			
Orientation, animate auditory			
Mother			
Stranger			
Orientation, animate visual and auditory			
Mother			
Stranger			
Cuddliness			
Mother			
Stranger			
Consolability			
Mother			
Stranger			

Orientation, animate visual

1. Does not focus on or follow stimulus.
2. Stills with stimulus and brightens.
3. Stills, focuses on stimulus when presented, brief following.
4. Stills, focuses on stimulus, follows for 30^{o} arc, jerky movements.
5. Focuses and follows with eyes horizontally for at least a 30^{o} arc. Smooth movements, loses stimulus but finds it again.
6. Follows for 30^{o} arcs with eyes and with head. Eye movements are smooth.
7. Follows with eyes and head at least 60^{o} horizontally, maybe briefly vertically, partly continuous movement, loses stimulus occasionally, head turns to follow.
8. Follows with eyes and head 60^{o} horizontally and 30^{o} vertically.
9. Focuses on stimulus and follows with smooth, continuous head movement horizontally, vertically, and in a circle. Follows for 120^{o} arc.

Orientation, animate auditory

1. No reaction.
2. Respiratory change or blink only.
3. General quieting as well as blink and respiratory changes.
4. Stills, brightens, no attempt to locate source.
5. Shifting of eyes to sound, as well as stills and brightens.
6. Alerting and shifting of eyes and head turn to source.
7. Alerting, head turns to stimulus, and search with eyes.
8. Alerting prolonged, head and eyes turn to stimulus repeatedly.
9. Turning and alerting to stimulus presented on both sides on every presentation of stimulus.

Orientation, animate visual and auditory

1. Does not focus on or follow stimulus.
2. Stills with stimulus and brightens.
3. Stills, focuses on stimulus when presented, brief following.
4. Stills, focuses on stimulus, follows for 30^{o} arc, jerky movements.
5. Focuses and follows with eyes horizontally and/or vertically for at least a 30^{o} arc. Smooth movement, loses stimulus but finds it again.
6. Follows for 30^{o} arcs, with eyes and head. Eye movements are smooth.
7. Follows with eyes and head at least 60^{o} horizontally, maybe briefly vertically, partially continuous movement, loses stimulus occasionally, head turns to follow.
8. Follows with eyes and head 60^{o} horizontally and 30^{o} vertically.
9. Focuses on stimulus and follows with smooth, continuous head movement horizontally, vertically, and in a circle. Follows for at least a 120^{o} arc.

Cuddliness

1. Actually resists being held, continuously pushing away, thrashing or stiffening.
2. Resists being held most but not all of the time.
3. Doesn't resist but doesn't participate either, lies passively in arms and against shoulder (like a sack of meal).
4. Eventually moulds into arms, but after a lot of nestling and cuddling by examiner.
5. Usually moulds and relaxes when first held, i.e., nestles head in crook of neck and or elbow of examiner. Turns toward body when held horizontally, on shoulder he seems to lean forward.
6. Always moulds initially with above activity.
7. Always moulds initially with nestling, and turning toward body, and leaning forward.
8. In addition to moulding and relaxing, he nestles and turns head, leans forward on shoulder, fits feet into cavity of other arm, all of body participates.
9. All of the above, and baby grasps hold of the examiner to cling to him.

VITA

Nancy Ann Davis was born in Denver, Colorado on June 12, 1947. She graduated from the University of Colorado in May, 1971, with a Bachelor of Arts degree, Magna Cum Laude in Psychology. She was employed as a part-time undergraduate research assistant from 1967-1968 and 1970-1972, working on various research projects. She worked as a mental health assistant, Bethesda Psychiatric Hospital, Denver, Colorado from 1972-1974.

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