

## Early emotional development and the developmental matrix

Dov R. Aleksandrowicz

### Summary

The author presents an outline of early emotional development, integrating psychoanalytic theory with studies based on observation. The main conclusions are as follows: (a) Infants are not mere recipients of maternal care; they play an active role in eliciting a caregiver's "parenting response" and hence participate in shaping their own environment. (b) It is a mistake to consider infants as merely immature, undifferentiated organisms. Infants come to the world well equipped for their role, and their very immaturity is an asset facilitating their development. (c) There is considerable variability in the innate endowment of infants, a variability that can have profound effect on the relationship with the caregivers and on future development. (d) The infant develops in several dimensions simultaneously: perceptual, cognitive, motor, emotional and social. These developmental lines are not merely contemporaneous and parallel; they connect intimately, creating a matrix of reciprocal influences.

infant, emotional development / infant observation / psychoanalysis

### INTRODUCTION

The twentieth century, heralded as "the century of the child" [1], lived up to that name. The past few decades have witnessed a growing interest in the study of children in general and infants in particular, reflected in an exponential expansion of developmental studies. Volumes have been written on child development, and prestigious journals devoted to the subject are being published. The exponential growth of scientific data necessitates a re-assessment of psychoanalytic theory of emotional development. The early developmental theories formulated by Freud [2, 3] and his students, as well as those of most later psychoanalytical writers, were, by and large, inferred from reconstruction arrived at during the process of psychoanalysis of adults or old-

er children. Mahler and her collaborators [4] were the first psychoanalysts to conduct systematic observations of infants and toddlers. Studies conducted more recently by psychoanalysts such as Stern [5, 6] and Shuttleworth [7] attempt to integrate data from systematic observations of infants and toddlers with data derived from adult or child analysis and are, therefore, more valid empirically than earlier studies. Even so, the subjective experience of the preverbal infant eludes our investigative tools, and theories of early emotional development are based, at best, on extrapolation and conjecture, and at worst on fantasies and projections of the adult patient or of the investigator. In spite of these limitations, systematic observations of the infant's behaviour, of his emotional expressions and of his response to his caregivers provide us with valuable data that have greatly modified our early views on emotional development.

Infant development studies of the past few decades, although much too numerous to re-

---

**Dov R. Aleksandrowicz:** The Israeli Forum for Neuro-psychoanalysis, 10 Harel St., Ramat Gan, 52223 Israel. E-mail: dra@inter.net.il

view here, have yielded several salient insights, which can be summarised as follows:

Infants are not mere recipients of maternal care; they play an active role in eliciting a caregiver's so-called "parenting response" and hence participate in shaping their own environment.

It is a mistake to consider infants as merely immature, undifferentiated organisms. Such an "adultocentric" view overlooks the fact that infants come to the world well equipped for their role, and their very immaturity is an asset facilitating their development.

There is considerable variability in the innate endowment of infants, a variability that can have profound effects on the infant's relationship with caregivers and on future development.

The infant develops in several dimensions simultaneously: perceptual, cognitive, motor, emotional and social. These developmental lines are not merely contemporaneous and parallel; they connect intimately, creating a matrix of reciprocal influences.

I will discuss these points in what follows. Section 1 refers to points (a) and (b), section 2 refers to point (c), and section 3 refers to point (d). I will also attempt to integrate psychoanalytic theories of emotional development with developmental studies derived from infant observation.

### THE INFANT AS AN ACTIVE AGENT

Bowlby [8] revolutionised psychoanalytic theory of emotional development when he demonstrated that the human infant, like all newborn mammals, *actively* seeks physical closeness to his mother or her substitute. The human infant is equipped with effective means to evoke a "parenting response", thus enabling him to achieve the goal of closeness. Most newborn mammals have distinct physical features, such as a relatively large head and large eyes, as well as clumsy movements, which signal: "I am a baby". Most of us respond with an inclination to play with or to hug a bear or lion cub, whether a toy or a live animal, and it takes some exercise of cool reason to realize that a live lion cub may not respond in a positive way to our attempt to play with it. The

popularity of stories such as "Bambi" [9] is a testimony to the powerful human urge to nurture and comfort a baby in distress.

An infant's most obvious method of attracting attention is crying, but it is by no means the only one. The following anecdote may serve as an example of the infant's gaze as an instrument for evoking a "parenting response".

While sitting in a sidewalk café, I noticed a middle-aged woman behaving oddly: she suddenly began making funny faces, smiling, and moving her hands in strange, repetitive ways. Most probably, she had not become suddenly deranged; she had spotted an infant a couple of tables away looking at her intently and was "seduced" by his gaze.

Papousek and his co-workers [10, 11] studied adult "parenting responses", such as opening the eyes widely or speaking to babies in a high-pitched voice, and came to the conclusion that these are instinctive, "wired-in" reactions, initially preconscious, of which the person becomes aware only *after* they take place.

The newborn reacts to the caregiver's ministrations with positive or negative affect; in this manner he provides the caregiver with cues that gradually shape her care-giving. The infant, in turn, learns to perceive cues from the caregiver (e.g., "Milk is coming!") and to respond appropriately. This "private language" is vividly demonstrated by the "games" mothers play with babies, mutually stimulating and taking turns at vocalizing. Stern [5, 6] calls this a "dance" — a very apt metaphor. Schore [12] studied the neuropsychology of caregiver–infant interaction and came to the conclusion that the right hemispheres of both mother and infant are intimately involved in what he considers "a dialogue of right hemispheres".

In conclusion, one might say that the infant and his caregiver are a single functional system to which each party actively contributes his or her individual characteristics, and in which each shapes the other's behaviour by a set of cues and rewards.

### DEVELOPMENTAL INDIVIDUALITY

All people may well be created equal, but no two infants are born alike. This simple fact

has been only slowly accepted by the scientific community. In the years following World War II and the institution of the Nazi pseudo-scientific philosophy of “racial inferiority” and of “constitutionally defective individuals” — a philosophy that led to the cold-blooded murder of the mentally handicapped and to genocide — all studies of innate differences were viewed with suspicion of being tainted with racism. Thus, the prevalent view at the time ascribed all developmental difficulties and later psychopathology to failure of adequate care-giving or to traumatic experiences in early life. All these do happen and often have deleterious effects on emotional development, but it would be a serious mistake to ignore the role of innate factors in psychopathology. The science of behavioural genetics offers so far scant information, but it is developing rapidly thanks to constantly improving techniques of genetic mapping and is making increasingly significant contributions to the understanding of personality [13]. Moreover, not all innate individuality is genetically determined: the intrauterine environment and perinatal events also affect the development of the brain and hence the innate endowment.

Innate characteristics can be assessed at birth: Brazelton and his collaborators devised a behavioural scale that makes it possible to assess individual variations in neonates as early as a few hours after delivery [14, 15]. The Brazelton scale may well be called “an infant (innate) personality profile”. Brazelton’s work was followed by other investigators who described methods of assessment in infancy and even during intrauterine life. Prechtl and his co-workers conducted studies of foetal and infant movements and, on the basis of their findings, described a method to assess temperamental characteristics and to predict abnormal development later in life [16, 17, 18]. Piontelli [19, 20] observed foetal movements to assess temperamental characteristics and reported cases in which a continuity of such temperamental traits could be seen later during early childhood. Werner et al. [21] studied foetal heart rate and its predictive value regarding temperament. Other instruments to measure early temperamental traits were described by Bayley [22], Rothbart [23], Gartstein and Roth-

bart [24], Molfese and Molfese [25], and Carey and McDevitt [26].

Most studies of the effect of individuality on development, like the study of Colombo and Fagen [27], follow the accepted scientific methodology. They observe a relatively large sample of subjects, focus on one variable, e.g., vigour, and try to eliminate the effects of other, confounding variables, such as parents’ personalities or the influence of siblings, in order to tease out the effects of the variable under observation. Clinical observation offers an entirely different perspective: one is compelled to conclude that the “confounding” variables are the ones that determine how much and in which way a specific developmental idiosyncrasy will affect the development of personality. The following vignette from my clinical experience may illustrate the idea:

My colleagues and I had observed that hypotonic infants with slow motor development tended to be dependent longer than others and to be insecure and passive as children or adolescents. This, however, may not always be the case:

Lillian was the first-born baby of a professional couple. Her prenatal history was unremarkable and she appeared to be a healthy, alert baby. Her verbal development was precocious, but it soon became apparent that her motor development was exceedingly slow. She could sit only at the age of 12 months and could not walk until nearly 24 months of age. In spite of this she was a vigorous baby, interested in her environment and capable of letting the caregivers know of her wishes. She eventually closed the gap in her motor development, though she never became proficient in any athletic activity.

An outstanding student and vigorous young woman, she graduated from college, became a business executive, and established a family in which she was a dominant presence, like her mother before her. I believe that Lillian’s development being so different from that of most infants with poor motility was due to cognitive precociousness, to her unusually vigorous temperament and later perhaps to identification with her mother.

#### THE DEVELOPMENTAL “MATRIX”

The study of human development, like other scientific investigations, is becoming increasing-

ly specialised. The vast amount of information generated makes it virtually impossible for any investigator to keep abreast of advances made in other fields. Moreover, the refined methods for collecting and interpreting data cause investigators to drift apart into isolated areas of study, often divided by barriers of terminology and conceptual frameworks. A particularly conspicuous "language barrier" separates those investigators who study observable behaviours from those, such as psychoanalysts, who try to infer a baby's emotional experiences and the emergence of so-called "psychic structures" from repressed memories retrieved in the course of therapy. Paradoxically, the spectacular advances in specialised developmental research reveal also its limitations. Specialised research achieves levels of validity and reliability unprecedented in the history of behavioural sciences, but the significance of such findings can only emerge from a broad, comprehensive approach, cutting across the boundaries of individual disciplines. An experimental investigation may show when and how a certain function matures or a structure comes into being, but it will not explain why; that is, it will not identify the evolutionary advantage of the timing of that specific function. A developmental sequence makes sense only when examined in the context of the functioning of the organism as a whole. Even the development of neural structures becomes meaningful only when it correlates with behavioural development. For instance, it has been found that the newborn guinea pig, which can move about, has many more dendritic spines in its cerebral cortex than does a newborn mouse, whose eyes are closed and which is comparatively much more helpless. At the age of two weeks, however, when the mouse's eyes open, the density of dendritic spines in its cortex is similar to that of a newborn guinea pig [28].

One possible approach to investigate the relationships among different lines of development is to examine synchrony of developmental stages. In some instances the maturation of one function may be a prerequisite for the development of another one; in other cases it only facilitates the development. Synchronisation of development stages may not necessarily be due to any physiological link between them but may have evolved as a result of adaptive pressures. It may

be advantageous for an organism to complete a specific developmental task before reaching a turning point in another area of maturation.

In spite of the vast amount of developmental data, or perhaps because of it, it is not yet possible to outline a coherent model of a developmental matrix, but some significant relations do emerge. In the following paragraphs I will examine examples of synchronous functions beginning from the earliest stages of development.

The primary developmental task facing a newborn is developing a bond with the main caregiver, the "primary object" in psychoanalytic terminology. During the first few weeks of life most infants seem to be less actively engaged in searching for stimuli, aside from those associated with basic body functions (such as nutrition) or physical closeness to the mother; Mahler, Pine and Bergman [4] called this stage, somewhat unfortunately, "autistic". The term "autistic" is apt to be misleading, considering that the normal infant seeks physical closeness to his mother and shows signs of distress when separated from her. Even at that early stage an infant's eyes are wide open when he is in the quiet-alert state (the state most conducive to absorbing stimuli), thus providing a wide field of vision and facilitating intake of stimuli.

Within a few weeks the infant assumes a more active role in the process of attachment. I have already mentioned the "parental response"; the baby, on his part, is well equipped to facilitate it and to consolidate the attachment. The very immaturity of his organism favours attachment: the dependence on mother's milk (the bottle and milk formula make life easier on parents but ought not to become tools to diminish physical closeness) and extreme motor immaturity make physical closeness unavoidable. The only mature voluntary motor movements are suckling and gaze following, both indispensable for developing attachment.

An infant's perceptual system is much more developed than his motor system. For instance, numerous studies have demonstrated that very young infants can discriminate between auditory stimuli [29, 30]. A newborn's gaze is initially focused at about 20 centimetres, i.e., the distance from the nipple to the eyes of the nurse, allowing him to absorb the features of his mother's face while nursing [5, 31]. To use an "adultomor-

phic" expression, one could say that the suckling infant is intent on memorising his nurse's face. Even a casual observer will notice that most men, when feeding a baby from a bottle, intuitively hold the baby close to their breast (usually to their left breast, although they may not actually know that the sounds of heartbeat have a soothing effect on an infant), i.e., at the same distance from their eyes. A suckling infant, on his part, looks intently into the eyes of the person feeding him. After a few weeks the baby can focus his eyes on more distant objects and begins to organise his perception of the environment.

The most conspicuous perceptual ability of the infant is discrimination between familiar and novel stimuli, a precondition for recognition of the primary caregiver and the establishment of the bond [4]. Infants usually respond with positive affect to the appearance of a familiar percept [10], especially a familiar person (unless the percept has been previously associated with an aversive stimulus, e.g., the white coat of the paediatrician). This response becomes more pronounced as the familiar person, i.e., the caregiver, becomes associated with experiences of being fed, comforted or played with. The reaching of arms toward the familiar person is a vivid expression of the positive affective response. An infant's joy at meeting the caregiver is, in turn, a powerful conditioning stimulus, shaping the attachment of the caregiver to the baby. In summary, an infant's emotional and social development, i.e., his attachment to the primary caregiver and later attachment to "secondary" caregivers, is closely interwoven with the level of his motor and perceptual development.

Between the ages of four to six months the infant develops visual-motor coordination, i.e., the ability to move his hands under visual control. It is a momentous event in an infant's life. Mahler et al. [4] called this "the practicing" stage, a stage that, in Mahler's terms, leads to the process of "separation-individuation". The term "separation-individuation" implies that before the occurrence of this process, during the first few months of life, the infant perceives himself and his mother as a "symbiotic" unit. The assumption that during that time the infant has no perception at all, however vague, of himself as a separate entity, has been challenged by Stern [5, 6], but there is no doubt that the emergence of visual-motor

coordination is a milestone in the development of the self. One can observe that some infants at this stage seem fascinated by their newly acquired competence and turn their hands in front of their eyes. The pleasure of mastering a task motivates the infant to repeat and practice that specific function [10]. In this manner he develops motor and cognitive skills and consolidates his sense of mastery over his body and over the environment. Therefore, on the basis of infant observation, one can conclude that the sense of competence becomes an essential component of normal narcissism in the following way: (a) An effective operation of an ego function, such as a successful motor or cognitive act (e.g., solving a problem), is accompanied by pleasure [10]; (b) The pleasure serves as a reinforcer and motivates the child to repeat the action; (c) Ego functions that are repeatedly associated with a pleasurable affect become gradually invested with libido (i.e., narcissistic libido), which means that the subject feels proud of his motor or intellectual ability [32]; and (d) The libidinally invested motor, perceptual and cognitive functions consolidate into a libidinally invested nucleus of self-representation, corresponding to Freud's "body ego" [33].

The young child soon learns that some tasks can be mastered and some cannot. That is the basis of reality-oriented cognition. He also learns that there is considerable lawfulness and predictability as far as the mastery of his body and the environment are concerned, and the predictability contributes to a sense of security, complementing the sense of security derived from parental care.

The expanding range of perceptual, motor and cognitive abilities not only contributes to the consolidation of self-representation, it also becomes entwined with social, i.e., child-caregiver, relationships. Many infants, once they are able to stand leaning on the side of a crib, love a specific game, which they might describe as follows: "You hold a toy outside the crib, drop it, and scream; Mother comes around, picks up the toy and leaves; you drop it again and scream, and the sequence repeats itself". I assume that the games of dropping, like those of throwing objects, also serve to consolidate the mental representation of the body: everything that falls is not "me", what remains, i.e., the fingers, is "me".

The growing skill of motor coordination is accompanied by increased interest in inanimate objects [4]. The infants examine and manipulate any object presented to them. They develop a kind of "object examination protocol" not unlike a standardised scientific procedure: they try to pick the object up, shake it to produce sounds, and then put it into their mouths. This growing interest in inanimate objects results in a change of the role of the caregiver. She (or he) is no longer solely a person who provides for physiological needs and comforts in distress; now the caregiver is also a teacher. Parents facilitate practicing old skills and acquiring new ones by demonstrating, "shaping" (which means leading the child's movement), and playing joint games, like rolling a ball back and forth. Children show obvious delight in such games and become attached to the people who play with them. At this time, in many families, the father or an older sibling acquires a major role in the infant's emotional life. Again, a smooth transition into the changing infant-caregiver relationship, with the parent assuming a more teaching-focused role, depends on the synchronous emergence of motor skills and cognitive spurt. At the same time, the caregiver, in her or his new role, stimulates further development of motor and cognitive skills, and this means that there is a synergistic influence of cognitive-motor and social development. This is the time for developmental enrichment activities [34].

There is an interesting synchrony at that time: most infants become capable of voluntarily putting objects into their mouths at the same time (by four to six months) that they become capable of digesting soft foods, i.e., they are no longer exclusively dependent on milk. Thus, the synchronous emergence of motor coordination and of metabolic maturation may be considered a forerunner of autonomy.

The emergence of mobility is another milestone in the infant's emotional and social development [4]. Once the infant can crawl effectively (some crawling infants move at an amazing speed), he no longer depends on crying as the main means to seek physical closeness; he can attain it actively. Some infants seem to enjoy turning the tables on Mother and engage in a "disappearing act" (as long as she is dependably available). Exploring the environment, reaching

for distant objects and, eventually, walking upright is accompanied by obvious delight and a growing sense of self confidence. Motility provides the infant with opportunities for searching actively for stimuli and enriching his cognition. For instance, Kermoian and Campos [35] demonstrated that the development of a sense of direction depends on locomotion. Apparently, a child who explores his environment provides himself with visual, kinaesthetic and proprioceptive stimuli that facilitate the mental representation of space. In children who could not walk, the sense of direction was delayed.

There is a reciprocal relationship between exploration and emotional development: exploring the environment engenders self confidence, but a secure attachment to the primary caregiver is a precondition for vigorous exploratory behaviour [8]. In other words, exploring space increases a sense of security, but an insecure toddler clings to his caregivers and has fewer opportunities to consolidate his orientation in space.

During the second year of life the toddler enters into the "oppositional" stage: he asserts his autonomy as a separate human being by sizing up his will against that of his caregivers [4]. The progress in motor development facilitates a more effective organisation of the expression of aggression. We assume that the infant experiences rage as intensely as a toddler (perhaps even more so), but his ability to express it is much more limited. A toddler, in contrast, can throw objects, bite, kick, or throw a temper tantrum. The emergence of a more organised discharge of aggressive drive facilitates negativistic or defiant behaviour, which is an important component of "separation-individuation" as Mahler called it [36]. The negativistic behaviour of the toddler is not only a way of distancing himself from the caregiver but also a way of asserting his autonomy and enhancing his self esteem. He can perceive clearly his limitations in comparison to what the adults or older siblings can do. He cannot drive the family car (though he may love to sit on Father's lap and turn the wheel when the car is parked) nor draw like Sister, but he can say "No!" to whatever is suggested. In other words, negativism is a way of coping with narcissistic injuries imposed by reality, and it serves to protect self-esteem.

The acquisition of individuality implies the formation of a self-representation, even a rudimentary one. In preverbal infants one cannot obtain direct evidence of self-representation, but one can deduce its appearance from behaviour. For instance, Stechler [37] observed that infants become capable of organising a goal-directed plan of action during the latter part of the first year of life and the beginning of the second. The infant may delay or modify such a plan of action during its implementation if the circumstances demand it. The observer, nevertheless, gets a clear impression that no matter what bypasses the child must implement, he knows very well what he wants, and he pursues the goal in a stepwise fashion. Stechler suggested that the mental representations of a wish and of a goal-directed, organised plan of action constitute the very beginning of self-awareness, the beginning of meta-cognition. The mental representation of a wish also facilitates the oppositional-defiant behaviour: not only "I don't want", but now: "I don't want even though Mother does."

I have observed that the emergence of language toward the end of the second year seems to facilitate a more favourable resolution of conflicts and to reduce the intensity of the "battle of wills". On one hand, toddlers respond more positively to attempts at persuasion (since it implies respect for the child as an individual), even when they do not quite understand the reasoning, than to forceful imposition of limits. Parents, on the other hand, are more inclined to attempt persuasion of a child who understands language. At the same time, the child's ability to communicate his wishes reduces the number and the intensity of frustrations and leaves room for "negotiating", i.e., allowing some gratification of the unacceptable wish and yet remaining within limits of permissible behaviour. The importance of language can be appreciated when one observes, as I have done, toddlers with slow development of language, especially of expressive language, who are particularly prone to outbursts of rage at that stage.

During the second part of the second year (i.e., age 18 to 24 months) there is a leap in perceptual development: toddlers at that age, like adults, prefer viewing objects in the so-called planar view, that is from the top, side or bottom [38] (rather than viewing them at random as younger

toddlers do), and they recognise and name objects much better than before. At the same time, they begin to engage in "pretend" play; that is, they begin to be capable of symbolic thinking. It seems probable that the advance in perception and recognition prepares them for the task of organising in their minds the family structure: the differentiation between adults and children and between male and female. This step implies the emergence of category recognition. Children aged three to four develop the ability to recognise so-called "natural" categories such as classes of animals [39]. At approximately the same time, i.e., toward the end of the second year of life and the beginning of the third, there is a rapid development of cognitive skills, language, and gross as well as fine motor skills. These are the years of the Oedipal stage, according to the psychoanalytic theory of psychosexual development. The child's relationship with his family members, i.e., parents and siblings, changes drastically. They are no longer perceived as merely gratifying or frustrating. The child now tries to form alliances with one parent against the other, perceiving one parent as the beloved one and the other (more often the one of the same sex) as the competitor. Some such alliances are relatively stable, especially if reinforced by a parent's attitude; more often than not, however, they are opportunistic, i.e., depend on which parent is more responsive to the child's wish of the moment. The child often also identifies in a competitive way with older siblings, especially those of the same sex. The spurt in motor skills facilitates identification and competition: an agile five-year-old, for example, can engage in some activities, such as climbing a ladder, as well or better than his overweight parent. Talented four- or five-year-olds can play music at a concert level. In other words, the rule that "whatever the child does, the grown-up can do better" no longer applies in such an absolute way. This fact constitutes a strong incentive for the competitive identifications typical of the Oedipal stage.

## CONCLUSIONS

In conclusion, I suggest that the development in each of the areas—neural, motor, perceptual, cognitive and social-emotional—is not merely an

unfolding of separate pre-existent developmental sequences, facilitated or inhibited by environment. It is a complex interaction, a matrix, of the various developmental lines. A comprehensive model of human development should integrate all these development lines. Such a model ought to express the complex reciprocal relationships among the various developmental sequences at each stage. Moreover, it ought to present all the developmental sequences and their synchronisation from an ethological perspective, i.e., it should investigate their adaptive and survival values.

Today, such an integrated model of human development seems an unreachable goal, even though more and more clinicians and experimental investigators attempt to formulate their ideas in ways that cross inter-disciplinary boundaries. At the same time, the revolutionary progress of neurobiology holds the promise of an additional dimension of the developmental matrix, shedding light on relationships between brain maturation and the unfolding of behavioural and emotional development. Moreover, one may hope that the study of brain networks will buttress the insights gained from child observation regarding the interdependence of emotional, cognitive and motor development.

## REFERENCES

1. Key E. *The Century of the Child*. New York: G.P.Putnam; 1911.
2. Freud S. *Three Essays on the Theory of Sexuality*. 1905. *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, Vol. VII. London: Hogarth Press; 1953. p. 135–243.
3. Freud S. *Instincts and Their Vicissitudes*. 1915. *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, Vol. XIV. London: Hogarth Press; 1957. p. 117–140.
4. Mahler M, Pine F, Bergman A. *The Psychological Birth of the Human Infant: Symbiosis and Individuation*. 1975. New York: Basic Books; 2000.
5. Stern DN. *The First Relationship: Mother and Infant*. Cambridge, MA: Harvard University Press; 1977.
6. Stern DN. *The Interpersonal World of the Infant: A View from Psychoanalysis and Developmental Psychology*. New York: Basic Books; 2000.
7. Shuttleworth J. *Psychoanalytic theory and infant development*. In: Miller L, Rustin M, Rustin M, Shuttleworth J. eds. *Closely Observed Infants*. London: Duckworth; 1989. p. 22–51.
8. Bowlby J. *Attachment and Loss, Vol. I: Attachment (2nd Edition)*. New York: Basic Books; 1982.
9. Salten F, Cooney B (illustrator), Chambers W (translator). *Bambi: A Life in the Woods*. 1928. New York: Simon and Schuster. 1988.
10. Papousek H, Papousek M. Biological basis of social interactions: Implications of research for an understanding of behavioral deviance. *J. Child Psychol. Psychiatry* 1983; 24(1): 117–129.
11. Koester LS, Papousek H, Papousek M. Patterns of rhythmic stimulation by mothers with three-month-olds: A cross-modal comparison. *Int. J. Behav. Dev.* 1989; 12(2): 143–154.
12. Schore A. The human unconscious: the development of the right brain and its role in emotional life. In: Green V. (ed.) *Emotional Development in Psychoanalysis, Attachment Theory, and Neuroscience: Creating Connections*. New York: Brunner-Routledge; 2003; p. 23–54.
13. McGuffin P, Riley B, Plomin R. Genomics and behavior. Toward behavioral genomics. *Science* 2001; 291(5507): 1232–1249.
14. Brazelton TB. *Neonatal Assessment Scale*. Philadelphia, PA: Lippincott; 1978.
15. Brazelton TB, Nugent, JK. *Neonatal Behavioral Assessment Scale*. Hoboken NJ: John Wiley & Sons; 1995.
16. Prechtl HFR. Qualitative changes of spontaneous movements in fetus and preterm infant are a marker of neurological dysfunction. *Early Hum. Dev.* 1990; 23(3): 151–158.
17. Prechtl HFR, Einspieler C. Is neurological assessment of the fetus possible? *Eur. J. Obstet. Gynecol. Reprod. Biol.* 1997; 75(1): 81–84.
18. Bos AF, Einspieler C, Prechtl HFR. Intrauterine growth retardation, general movements, and neurodevelopmental outcome: a review. *Dev. Med. Child Neurol.* 2001; 43(1): 61–68.
19. Piontelli A. Infant observation from before birth. *Int. J. Psychoanal.* 1987; 68: 453–463.
20. Piontelli A. *From Fetus to Child: An Observational and Psychoanalytic Study*. London and New York: Routledge; 1992.
21. Werner EA, Myers MM, Fifer WP, Cheng B, Fang Y, Allen R, Monk C. Prenatal predictors of infant temperament. *Dev. Psychobiol.* 2007; 49(5): 474–484.
22. Bayley N. *Bayley Scales of Infant Development: Manual*. New York: Psychological Corporation; 1993.
23. Rothbart MK. Measurement of temperament in infancy. *Child Dev.* 1981; 52: 569–578.
24. Gartstein MA, Rothbart MK. Studying infant temperament via the Revised Infant Behavior Questionnaire. *Infant Behav. Dev.* 2003; 26(1): 64–86.

25. Molfese VL, Molfese DL (eds.). *Temperament and Personality Development Across the Life Span*. Mahwah, NJ: Lawrence Erlbaum Associates Inc.; 2000.
26. Carey WB, McDevitt SC. Revision of the Infant Temperament Questionnaire. *Pediatrics* 1978; 61(5): 735–739.
27. Colombo J, Fagen J (eds.). *Individual Differences in Infancy: Reliability, Stability, Prediction*. Hillsdale, NJ: Lawrence Erlbaum & Associates Inc.; 1990.
28. Schuez A. Some facts and hypotheses concerning dendritic spines and learning. In: Brazier MAB, Petsche H (eds.). *Architectonics of the Cerebral Cortex*. New York: Raven; 1978; p. 129–135.
29. Aslin RN, Pisoni DB, Hennessy BL, Perey, AJ. Discrimination of voice onset time in human infants: New findings and implications for the effect of early experience. *Child Dev.* 1981; 52: 1135–1145.
30. Bridger WH. Sensory habituation and discrimination in the human neonate. *Am. J. Psychiatry* 1961; 117: 991–996.
31. Lichtenberg JD. *Psychoanalysis and Infant Research*. Hillsdale, NJ: Routledge; 1983.
32. Aleksandrowicz DR. Mastery, aggression and narcissism: A contribution to psychoanalytic drive theory. *Arch. Psych.* 2009; 2: 13–21
33. Freud S. The Ego and the Id. 1923. *The Standard Edition of the Complete Psychological Works of Sigmund Freud*. London: Hogarth; 1961.
34. Aleksandrowicz MK, Bason I, Aleksandrowicz DR. “Tippukhiya”: A place to nurture mothers in Israel. *Zero to Three* 1997; 17(6): 525–553.
35. Kermoian R, Campos JJ. Locomotor experience: a facilitator of spatial cognitive development. *Child Dev.* 1988; 59(4): 908–917.
36. McDevitt JB. The emergence of hostile aggression and its defensive and adaptive modification during the separation-individuation process, *J. Amer. Psychoan. Ass.* 1983; 318: 273–298.
37. Stechler G. The dawn of awareness. *Psychoanalytic Inquiry* 1982; 1(4): 503–531.
38. Pereira A, Smith LB. Developmental changes in visual object recognition between 18 and 24 months of age. *Dev. Sci.* 2009; 12(1): 67–80.
39. Gelman SA, Markman EM. Categories and induction in young children. *Cognition* 1986; 23(3): 183–209.

# PSYCHOTERAPIA

[PSYCHOTHERAPY]

NR 4 (151) 2009

## CONTENT

**Pawel Glita**

The usefulness of deficit and defect categories during the process of psychotherapy

**Wieslaw Sikorski**

Communication and therapeutic meaning of therapist and patient non-verbal behaviours

**Lidia Popek**

Contemporary tendencies in infants and toddlers psychotherapy

**Malgorzata Talarczyk**

Night fears and child sleep disorders — therapeutic work model with child and parents

**Agnieszka Wzorek**

A family with a child with disorders with the hearing — systemic approach

**Katarzyna Prot**

The study on the distant effects of Holocaust trauma

**Andrzej Cechnicki, Haim Knobler**

Our youth — our future

**Moshe Landau**

Sorrow after loss