

The Mother's Body Image: Attitude to Her Body-Self and Its Relationship with the Foetus Life

Antonella Sansone

Birth Unit, Hospital of St John and St Elisabeth, London, England

Keywords: body-self image, emotional/muscular tension, integration, body language, rhythms coordination, regression, observation method, active birth

Abstract: A longitudinal observational study from pregnancy onwards shows that the mother's emotional/muscular tension affects her body-self perception, posture and body language, the perception of the pre- and postnatal baby and the progress of labour and birth.

The mother-baby relationship is shaped during prenatal life and is exquisitely bodily. The mother's body is the visible metaphor of her feelings about her pregnancy, birth and baby. Her body-self image is seen as a psycho-physiological process, which continuously and harmoniously adjusts to the emotional and physical changes brought by pregnancy and birth.

The womb, as receiver and sender of messages, is for the unborn baby a sonorous environment and a learning ground. The baby's earliest perceptions concern rhythms: mother's heart and breathing activities, digestion sounds, voice, rhythm of her body in motion and at rest and other rhythms which our adult mind is unable to conceive. Their emotional content can be distorted or amplified by the muscular resonance of the mother, an aspect of her body-self image. This rhythms coordination forms the primal dialogue between mother and baby.

The mother's integrated or harmonious body-self image may impinge on the unborn baby's core self-perception. After birth, it will let her love gestures evolve free from excessive tension and display through the way of holding, rocking, feeding and talking to her baby. Therefore, birth is a re-meeting between two individuals who have long been communicating.

Given the extraordinary sensitiveness of the baby to vibrations, I conceive music, and mindful baby massage postnatally as powerful means of enhancing the primal communication. Moreover, they may help mother integrate her body-self image and consequently, promote a harmonious development of the baby's body-self image.

However, the mother is not just a receptor but also a container in that she creatively gives meanings to the baby's signals. Before seeing, the baby has long been seen and to become self-observer he needs to be sensitively and mindfully observed. The womb space

is a creative space, which needs to be filled with the mother's creativity in order for her to be able to contain herself as well as her baby. The regressive state of the pregnant woman seems to be adaptive and enables her to rediscover her primitive language and thus identify with her baby through mirroring.

The surrounding environment of the mother, whether it is supportive or not, affects the perception of her internal space, her body and her baby. Improving the conditions of birth means encouraging the mother-baby dance, a more likely fulfilled individual and thus working for a better society.

It is of utmost importance that research take into consideration the psyche-biological unit during pregnancy, which proves the importance of the relationship from conception. Research has to embody the subjective factors. Therefore, it has to do more listening and observational study on the mother's and father's pre-birth and birth experience. Furthermore, research needs to take place hand by hand with emotional support to allow the mother, and the couple, to feel safe and confident in a natural environment. This is one of the guide principle of "Active Birth", which proves being the optimal approach to pregnancy, birth and childcare, as it allows the woman to express her body-self image in its wholeness and thus to use her natural resources. Evidence shows that when the mother doesn't feel secure and confident, the progress of labour and birth is altered and so are the earliest interactions with her baby.

Zusammenfassung: *Das Körperbild der Mutter: ihre Einstellung zum Körper selbst und zu ihrer Beziehung zum Leben des Kindes vor der Geburt.* Eine Langzeituntersuchung mit Beginn in der Schwangerschaft zeigt, dass die emotional-muskuläre Spannung der Mutter ihre Körper selbst-Wahrnehmung, Erhaltung und ihre Körpersprache die Wahrnehmung des Kindes vor und nach der Geburt und das Erleben der Wehen und der Geburt beeinflussen.

Die Mutter-Kind-Beziehung formt sich während des vorgeburtlichen Lebens und ist exzessiv körperlich. Der Körper der Mutter ist die sichtbare Metapher ihrer Gefühle in Bezug auf ihre Schwangerschaft, die Geburt und ihr Kind. Ihr Bild von ihrem Körper selbst wird als ein psychophysiologischer Prozess gesehen, der sich kontinuierlich an die affektiven und leiblichen Veränderungen während der Schwangerschaft und Geburt anpasst und diese balanciert.

Der Mutterleib als Empfänger und Sender von Botschaften ist für das ungeborene Kind eine klangvolle Umgebung und ein Lern- und Erfahrungsgrund. Die ersten Wahrnehmungen des Kindes vor der Geburt betreffen Rhythmen: Mutters Herz- und Atemrhythmen, Verdauungsgeräusche, Stimme, der Rhythmus ihres Körpers bei Bewegung und in Ruhe und andere Rhythmen, die wir als Erwachsene gar nicht wahrnehmen. Der emotionale Gehalt dieser Rhythmen kann durch die muskuläre Resonanz der Mutter als eines Aspektes ihres Körper selbst verzerrt oder vertieft werden.

Diese Koordination der Rhythmen bildet den primären Dialog zwischen Mutter und Kind. Das integrierte oder harmonische Körper selbstbild der Mutter beeinflusst den Kern der Selbstwahrnehmung des Babys. Nach der Geburt kann sich ihre Zuwendung frei von Spannung in der Art, wie sie das Kind hält, wiegt, füttert und zu ihm spricht ausdrücken. Deshalb ist die Geburt eine Wiederbegegnung zwischen zwei Individuen, die seit langem miteinander kommuniziert haben. Während der besonderen Sensitivität des Babys für Vibrationen betrachte ich Musik und einfühlsame Babymassage nach der Geburt als bedeutsame Mittel, den primären Beziehungsprozess zu fördern. Darüber hinaus kann dies die Mutter dabei unterstützen, ihr Körper selbstbild zu integrieren und damit eine harmonische Entwicklung des Körper selbstbildes des Kindes zu unterstützen.

Doch ist die Mutter nicht nur Empfänger, sondern ebenso ein Container in dem Sinne, dass sie den Signalen des Babys kreative Bedeutung gibt. Bevor das Baby sieht, muss es selbst gesehen werden und seine Fähigkeit zur Selbstbeobachtung entwickeln. Um dies zu erreichen, muss es sich selbst sensibel und einfühlsam beobachtet fühlen. Der Mutterleibs-

raum ist ein kreativer Raum, der mit der Kreativität der Mutter belebt werden muss, damit sie ein Gefühl für sich selbst und für ihr Baby entwickeln kann. Der regressive Zustand während der Schwangerschaft unterstützt die Mutter dabei, ihre urtümliche Sprachebene wieder zu entdecken und auf diese Weise sich mit ihrem Baby zu identifizieren und es zu spiegeln.

Ob die Umgebung der Mutter unterstützend oder nicht unterstützend ist, das beeinflusst die Wahrnehmung ihres inneren Raumes, ihres Körpers und ihres Babys. Die Rahmenbedingungen der Geburt zu verbessern bedeutet, die Mutter zu dem Mutter-Baby-Tanz und einer vollständigeren Individualität zu ermutigen. Dies bedeutet, auf eine bessere Gesellschaft hin zu arbeiten. Es ist von äußerster Wichtigkeit, dass die psychobiologische Einheit während der Schwangerschaft erforscht wird, was die Wahrnehmung der Wichtigkeit der Beziehung von Konzeption an fördern würde. Forschung muss dabei die subjektiven Faktoren einbeziehen. Das Erleben von Schwangerschaft und Geburt durch die Mutter und durch den Vater muss durch einfühlsame Beobachtungen intensiver untersucht werden. Parallel zu dieser Forschung muss die emotionale Unterstützung gehen, die es der Mutter und dem Elternpaar erlaubt, sich sicher und vertrauensvoll in einer natürlichen Umgebung zu fühlen. Dies ist eines der leitenden Prinzipien der „aktiven Geburt“, die sich als der optimale Umgang mit Schwangerschaft, Geburt und Versorgung des Kindes erweist, da sie der Frau erlaubt, ihr Körper selbstbild in seiner Ganzheit zum Ausdruck zu bringen und auf diese Weise ihre natürlichen Ressourcen zu nutzen. Es ist unmittelbar evident, dass der Verlauf der Wehen und der Geburt und der ersten Aktionen zwischen Mutter und Kind verändert und gestört sind, wenn die Mutter sich nicht sicher und vertraut fühlen kann.

*

A one and a half year longitudinal observational study from pregnancy onwards shows that the emotional/muscular tension of the mother affects her body-self perception, posture and body language, the perception of her baby and the progress of labour and birth. Her body-self image thus moulds the pre- and postnatal bonding and the baby development.

The mother-baby relationship is shaped during prenatal life and is exquisitely bodily. The mother's body is the visible metaphor of her feelings about pregnancy, birth and her baby. The body-self image is seen as a psycho-physiological (integrated) process which continuously adjusts to the emotional and physical changes brought by pregnancy and birth. The way a woman perceives her body-self image seems to impinge on the way the baby is fed, nurtured and loved.

The womb, as receiver and sender of messages, is for the unborn baby a sonorous environment and a learning ground. The baby earliest perceptions concern rhythms: mother's heart and breathing activities, digestion sounds, voice, rhythm of her body in motion and at rest and other rhythms which our adult mind is unable to conceive. Their emotional content can be distorted or amplified by the muscular resonance of the mother, an aspect of her attitude to her body-self. This rhythms coordination forms the primal dialogue between mother and baby, in which the mother's getting in touch with her rhythms play a fundamental role.

The sense of touch has been detected in human embryos less than eight weeks old. Though the baby has no eyes or ears, her skin sensitivity is already highly developed. Infants are accustomed to the tactile stimulation of constant movement

and they need to re-establish those rhythms after birth. In two recent studies, mothers in one group were asked to carry their infants each day in a soft front pack, in addition to carrying during feeding or crying. These infants were compared with infants normally held and carried; at six weeks the infants who received the extra touching and movement cried half as much as others.

From the moment the mother first perceives the foetus' responses to sound at around six months gestation, the baby has been listening to and felt the mother's voice and movements. The newborn's body moves in rhythm with the speech patterns, which means that he has long imprinted her vibrations. In fact, it is the tone of her voice that is most important not the quality of the words she projects. From the fifth month the foetus is ready to hear, learn and memorise. These capacities are signs of an autonomous identity. The prenatal baby is able to "memorise" a tune and recognise it creatively. Sounds recorded in the water can have healing or soothing effects on the newborn by providing an experience of continuity with the womb life. In a study is discussed the rehabilitation of a contrary baby (a baby whose mother had been sick during pregnancy) that was accomplished by recreating the uterine experience after birth when the mother was in good health. Research found foetuses exhibited changes in their movements when played a tune heard previously during pregnancy. This was not the result of postnatal or genetic factors and was specific to the tune learned. Foetuses increased their movements on hearing the tune; newborns decreased their movements. Some observations of mine are consistent with these findings.

Three Examples of the Psycho-biological Unit of Mother and Baby

1. The Triangular Communication

At seven months pregnancy, Deborah suddenly felt her baby move and kick as her husband returns home and greets her after having been away for a few days. My remark is that the baby has sensed the vibrations of the father's voice and recognised them. Furthermore, he may have felt the mother's emotional or subjective response to his arrival – through her breathing change, abdomen tightening and other micro-movements – and thus responded to the combination of them in a triangular relationship.

2. A Tune Start in Life – Music as a Method to Infer about the Mother-Foetus Rhythms Coordination

When I enter the hospital room to listen to Clare's birth story she is playing a piece of Balinese music, the same she played during pregnancy and labour. I notice her baby stop breastfeeding and start crying. I think he may have been disturbed by my voice or by the door opening. Then he stops crying. As the mother begins talking, the baby starts crying again. When she stops, he calms down. The sequence goes on and on for a while. During the gap, he reduces the range and frequency of his movements and looks around as if he was searching for the source of music, which he really appears to enjoy. The tiny movements of his head appear attuned to the melody. Clare goes on telling her birth experience quite loudly and instantly her baby begins to whimper. I observe that he is clearly telling her that he wants

to enjoy his familiar music. Then I walk closer to the baby and talk to him in a low-pitched voice, which proves attuning to the music as he goes on with his tiny movements in rhythm with the tune learned.

3. Pre-speech Conversation – Mother-Infant Vocal Rhythm Coordination

Patricia smiles at her three months old baby, who has been staring at her for a while. He smiles back and giggles. Then she speaks in a baby tone and he emits a flow of sounds and really sounds like telling her something. This gives me a first hand witnessing of the process of mirroring. Also, I reflect upon the difference between the vocalisations he made to me earlier on in the same observation – single vocalisations, and the ones he did to his mother – a more intended flow of sounds, a sort of melody with alternating pitches and pauses. This shows the infant's early ability to discriminate between her mother's voice and other's, which means that she is able to memorise the mother's voice prenatally.

If the mother's rhythms and sounds are recorded in the baby's muscles and mind, we can assume that they affect the mother-infant vocal rhythm co-ordination and prepare for the verbal language later on. Research found that the foetus' ability to discriminate between two low-pitched piano notes (testing the cardiac deceleration) may play an important role in the earliest developmental stages of speech perception. I hold that this ability may be shaped by the rhythms of the mother and her surrounding environment very early on in prenatal life.

It is becoming clear that rhythm is a fundamental organising element of social communication. Breathing, vocal muscles and posture are involved in the vocal emission and are channels of emotions. They are all aspects of the way the mother modulates her emotional/muscular tension thus perceives her body-self image.

Eye-contact, touch and vocalisation, important elements that help form the bond between parent and infant, are an extension of the prenatal bonding. They have the power to release tension and reassure the baby. The baby develops confident about her body-self. Eye-contact may be a powerful cue to the infant's physiological system; the message received by the brain allows it to shut down the production of stress hormones initiated during childbirth. This is that the infant has long been seen prenatally before seeing. There is a multitude of elements that help form the bonding between parent and infant: eye-contact, skin-contact, the parent's voice and baby's response to it, odour, rhythms of communication and care-giving, the activation of maternal hormones by contact with the baby, temperature regulation and so on. The infant olfactory system is ready to function as early as seven weeks gestation, so it must be an important function for the newborn and helps her discriminate her mother's chemical "signature". Unfortunately, we often assault the infant's senses with artificial smells and thus inhibit this means of bonding.

I assume, on the base of accurate observations and listening, that these primal means of communication unfold in relation to the mother's way of organising her tensions and breathing – her body-self image, which moulds her loving gestures and body language. Therefore, the mother's fluctuating body image may impinge on the unborn baby's core self-perception. After birth, it will let her body language evolve free from excessive tensions and display through the way of holding,

rocking, feeding, looking at and talking to her baby. It is like tuning a piano. The mother's integrated body image allows her body language – voice, posture, breathing and facial expressions – reflection of her emotional states, to play the right tunes. Birth is thus a re-meeting between two or three individuals who have long been communicating. The father's voice and touch of the woman's abdomen and the emotional content of such gestures contribute to organise the baby core body-self image.

Given this extraordinary sensitiveness of the baby to vibrations and rhythms, I conceive music, water, and baby massage after birth, as powerful means of enhancing primal communication. They have something in common with pregnancy. They all involve the primitive brain and induce regressive processes which cherish the primal language. In pregnancy the body changes its physiology, hormones and its volume to become container of a new life. In all experiences there is a renewed body-self-representation. In pregnancy there is an ambivalent perception of the internal and external space: the belly expands outwards and at the same time inwards. The baby is felt as an object to retain and also as an autonomous individual, especially when her movements starts to be perceived. This involves a quite intense work to adjust the body image to the internal and external space. This is that the mother's integrated body image is important to accommodate to the new event. The sensory-motor stimulation induced by sounds, by the contact with the water or the skin contact with the baby during massage can boost an enjoyable feeling about the mother's body-self image, a more harmonious experience of pregnancy and an increasing acceptance of the changes brought by pregnancy or parenthood. This health state shapes the infant development.

However, the mother is not just a receptor but also a container in that she gives meanings to the baby's signals. Before seeing, the baby has long been seen and to become self-observer she needs to be felt and observed. The womb space is a creative space, which needs to be filled with the mother's creativity in order for her to be able to contain herself as well as her baby. The regressive state of the pregnant woman seems to be adaptive and enables her to re-discover her primal language, identify with her baby through mirroring and therefore understand his cues and establish a rhythmic dialogue.

The surrounding environment of the mother, whether it is supportive or not, effects the perception of her internal space, her body and her baby. So that, improving the conditions of birth means encouraging the mother-baby dance, a more likely fulfilled individual and thus working for a better society. This is one of the guide principle of 'Active Birth' and 'Water Birth', which proves being the optimal approach to pregnancy, birth and childcare, allowing the woman to express her body-self image in its wholeness and thus use her natural resources. In active birth the woman feels free to move, express her labour dance and discover her comfortable birthing position – squatting, standing, kneeling or lying down. Evidence shows that when the mother doesn't feel secure and confidence the progress of labour and birth is altered and so are the earliest interactions with her baby. The support from the father plays a crucial role in the mother's emotional balance and consequently in the baby healthy development. Birth institutions, as well as research, should acknowledge his space in pregnancy, birth and childcare and the right to express his choices.

Pre- and postnatal support groups, as part of an Active Birth programme, represent an important transitional area for both mother/father and infant. The sharing experience with other parents frees from isolation and boosts self-confidence. The group acts as a container of anxieties about parenting due to its mirroring power. In particular, the baby massage class creates a playful and rehearsal time that allows parent and baby to tune to each other and organise a rhythmic communication.

Methodology in Research

It is of utmost importance that any kind of methodology in research take into consideration the exquisite psyche-biological unit of mother and baby and their relationship, and respect their invaluable uniqueness. Research needs to embody the subjective factors. Therefore, it has to do more listening and observational study on the mother's and the father's pre-birth and birth experiences.

Music and baby massage can provide natural observational settings to infer about foetus' life. Research has examined the effects of the prenatal stimulation method on psychomotor development by means of musical stimuli. Baby massage in particular offered me an interesting ground to observe the delicate interplay between the baby's sensory motor system and the mother's tensions and way of modulating her touch and facial expressions. This allowed me to assume about the newborn baby's extraordinary capacity to respond to the mother's body language, which appears to be already formed at birth.

Furthermore, research needs to take place hand by hand with a non-intrusive emotional support, which makes the mother and the couple feel safe and confident in a natural environment.

The Observation Method

Although the method of observation is not organised by protocols, measures, or codified reporting conventions, it is nevertheless fairly consistent in its approach. Observations take place in a natural setting, either group or family, on a regular weekly basis and for a period of six to one/two years. These observations generate written reports, narrative untheorised description of what was observed to happen during the observation. For instance, while listening to the mother or father's birth story I reported their own words and described their body languages. The features of observations make it possible for a mother-infant observer to identify significant variations in what he or she observes, and to reflect upon the correlations and implications of such variances. The observation method requires a "web thinking" instead of linear. In clinical work this mental frame helps therapist mould the treatment to the individual unique needs, rather than locking him into a theorised technique. Observers do not judge or clinically intervene. However, their neutral presence serves to maintain a setting natural and gain first hand witnessing of the mother-baby interactions, which is important source of data to study the prenatal life. The mother banishes any resistance, as she does not feel judged. My observations show that the role of a group observer can be even therapeutic due to her listening to and containing the parent's feelings. It also gives meanings to the parenthood experience and can act as an important mediator between research

- Indicators of the relationship between the baby's development and the mother's emotional state and body language
- Baby massage class Undressing and placing the baby on the floor as something fragile
 Insecure touch – use of fingertips instead of whole hand
 Looking at other mothers uneasily rather than focusing on herself and her baby
 Lack of eye-contact and talking or vocalising with her baby
 Same chest-shoulders-neck feature observed prenatally
 Rigid arms and hands
 Fragmented movements
5. Two months later *Mother* displays more secure gestures and firm touch while breastfeeding and massaging her baby
 More frequent eye-contact and tactile and verbal interactions
 Smiling with a face-to-face contact with him
 Indicators of increased confidence in mothering and more harmonious body-self image
Baby appears more responsive and active
 Increases his movements on being massaged and talked to increasing bobbling and smiling
 Weight-gain
 Indicators of improving health condition and its relationship with the mother's self-confidence, body-self image and overall well-being
6. Identifying significant variations in what I observed and reflecting upon the correlations and implications of such variances-formulating hypothesis for research.
7. Implications for parent-infant psychotherapeutic work addressed to rhythmic interactions and communication. Use of music, water and baby massage through what I conventionally named "The Bow Method": rhythm, pace, tune and play are fundamental principle of primal interactions and thus social communication. As the musician needs to tune his instrument to produce the right notes, so the mother needs to play her own body-self and body language to tune it to the pre- and postnatal baby. To do so, her body image has to be integrated and fluctuating to adjust continuously as pregnancy and labour progress and her infant's needs change.

Case 2

Prenatal: I observe Jane in prenatal yoga classes for about 4 months. Her posture appears rigid, her shoulders closed and stiff without showing the tiniest movement when the teacher suggests the women breath deeply. Her neck is pulled down into her shoulders. Her eyes move around and don't look like focusing on her inner self. Her facial muscles look equally tense. Her insisting questioning about labour is accompanied by an evident fear expression.

Labour 2 hours. Midwives say she was extremely anxious. Anxiety can effect the progress of labour in two opposite directions: either lengthening or shortening it.

Postnatal: She feels unbearable pain inside her breast while breastfeeding. She looks very tense while talking about her breastfeeding experience and the way of holding her baby is very insecure. Baby is very tiny.

Two months later: Attending a weekly baby massage class.

Reduced tension in mother's shoulders. New facial expressions blossom on her face and a feeling of well being gradually starts shining in her complexion and smile. More confident touch in massaging the baby. Baby is evidently gaining weight.

- Effects of prolonged emotional/muscular tension (especially in her shoulders and chest) during pregnancy on the functioning of the breast muscle and sucking rhythm coordination, and consequently on the baby's growth. Correlation with two other cases in which an emotional conflict and psyche-soma disturbance have been identified at the basis of mastitis.
- The special contact between mother and baby during massage helps mother relieve tension and gain in self-confidence, and thus boosts a more positive attitude to her body-self and to her baby. The case also reveals the power of group and shared experience with other mothers as containment and mirror.

Baby Massage

While studying and working on the Birth Unit I made a discovery that was to substantially redirect my life. I became aware of the importance of the traditional Indian baby massage, both for its soothing effect and for its role in non-verbal communication. An Indian mother sits with her baby across her knees, lovingly massaging him and singing. She has so little, yet she offers her baby this beautiful gift of love and security, a gift that would help make him a compassionate human being.

By observing baby massage classes I witnessed the close relationship between the mother's body language and the baby's. As regulator of rhythms between mother and baby, massage can be seen as a vital part of the bonding process and can act as an extension of the prenatal environment and bonding. Mother begins the baby's massage long before she is born.

Rhythm is at the basis of social communication. During massage mother and baby are organising and co-ordinating five aspects of communication – sight, touch, smell, hearing and taste – through a sixth powerful channel of communication which is movement or rhythm. The baby is re-introduced to a familiar world of vibrations and rhythms. There is an increasing amount of evidence that premature babies or babies with special needs benefit from this experience of continuation more than other babies and parents gain confidence in handling with them. The preemie's first contact with human touch brings pain: needles, probes, tubes, rough handling, bright lights – all sudden after the warm protection of the womb.

Baby massage offered me an interesting setting to observe the delicate interplay between the baby development on all levels, and the mother's tensions and way of modulating her touch and voice. This allowed me to assess infant's extraordinary

responsiveness to the body language, already formed at birth, which seems to be the result of prenatal rhythm learning.

Watching the rapid improvement in growth and development of low-weight and unresponsive babies to parents' regular stroke and voice helps us acknowledge the physical and psychological healing effects of maintaining prenatal cues of communication.

Very often, parenting brings tensions and fears. When a baby arrives into the world before she is expected or with some ailments, such as colic or chest infections, parents are thrust into cycles of grief: shock, denial, guilt, anger, depression and fear. These feelings, especially depression, often create distance between parents and their baby and the baby may be ignored as an emotional, feeling human being while adults around her focus on medical treatment. By massaging parents truly listen to their infant's feelings and needs. The baby is taking in this message in her whole body and forming her feelings about herself and her body.

Massage fosters earlier development of visual attentiveness, indicating that the sensory system interlocks; the stimulation of touch does encourage visual exploration and at the same time self-perception and knowledge. This early ability of the infant to co-ordinate his sensory systems with the mother's touch and voice proves that she has long recorded prenatal rhythms. Massage thus can help babies form integrated body-self image. If the mother's touch, voice, posture and body language in general are aspects of her attitude to her body-self, then the infant's body image is moulded by the mother's. By touching each part of the baby's body mother helps him integrate it with the rest of the body, thus perceive it as belonging to a whole system.

Talking to the baby about relaxing his feet as mother touches, fosters a secure feeling about his body and self. This also helps parents become aware of their infants body language and recognise his feelings by cues or signals and modulate their tensions while interacting with him. A parent who is attuned to the look and feel of her baby will often be able to understand his cry, detect ailment or disease in the early stages and when he is tense or at ease. This favours a true access to the baby's own needs and emotional life and thus an effective communication. Mothers who have meaningful skin contact during pregnancy and labour tend to have easier labour and are more responsive to their infants.

A daily massage connects parents and baby in a way which is unmatched by any other type of interaction. The touch during massage can be conceived as having the same effects as the infant's sucking and licking on the mother. I observed women with breastfeeding problems improving within a few weeks of baby massage sessions. It is possible that the special closeness, skin contact and massage movements increase the maternal prolactin levels, as likely as licking and sucking, instilling a sense of well-being in both mother and baby. This would be a further proof of the psycho-physiological rapport between mother and baby which is formed prenatally and their refined communication through touch and cues.

We can assume that baby massage improves breastfeeding and enhances pleasure and motivation to mothering, thus cherishing a constructive bonding. Interestingly, I've almost always seen mothers breastfeeding in baby massage classes. Prolactin is a love hormone: it seems to activate the close attachment between mother and baby. Either way, it can be increased by loving touch. I wish that

this, and other observations, could be also proved by research. Nevertheless, the observational follow-ups are essential steps to building up new hypothesis.

Acknowledgements. I thank Vezio Ruggieri, professor of Psycho-Physiology at the department of Psychology, University of Rome 'La Sapienza', for his invaluable Psycho-Psychological Integrated Model of Body Image. Thanks to Yehudi Gordon, pioneer of water birth in U.K., and the Birth Unit of St John and St Elisabeth Hospital of London for providing, with their pre- and postnatal classes, unique observational settings. A special thank to Janet Balaskas, founder of the Active Birth Movement. Her prenatal yoga classes helped me see important links between a woman's postural/emotional features and kind of birth. The Tavistock Clinic of London is also acknowledged especially for its Infant Observation Seminar as a fundamental part of the MA in Psycho-Analytic Observational Studies. Many thanks to the I Institute of Obstetrics and Gynecology 'La Sapienza', University of Rome, for giving me the opportunity to be present in this fascinating meeting. I am grateful to Peter Walker, pioneer of Baby Massage in U.K, because while observing his classes I made a discovery that was to substantially redirect to my life.

References

- Bick E (1968) The experience of the skin in early object-relations. *International Journal of Psycho-Analysis* 49
- Bernhardt J (1987) Sensory capabilities of the foetus. *Maternal Child Nursing* 12
- Condon W, Sander L (1974) Neonate movement is synchronised with adult speech: Interactional participation and language acquisition. *Science* 183
- DeCasper A et al. (1980) Of human bonding: newborns prefers their mothers' voices. *Science* 208
- Fisher S (1986) Development and structure of body image, vol. 1. Erlbaum, London
- Field T et al. (1986) Tactile/Kinesthetic stimulation effects on preterm neonates. *Pediatrics* 77
- Halliday MAK (1979) One child protolanguage. In: Bullowa M (ed.) *Before speech. The beginning of interpersonal communication.* Cambridge University Press, Cambridge
- Hepper PG (1991) An examination of foetal learning before and after birth. *Irish Journal of Psychology* 12
- Klaus MHH et al. (1996) *Bonding. Building the foundations of secure attachment and independence.* Cedar Press, London
- Kisilevsky BS, Muir DW (1981) Human fetal and subsequent newborn responses to sound and vibrations. *Infant Behaviour and Development* 14
- Lamb ME (1997) The development of father-infant relationships. In: Lamb ME (ed.) *The role of the father in child development.* Wiley, New York (3rd edn.)
- Liley A (1972) The foetus as a personality. *Australian and New Zealand Journal of Psychiatry* 6
- Lecanuet JP et al. (2000) Foetal discrimination of low-pitched musical notes. *Developmental Psychobiology* 36(1)
- Lafuente MJ et al. (1997) Effects of the firststart method of pre-natal stimulation on psychomotor development: the first six months. *Pre- & Peri-Natal Psychology Journal* 11(3)
- Meltzer D (1986) Further considerations of the function of the skin in early object-relations. *British Journal of Psychotherapy* (Discussion by Donald Meltzer, pp. 300–301)
- McKenna JJ (1990) Evolution and Sudden Infant Death Syndrome. *Human Nature* 1
- Murray L, Stein A (1991) The effects of postnatal depression on mother-infant relations and infant development. In: Woodhead M et al. (eds.) *Becoming a person. A reader.* Routledge, London

- Mehrabian A (1972) *Non verbal communication*. Aldine-Atherton, New York
- Oakley A (1982) *Obstetric Practice – cross-cultural comparisons*. In: Stratton P (ed.) *Psychobiology of the human newborn*. Wiley, Chichester
- Olds C (1986) A sound start in life. *Pre- & Peri-Natal Psychology Journal* 1(1)
- Olds C (1985) The fetus as a person. *Birth Psychology Bulletin* 6(2)
- Oakley A (1985) *The captured womb. History of the medical care of pregnant women. Getting to know the foetus*. Blackwell, Oxford
- Piontelli A (1992) *From foetus to child. An observational and psycho-analytic study*. Tavistock/Routledge, London
- Piontelli A (1987) *Infant Observation from before birth*. *International Journal of Psycho-Analysis* 68
- Righetti PL (1996) The emotional experience of the fetus: preliminary report, *Atti del "Six World Congress of WAIM"*, Tampere – Finlandia, 25–26 luglio
- Ruggieri V, Sera G (1996) Bodily perception in the organisation of postural attitude and movement. *Perceptual and Motor Skills* 82
- Ruggieri V, Frondaroli C (1989) Styles of interpersonal contact and some prosodic features. *Perceptual and Motor Skills* 68
- Speirer J (1982) *Infant massage for developmentally delayed babies*. United Cerebral Palsy Center, Denver, Colorado
- Schneider VM (1989) *Infant Massage. A handbook for loving parents*. Bantam Books, New York
- Valman HB, Pearson JF (1980) What the foetus feels. *British Medical Journal* 280
- Verney T, Kelly J (1981) *The secret life of the unborn child*. Dell, New York
- Winnicott DW (1972) Ego integration in child development. In: *Maturational processes and the facilitating environment*. Hogarth Press, London