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6 Early development

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My interest in a closer examination of early development has been inspired by my experience of the frequent presence of the patient's non-verbal procedures in the consulting room. Both neurotic and more severely disturbed patients enact such patterns that seem to be more or less articulated. Sometimes they have the structure of a reciprocal role procedure which invite me to play the complementary role. In some cases the pattern is much less clear, creating either a strong feeling in me or sometimes only a somatic sensation.

In object relations theory these phenomena have been described in terms of countertransference and projective identification. While clinically useful, both concepts seem to be limited by their attempt to account for intersubjective processes without articulating how they are mediated; i.e. what happens 'in between'. Countertransference refers to processes that take place in the therapist. Projective identification presupposes the concepts of projector and recipient and describes their interchange that seems to dissolve the separateness of the two subjects. Yet it does not clearly spell out the process that mediates such a merger. If we accept the common opinion of the primitive nature of projective identification, then by studying very early development we might elucidate its peculiarities (Leiman, 1994a).

Another line of interest in very early development has been stimulated by my long-lasting enthusiasm for Vygotsky's theory of sign-mediated activity (Leiman, 1994b). His remarks concerning the problems in defining the object of psychological research are, even nearly seventy years after their publication, still very relevant.

Vygotsky claimed that psychology had run into a methodological crisis mainly for two reasons. First, it had been unable to define its object of study so that the complexity of our mental activities, and especially their deeply developmental nature, could be properly addressed. Secondly, psychology's persisting tendency to adopt explanatory principles from alien disciplines, such as electrodynamics, biology or neurophysiology, produced very restricted models of psychological phenomena that led to an increasing fragmentation in psychology (Zinchenko, 1985).

Vygotsky asserted that no study of the human mind can bypass the issue of meaning and proposed *sign meaning* as the fundamental unit for the analysis of psychological processes. All human beings are born in a historically formed world. The experience of previous generations is stored in the tools by which we transform nature to meet our needs and in sign systems that carry both our practical and our social experiences in a symbolic form.

The ability to use socially created signs in communication and in the regulation of our mental processes is the fundamental feature of the human mind. When we tie a knot in a handkerchief we create a sign for the thing we want to remember. When we speak we make use of the immense store of verbal signs with a rich history of joint social usage.

An important feature of signs is their ability to contain meaning. However, by examining the outer appearance of the sign we cannot see its content directly. Sign meanings are created by the activities into which the sign is brought as a mediator. These activities become internalised in the sign. The knot in the handkerchief remains a knot for an observer who does not know that it was made to remind the person that he should make a phone call next morning.

Vygotsky was convinced that by approaching mental phenomena as sign-mediated activities we shall retain the specific quality of the human mind. We can be faithful to the specific approach of our discipline and shall not obscure psychological analysis by using alien explanatory principles.

If we take Vygotsky's plea seriously, we should approach mental phenomena by ways that retain their social and interpersonal origins. We should never lose sight of meaning that permeates every form of mental activity. We should also regard man's relation to the world as a mediated relationship. We do not have a direct access to the 'reality out there'. We encounter the world with our tools and signs that, inevitably, channel our relationships to it.

In this chapter I apply the notion of sign mediation to some aspects of early development. I begin by presenting a few critical remarks on the currently popular use of attachment theory as the explanatory principle in the studying of very early development. I then discuss two phenomena, namely cross-modal

perception and attunement, as they are presented by Daniel Stern (1985) in his seminal work *The Interpersonal World of the Infant*. I first introduce his interpretation regarding the nature of the phenomenon and then provide a restatement in the light of the theory of sign-mediated activity.

Attachment theory as an alien explanatory principle

Attachment theory, originally summarised by Bowlby (1969, 1988), has stimulated much empirical work on early development and is becoming increasingly popular in our attempts to understand the infant's way of being in the world.

I have some methodological misgivings concerning the use of attachment theory as an explanatory framework for the dynamics of early development. I do not object to attachment as a phenomenon. I do believe that the biosphere, humankind included, is based on the principle of unidexness and interdependence. We are in need of one another in a much deeper sense than as objects of our drives or as relievers of our basic needs. In this sense attachment is indeed ingrained to the fabric of our corporeal life. As a psychologist, my doubts are directed against the importing of both concepts and explanatory models from biology in order to account for attachment.

Bowlby was very explicit on this issue. He wrote:

The key concept is that of a behavioural system. This is conceived on the analogy of a physiological system organised homeostatically to ensure that a certain physiological measure, such as body temperature or blood pressure, is held between appropriate limits. In proposing the concept of a behavioural system to account for the way a child or older person maintains his relation to his attachment figure between certain limits of distance or accessibility, no more is done than to use these well-understood principles to account for a different form of homeostasis. (1988, p. 29)

The principle of homeostasis and the concept of behavioural system restrict our view of activity so that it begins to appear as a self-regulating movement within permissible upper and lower limits. It also ignores the role of signs as the fundamental mediators in any activity.

As a scientific concept, behaviour had its heyday as the main descriptive unit of psychological analysis about five decades ago. Its inadequacy to account for the complexity of human activity gradually led to its abandonment. Now it seems to have been resurrected, with some cybernetic overtones, essentially with the same content with which James Watson embodied it at the beginning of this century.

An illustration of the effects of employing biological explanatory principles

in the psychological analysis of early development is Bowlby's (1969) account of the developmental timetable for attachment. He concluded that attachment becomes fully developed around the first year and that the 'behavioural systems continue to be very readily activated' until about the third birthday of the child.

Winnicott's (1974) theory of transitional phenomena suggests that attachment can be recognised much earlier and that it is mediated by symbolic means. For a baby of five or six months, transitional objects begin to act as powerful signs of the mother's presence. Human beings create and maintain modes of attachment primarily by using signs, and transitional objects are one of its first clear manifestations. While acknowledging the phenomenon, Bowlby regarded the symbolic role of these objects as a superfluous construction. He suggested:

A much more parsimonious way of looking at the role of these inanimate objects is to regard them simply as objects towards which certain components of attachment behaviour come to be directed or redirected because the 'natural' object is unavailable. (1969, p. 312)

Because the concept of behavioural system does not include mediational processes that employ the use of socially created signs, such processes appear, for the behaviourist, as epiphenomenal. Symbolic mediation is rejected as an unnecessary complication.

An impoverished account of the structure of activity tends to support another line of reductionist thinking in attachment theory. It is the frequent referring to the innate, biological roots of attachment. Such a line of thinking is very apparent in the current popular research into the biological basis of attachment patterns (de Zulueta, 1993; Spangler and Grossman, 1993).

Ainsworth presented a typology of three main attachment patterns (Ainsworth and Witing, 1969) that was based on her observations of infants from middle-class American homes after two brief separations from the mother. She called this the 'Strange Situation' assessment. This typology is based on clusters of behavioural responses that the infants tended to emit after reunion with the mother.

In the early studies, approximately two-thirds of the infants presented cues that were categorised as 'secure attachment'. Two main types of 'insecure attachment' were also derived. One-fifth of the infants displayed patterns that were termed 'avoidant'. These infants appeared indifferent to mother's departure and reappearance. Gaze aversion and other similar cues were used to classify infants into this group. About 12% of the sample were classified as 'anxiously attached'. When reunited the infants tended to show a lot of angry ambivalence, both wanting to be close and, at the same time, resisting the mother's efforts to soothe (de Zulueta, 1993).

Main and Solomon (1990) added a category of insecure attachment pattern that they termed 'disorganised'. This seems to be a surplus class for seemingly confused babies that did not show clear signs to be classified under the other headings.

The attempt to understand the biological basis of these behaviourally established categories has led to a number of studies that try to correlate various physiological, neurological, or endocrinological measurements with the main types of attachment patterns. Statistically significant correlations have indeed been established and, as de Zulueta (1993) notes in her excellent summary of current attachment research, 'attachment . . . is now known to have a biological substrate which is affected by experience at a biochemical and physiological level' (p. 44).

The problem with such correlative efforts lies in the typological approach to activity. The soundness of the current classification of attachment patterns can be, and has recently been, questioned. In their meta-analysis of 32 studies from eight different countries that used Ainsworth's main categories, van Ijzendoorn and Kroonenberg (1988) found the occurrence of the patterns varied greatly. Intracultural variance was 1.5 times as large as the variance across different countries. The originally established distribution of the three types can scarcely be applied to any other sample than to mother-infant couples from middle-class American homes. This raises at least two issues. Firstly, there must be an enormous variation of attachment patterns across different social groups and local communities, if the categories are reliably established. Secondly, the process of classification, using greatly varying behavioural cues to generate highly abstract type descriptions, may be beset with flaws.

As if sensing the imminent fragmentation of the categorising system, Spangler and Grossman (1993) voiced their concern about the variability of attachment patterns and suggested that their existence can best be supported by establishing biological indicators that will discriminate the categories. To their satisfaction, there are endocrinological variables that seem to distinguish the securely attached type from the insecure attachment patterns in the Strange Situation experiment.

It is too early to make any final judgement about the biological validity of behavioural classifications in the attachment research. However, this approach is methodologically virtually identical with the individual differences tradition in the psychology of intelligence and personality types. Both represented an attempt to understand human activity in terms of trait classifications. Both showed a developmental path of ever-increasing descriptive categories. Both finally collapsed in the 1960s under the pressure of the necessity of adding finer

and finer discriminations and due to the fact that virtually any physiological, psychological, or even social variable showed some correlation with the behavioural trait descriptions.

For example, the simple two-factor model of intelligence, presented by Spearman at the beginning of this century (1904), ended up as a factorial model with 120 ability categories (Guilford, 1967). Every presentation of a new classification was followed by a heated debate on the relative importance of hereditary endowment versus environmental influence. Our physiological and biochemical measurement instruments are, of course, much more sophisticated today than four decades ago. However, the methodological logic of attachment research is based on the assumption that simple behavioural descriptions can be related meaningfully to biological variables. I would be quite surprised if this methodological weakness did not in the long run produce an outcome similar to what happened to differential psychology as a scientific tradition.

Development as the emergence of new mediational structures

No study on early development can bypass Daniel Stern's fundamental account offered in his book *The Interpersonal World of the Infant*. His aim was to bridge the gap between experimental research and clinical understanding that has characterised the field for decades, by exploring what the findings of experimental infant research might imply for our clinical psychoanalytic theories of early experience.

Stern encapsulated nicely the underlying issue in the varying psychoanalytic timetables for the emergence of autonomy by showing that different theorists have simply focused on different aspects of the child's activity, when choosing their criterion. Thus although Freud and Erikson saw the first true sign of autonomy in the independent control of bowel functioning at around two years of age:

Spitz... placed the decisive encounter in the ability to say 'no' at fifteen months or so. Mahler... considered the decisive event for autonomy and independence to be infant's capacity to walk, to wander away from mother on their own initiative, beginning at about twelve months. (Stern, 1985, pp. 20-21).

Stern argued that the infant's gaze behaviour, becoming a sophisticated mode of interaction during the period from three to six months, could equally well be regarded as an early sign of autonomy.

Stern's insight shows how important it is to understand the mediated nature of our psychological processes. He uses this understanding to describe the

principal mode of mediation in the phases of the development of the early self.

I shall now readdress two phenomena—amodal perception and attunement as described by Stern—basing my review on the notion of sign-mediated activity. I have chosen these two because they represent fundamental forms of mediation within a specific developmental phase. *Amodal* (or cross-modal) *perception* is an integrating mental 'mediational device' that can be seen to operate during the very first weeks of life. *Attunement* is the gradually emerging mode of interpersonal communication during the latter half of the first year.

I want to discuss these phenomena because both seem to contain puzzling aspects that allow for a range of interpretations. I shall try to examine how the developmental theory of sign mediation might account for these intriguing phenomena. At the same time the concept of *sign* may be illustrated.

Amodal perception

Newborn infants seem to have an amazing ability to recognise external objects by making inferences across different sensory modalities. Stern introduces the phenomenon by presenting Meltzoff and Borton's experiment on 3-week-old babies (1979). The infants were blindfolded and given, alternately, one of two differently shaped pacifiers to suck. After the baby had some experience of sucking, the pacifier was removed and placed side-by-side with the other one. The blindfold was removed. The infants performed a quick visual comparison and then looked more at the nipple they had just sucked (Stern, 1985, pp. 47-48).

Echoing Meltzoff and Borton, Stern concluded that infants are predestined to master such cross-modal inferences, as no learning seems to be needed. Amodal perception would then be an innate capacity. This capacity rests on the infant's ability to distil highly abstract perceptual qualities, such as shaped, intensities, temporal patterns, etc.

The issue of cross-modal perception has been a natural consequence of the traditional understanding of perception in experimental psychology. Perception was regarded as an internal 'function' that operated on the 'raw data' produced by the sense organs. In cognitive psychology this operation was interpreted as the act of fitting a schema on incoming information, commonly defined in terms of the sense modality that was being studied.

This conceptual distinction between sense data and perception has resulted in a long-running inner tension within the psychology of perception. On one hand there have been those who argue for the utmost purity of sense data in order to be able to say anything of the laws of perception. This line of research

is still popular within psycho-physiological studies. On the other hand, beginning with the 'New Look' researchers like Bruner, there has been a strong wish to understand the more complex relationships between sensation and perception. Studies on cross-modal perception are a natural outgrowth of this line of thinking. However, they have still retained the classical methodological point of view, distinguishing between sense data and perception as an act of categorisation of this data.

Studies of adult perception have indeed shown that people make inferences by using cues that enter via different modalities. Thus perception has more clearly appeared to be a mental activity. When such studies were modified to trace the early origin of perceptual inferences, the researchers found out that even infants were able to perform such inferences. Studies of early cross-modal perception was a logical extension of such research into the very first days of the neonate.

The studies, cited by Stern, do show that 30-day-old babies can perform inferential mental acts that permit them to recognise the pacifier they had been sucking. They do not let us draw any conclusions about 'innate abilities of amodal perception'. Our habitual methodological approach to mental activity, regarding it as a 'function' or a 'capacity', instead of mediated activity, produce over and over again the seemingly puzzling findings that then seduce us into neurophysiological or biological speculation.

Amodal perception as sign-mediated action

When Walton and Bower (1993) conclude that infants have abilities 'to relate information picked up through different modalities', they are right. However, babies do not 'pick up information', they perceive things and events. They do not live in a subjective world of abstract shapes, or 'stimulus intensities', but in the concrete world with all its richness. Hearing, seeing, smelling and sensing this world does not break it up into distinct sets of information that should then become coordinated by some innate mental instance. That is our way of describing the matter, an outcome of our preferences to approach perception through information processing analogies.

Instead of arguing for preprogrammed abilities to relate abstract information, we should study the extremely subtle forms of sign mediation involved in perceptual activity. Seeing, touching and hearing are sensory activities that serve to establish mediational links with the environment, which for human beings is always socially created and meaningful. They aim at generating signs of the objects and happenings, signs that will serve as psychological tools for appropriate orientation in the complex world.

Bakhtin maintained that signs are not mere representations but 'true

carriers' of the object they designate. Every sign contains a layer of meanings that it has received from the object it signifies (Voloshinov, 1928). Metaphorically speaking, the sign acts like a prism that compresses the total spectrum of the light emitted by the object into a single beam, yet containing the whole spectrum.

Following this line of thinking, we may assume that the sign of the presented object contains *more information*, to use the traditional cognitive expression, than what seems to be there as modality specific sense data. The nature of 'information', comprised in the sign, depends on the manner in which the sign was created. By sucking the nubby pacifier, the infants in Melzoff and Borton's experiment established an active connection with the pacifier, with all its specific attributes being present in the mouth.

It would be quite one-sided to understand mediational relationships only as an impact of external phenomena on passively receiving subjects. It is not the sign that acts on the infant. It is the infant that brings the sign into being. There would not be anything that could be called a sign without the neonate's activity that establishes his or her relation to the object and creates the sign as a mediator. The presence of the caregiver must, however, also be taken into account. Signs arise in the interpsychological territory and they are, to use Voloshinov's (1928) definition of words, *two-sided acts*.

I want to illustrate these complex relationships by two vignettes. A few-days-old baby grabbed the edge of his blanket and pulled it over his face. His mother noticed the baby's movement and said to him 'Oh, you want to hide your face! Is there too much light in the room?' Here the mother invested the baby's embryonic movement with intentionality. For her, it was a complete action aimed at protecting the baby from too much light. The mother could also have said 'Oh, you naughty boy, you want to hide from your mother!' In that case the whole contextual meaning of the baby's movement would have changed. The baby's movement *became a meaningful sign to the mother*. He originated it as a motor act, but the mother made it meaningful by her interpretation. It became a new kind of mediator in the joint sequence that determined the mother's response. It became a sign for the mother and she saturated it with her responsive understanding. Repeated occurrences of the pattern would eventually 'teach' the meaning of the sign to the baby too.

This aspect of jointly created sign meanings is illustrated by the second vignette. This is a case described by Cramer (Brazelton and Cramer, 1991). Juan was a 2-month-old boy who had regurgitated feedings since birth. His mother was convinced that he would die and asked for a consultation at the clinic that offered joint parent-infant therapy.

Soon after the clinician started talking with this mother, she reported that she was still very upset about the death of her brother, three months before the baby's birth. She was then encouraged to talk more about this event and described her last visit to him in the hospital; he was emaciated, smelt very bad, and kept regurgitating (he was at the terminal stage of intestinal cancer); this impression was so powerful that she fainted. The brother died soon thereafter. She had not felt up to going to his funeral. She didn't cry once: the process of mourning had not taken its normal course.

What was remarkable was that *while she was describing* this painful scene, Juan suddenly regurgitated. The clinician then simply said: 'He regurgitates like your brother did.' (Brazelton and Cramer, 1991, p. 140)

Juan's natural regurgitations had been interpreted by his mother as the sign of imminent death. At the same time they seemed to be 'a sign of life' of her dead, but unmourning, brother. We may understand the particular power of regurgitations for the mother as being a true re-enactment of an extremely traumatic and tragic event in her life. By the age of two months, Juan too had well understood the particular significance of regurgitations and was seemingly able to use them appropriately as communicative signs.

I now want to return to Meltzoff and Borton's experiment. Viewed from the vantage point of sign mediation, it seems to contain a confusion. An external observer cannot, in fact, determine in advance what the particular signs of the pacifier (that begin to mediate the infant's perceptual activity) will or should be. However, the observers did just that when they decided, in their experimental design, that the abstract quality of *tactual shape* should be the decisive sign of the object. They believed that even the infants would act by employing the same sign. In this regard they were exactly like the mothers in the above vignettes. They invested the baby's eye movements with meaning. Yet we do not know what the infant's *act of sucking* created as the specific sign of the pacifier. We are thus puzzled by our own, premature, interpretation when we claim that the infants were able to recognise the shape of the pacifier when it was re-presented.

Meltzoff and Borton seem to be aware of this when they write 'Obviously, these initial experiments do not isolate the exact nature of the information perceived as invariant across the different modalities'. Yet they fall back on their adult reasoning when they conclude 'However, they [the experiments] suggest that neonates are capable of using and storing surprisingly abstract information about objects in their world. This information must be abstract enough, at least, to allow recognition of objects across changes in size and modality of perception.'

I would like to suggest that it is not the abstract perceptual quality (i.e. the shape) as such that directed the infants' recognition. Their active relationships with the pacifier, creating adequate signs, began to mediate their perceptual activity in the setting where the pacifier was physically re-presented.

Amodal perception as an act of signifying

There is another fascinating aspect about amodal perception. It is the infant's ability to establish mediational links between two phenomena and treat the other phenomenon as a true sign of the first one. This is illustrated by the studies of cross-modal matching. By three weeks of age infants seem to be able to match levels of sound intensity with specific levels of light intensity. They are also capable of relating auditory temporal patterns with structurally similar, visually presented temporal patterns (Stern, 1985).

Here we may see the very first form of symbolic activity. There are no inherent or biologically determined connections between the two presented 'data sets'. The connection is established by the common context and the joint activity of the experimenter and the baby.

The experiments, quoted by Stern, fall short of elaborating the infant's activities because they approach the phenomenon as a perceptual ability. I would like to suggest that by understanding cross-modal matching as a rudimentary form of joint signifying activity, and not a 'capacity', we could open up exciting lines in the study of symbol formation. Attunement, to be discussed below, could then be seen as a developed, and much more complex, form of signifying activity, contributing directly to the emergence of speech—that is, verbally mediated acts of signification.

On the basis of the experiments of amodal perception, Stern concluded that infants distil the abstract properties of complex stimuli or qualities of perceptual material. 'These abstract representations that the infant experiences are not sights and sounds and touches and nameable objects, but rather shapes, intensities, and temporal patterns—the more 'global' qualities of experience' (ibid., p. 51). In the light of sign mediation this view represents an impoverished account of the rich mediational relationships that are embedded in our most rudimentary perceptual activities. The baby does not enter a world of empty abstractions but a very concrete environment where everything is potentially meaningful and can be adopted as a device through which the environmental relationships are shaped and further enriched.

Affect attunement

I shall now jump over several transforming periods in early development and address the phenomenon called 'affect attunement' (Stern, 1985). Attunement indicates an interpersonal process whereby the mother and the infant seem to share and communicate internal feeling states during ongoing activities.

Affect attunement, then, is the performance of behaviours that express the quality of feeling of a shared affect state without imitating the exact behavioural expression of the inner state. (Stern, 1985, p. 142)

Stern gives a number of illustrations. I shall reproduce two of them in order to illuminate his understandings of the phenomenon and, later, to provide an alternative account based on sign mediation:

- A 9-month-old girl becomes very excited about a toy and reaches for it. As she grabs it, she lets out an exuberant 'aaah!' and looks at her mother. Her mother looks back, scrunches up her shoulders, and performs a terrific shimmy with her upper body, like a go-go dancer. The shimmy lasts only about as long as her daughter's 'aaah!' but is equally excited, joyful, and intense.
- An 8½-month-old boy reaches for a toy just beyond reach. Silently he stretches toward it, leaning and extending arms and fingers out fully. Still short of the toy, he tenses his body to squeeze out the extra inch he needs to reach it. At that moment, his mother says, 'uuuuuh. . .uuuuuh!' with a crescendo of vocal effort, the expiration of air pushing against her tensed torso. The mother's accelerating vocal-respiratory effort matches the infant's accelerating physical effort.

Attunement seems to be based on cross-modal matching. The mother tracks the experiential flow of the infant's behaviour by reproducing its pattern in a *different* sense modality.

Stern emphasises the difference between attunement and such alternative conceptualisations as 'intersubjectivity', 'echoing', 'mirroring' or 'empathy'. For him, these are either too inclusive (intersubjectivity, mirroring) or mix up cognitive and affective elements in complex interpersonal communication (empathy). Stern connects attunement with amodal perception, maintaining that both depend on the human ability to abstract patterns, shapes, and intensities of concrete behaviours.

According to Stern, the main function of attunement is to share the infant's affective experience without any attempt to change his or her ongoing activity. Purposeful misattunements occur when the mother, deliberately, over- or under-matches the intensity, timing, or behavioural shape of the infant's action sequence. Stern calls this *turning* and regards it as a mode of emphatic communication. The mother 'slips inside of' the infant's ongoing action and then affects its course by creating a mismatch in its flow.

An alternative conceptualisation

In order to generate an alternative view of what might be going on in the phenomenon of attunement, I shall use Stern's second illustration of the boy reaching for a toy and examine it in the light of the development of reaching as described by Vygotsky (1978).

Vygotsky claimed that, initially, there is nothing more than the baby's unsuccessful attempt to grasp something beyond its reach. When the mother comes to the child's aid by investing the movement with a meaning, the situation changes radically. Grasping becomes a *gesture for others* (Vygotsky, 1978). It becomes a communicative sign. In this example Vygotsky showed how vital is the interpreting role of the caregiver in transforming the action into such a sign. The caregiver invests the infant's movement with meaning and completes the action sequence by handing the desired object to the infant.

As soon as this basic, concretely mediated sequence has been established, the infant's movements begin to attain communicative functions. At first, the baby is still unaware of the communicative aspect of reaching. The action of the baby is directed toward the object rather than at the mother (cf. Clark 1978). Although there is structured co-activity, it does not yet represent *intentional communication*.

Vygotsky's example of pointing shows how the earliest communicative signs are formed within object-oriented actions. They are, initially, the baby's movements in the joint sequence, beginning to signify the order and continuity of the process. They are *anticipatory signs* produced by the baby, embedded in the sequence. They signal the ordered continuity of the joint action sequence. The importance of anticipatory signs in such sequences is confirmed by the fact that, very early on, infants exhibit surprise or discontent if an established action sequence is diverted from its expected course.

Anticipatory signs attain their function as communicative devices only through the reliable mediation performed by the caregiver. She understands the baby's motor acts in the sequence as meaningful signs and responds according to her interpretation of this meaning.

Intentional communication would never emerge unless the caregiver did not let her interpretation of the infant's utterance affect her next move in the joint action sequence. The utterance will then become a meaningful sign that determines what is to come next. If the expected flow of action is diverted, the infant usually increases the force of his utterances to make things happen as they should. The caregiver that is not too insensitive then re-adopts her role. I believe that such 'negotiations', occurring in the course of action, eventually help the infant to conceive of the communicative function of his utterances.

Having attained this dual mediating position (as anticipatory signs that may also be used as 'negotiable' signs to direct joint action) the infant's utterances become decontextualised, to use the Vygotskian term, from the concrete flow of the sequence. They may now be used to *signify* the anticipated action sequence by reproducing its significant moments without the object, so to say. When this happens the emergence of gestures may be witnessed. 'A

gesture, in this case the reach, emerges as a gesture because it is not simply produced in order to get an object but in order to produce an effect on another in order to get an object (Clark, 1978, p. 249).

We may now return to Stern's second illustration. Long before the phenomenon described in that vignette, the infant has already learnt that he can use his repertoire of motor and vocal utterances as meaningful signs and that his mother understands what is going on. He has developed a rich language that can be used intentionally, both in the still necessarily joint action sequences and in the service of completely new spheres of playful communication and independent activity.

In the example, the boy acts independently trying to grab the toy. He performs an object-oriented action and does not call the mother for help. To borrow Winnicott's remark, he acts in the absence of the present mother. However, this independent action unfolds in the interpsychological space in which it also has a potentially communicative role. His mother makes this explicit by reproducing the final part symbolically, by vocalising the pattern in his effort of grasping. This may be called the first instance of joint reflective activity. The mother creates a vocal metaphor of the action. What is extremely important here is the use of signs that allow a new target, the infant's personal action sequence, to be represented symbolically.

It would not be quite right to say that the mother echoes the infant's action. She does more than that. She intones it, in the sense of expressing the emotional pattern of the sequence. Intonation reflects or, more truly, spells out the sense of the action. This sense is established in the space that unites object-oriented action with communication. We may ask whose feelings, actually, create the specific quality of the boy's grasping, because the mother's intonation becomes an inseparable part of the act.

Stern's examples of attunement are good illustrations of the interpersonal origin of feelings. He defines attunement as the sharing of inner experiences, thus assuming that the pattern and the nuances in the feelings state would be intrapsychological. This is a vast topic, and I can here only lay bare the issue involved. In most current theories of emotion, feelings are associated with internal need states or other similar, physiological phenomena. This has perpetuated the unfortunate conceptual separation of emotions and cognitions. It has also obscured the view that feelings are yet another mode of mediational devices that carry the basic properties of the sign.

The mother's responsive understanding of her child's mode of grasping for the object is quite different in the two vignettes above. The baby girl seems to approach the toy with a self-confident exuberance. Her mother, certainly, emphasises the aspect of joyful success in the action. She dramatises the

triumphant possession of the toy. The boy approaches the object more cautiously. His action is slower, and there seems to be the aspect of effort which his mother elaborates with her utterance.

We do not know anything about the history of these two mother-child couples. We do not know how much the mothers' symbolic enactments expressed their personal way of meeting the world. The two different modes of grasping might thus reflect the pattern by which the mothers tended to address issues of handling or possession. Using the Bakhtinian notion of the sign (Leiman, 1992), we would be tempted to speculate that the mother's attunement contains her lifelong experience of the modes of possessing things. Her non-verbal utterance is a symbolic micro-universe, presented to the baby during the sequence. The baby cannot know, of course, all the embedded aspects of this communicative sign. Nevertheless, they are there. By 'choosing' her expression the mother tells the baby about the nature of things, about the sense in getting them and in handling them.

To sum up, attunement as an interpersonal phenomenon becomes possible when joint action sequences have been replaced by the infant's independent actions and when communication has been separated from object-oriented activity. They now come together in a complex mode, permitting the use of communicative signs as a symbolic reflection of activity.

Everything proceeds without verbal signs and yet we may speak of a rich non-verbal vocabulary that is established in such attunements. The eventual appearance of words does not seem so mysterious when we recognise how complex phenomena, such as action sequences, can be mediated by meaningful signs that are established jointly in the context of early independent activity.

The main function of attunement, as the intonated representation of action by signs, is substantiated by the experiments in which the mother deliberately introduces a mismatch in her attunement. Stern showed that if the mother introduced a new set of reflecting signs (approaching the infant from behind, putting her hand on his bottom, and giving him a jiggle) this did not interrupt the infant's ongoing action sequence if it *intoned* the action accurately. If it did not, the infant stopped and looked at the mother. In such perturbations the infant interpreted the jiggle as a sign to pay attention to the mother, not as a symbolic reflection.

Stern's experiment also shows that, at the age of seven months or later, the jointly created and used signs have become quite idiosyncratic. They form a truly intimate language that cannot be arbitrarily replaced by something else. The perturbations had to be tailored individually for each mother-infant pair. Perhaps this is the clearest difference between non-verbal and verbal modes of sign mediation. Baby and mother create their joint communication by

elaborating a highly individualised set of non-verbal signs. When words are being introduced they bring with them their socially determined meaning and patterns of usage. This is a great addition to the store of mediational devices. However, introducing words does not break the continuity in the infant's experience. He has already adopted the principle of using signs both in communication and in the regulation of action patterns.

Understanding early development in therapy

Cognitive Analytic Therapy is about changing problematic patterns of internal and external activity; i.e. procedures. What is then the role of understanding early development when conducting therapy? It is easier to argue for the relevance of developmental knowledge in therapies that emphasise reconstruction. In CAT, however, uncovering the disavowed parts of the patient's personal history is not the principal aim of treatment. In some cases successful therapy can be achieved with hardly any knowledge at all of the patient's childhood experiences. Is, then, the issue of early development only a cosmetic device that justifies the 'analytic' in the name of the approach?

I believe that developmental knowledge is directly relevant for CAT in two ways, at least. Firstly, knowing something about the processes of early development is vital for understanding how complex procedures are formed; that is, how interpersonal and internal activity patterns emerge and how they relate to each other. Such a thesis will help us create a developmental model of psychotherapy process that seems to follow the 'laws' for the formation of psychological phenomena in general.

CAT is based on the joint creation of symbolic tools that begin to mediate the patient's maladaptive action patterns. Exploring very early development reveals to us, in the simplest possible manner, how signs are born. Although we deal with adults and, frequently, work with quite complex symbolic tools, the processes by which such tools emerge in therapeutic discourse are remarkably similar. Signs are born at first on the interindividual territory. The quality and colouring of this territory is an inseparable part of the signs that begin to mediate joint understanding. This contextual dynamics of sign mediation holds true at all developmental stages but studying early development permits us to disclose its structure in the clearest possible manner.

Secondly, every human being displays a myriad of activity patterns in which 'primitive' mediation structures are embedded within more 'advanced' processes, and vice versa. Understanding early development alerts the therapist to the vast array of potential personal experiencing and action and helps her or him

to detect the signs of rudimentary processes that may interfere with more complex forms of activity.

Even quite disparate schools of therapy now seem to subscribe to the thesis that severe mental disorders have an early origin. The views tend to differ with regard to the kinds of adverse early experiences that are emphasised. Severely disturbed persons usually suffer from dissociated states of being that contain primitive, often non-verbally mediated, action sequences. Without an adequate conception of early forms of sign mediation and the interpersonal context out of which they get formed, we would not be able to enter such sequences by our responsive understanding. Accurate 'attunement', to use Stern's concept, represents the specific mode of joint reflective activity of primitive action sequences in therapy. It is the therapist's task to find symbolic descriptions that will match the patient's experience and his or her idiosyncratic usage of signs.

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7 CAT in relation to cognitive therapy

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Cognitive Analytic Therapy (CAT) is an avowedly integrative therapy. It has its theoretical roots in object relations theory, Kelly's personal construct theory, cognitive and behavioural science and developmental psychology. The therapeutic approach includes aspects of psychoanalysis (e.g. the interpretation of transference and countertransference), behaviour therapy (e.g. goal setting), cognitive therapy (e.g. challenging irrational beliefs), personal construct therapy (e.g. reappraisal of personal meaning), transactional analysis (e.g. parent-child-adult roles) as well as features that are unique to CAT such as the Sequential Diagrammatic Reformulation (SDR). The relative brevity of the therapy (between 12 and 24 sessions) is designed to make it affordable to public services and accessible to most clients. With this background CAT might be seen as the magic of psychotherapies, snatching up the treasures of others and claiming them for its own. A more positive view would see CAT as one of a new breed of integrative psychotherapies which attempts to combine the best aspects of the traditional schools into a rich and potent mixture that has greater impact than the original recipes.

Aware of potential criticism of atheoretical eclecticism, Ryle (1990, 1994a) has sought to develop a theoretical model which he claims underpins the uniqueness of the approach. He originally called this the Procedural Sequence Model (PSM). *Procedures* are defined as 'linked sequences of mental and behavioural processes' guiding purposive action. *Sequences* describe the order in which procedures follow one another. These are normally hierarchical, with higher-order procedures (e.g. to enjoy life) being served by lower-order ones