PLEASE SCROLL DOWN FOR ARTICLE

The move to intersubjectivity: a clinical and conceptual shift of perspective

R O B I N   B A L B E R N I E

Painswick

Abstract   *The concept of intersubjectivity may be used to illuminate the way in which we observe and describe many of the interpersonal processes that begin in infancy. The more traditional psychoanalytic ideas of holding and containment, as well as relatively recent concepts such as attunement and reflective function, can be seen as belonging within this coexisting area of experience. Intersubjectivity has contributed to human evolution and has a neurological foundation based on mirror neurons; it provides a perspective on psychotherapy (especially within infant mental health) that can oversee the internal worlds of mutually influencing experience.*

Keywords   Parent–infant relationship; attachment; attunement; neurobiology; holding; containment; mirror neurons; evolution.

> *Entia non sunt multiplicanda praeter necessitam.*
>
> William of Occam, c. 1258–1314[1]

Introduction

If we take seriously the idea that in parent–infant psychotherapy 'the "identified patient" is the child–parent relationship, and the therapy painstakingly examines and addresses the transactions between the partners' (Lieberman *et al.*, 2000: 472), then it follows that we should concentrate on the psychological overlap between parent and baby. It is what occurs in this overlap, a flowing together of conscious and unconscious emotional currents, that is our therapeutic concern. This key relationship has been addressed in many different and creative ways in psychoanalytic thought. Sometimes either the baby or the parent may dam or create turbulence in their tributary, and so the pool of intersubjective contact is disturbed. We can predict the conditions that will be likely to make this occur (Balbernie, 2002) and so intervene before anything goes amiss. Infancy is a time of essential intersubjectivity. This is the experiential common ground where mother and baby produce a felt event to be

shared; a time, place and play of 'harmonious interpenetrating mix up' (Balint, 1968: 66), when parent and child actively join in each other's emotional experiences. I will be describing a case where this confluence was initially absent, and the clinical work, focusing on the relationship and through the use of video, became a matter of enhancing intersubjectivity so that mother and baby could begin to enjoy each other.

The common intersubjective habitat

Intersubjectivity, like attachment, is not an attribute reserved for humans: 'Related, though psychologically simpler, processes of intersubjective regulation appear in all animal species that are both highly social and at first dependent on intelligent parental care' (Trevarthen and Aitken, 2001: 4). The refining of intersubjective abilities played a key part in the evolution of *Homo sapiens* and since the facility is coded in our genome it can be so taken for granted that it is sometimes only noticed when missing. Non-verbal communication must have always been an aspect of being a primate: 'Within the effulgence of their new brain, mammals developed a capacity we call *limbic resonance* – a symphony of mutual exchange and internal adaptation whereby two mammals become attuned to each other's inner states' (Lewis *et al.*, 2000: 63). The functional capacity in mammals that enables one brain to resonate with the goal-directed activity of another is provided by mirror neurons. These are not a newly discovered type of neuron, but another activity and function of premotor neurons. A recent summary reports that

> Mirror neurons revealed themselves in the premotor cortex and the inferior parietal areas – associated with movement and perception – as well as in the posterior parietal lobe, the superior temporal sulcus and the insula, regions that correspond to our abilities to comprehend someone else's feelings, understand intention and use language.
>
> (Dobbs, 2006: 25)

We are inherently 'designed' to have visceral reactions to each other's actions, mishaps and feelings.

Daniel Stern describes intersubjective contact as occurring when 'Two people see and feel roughly the same mental landscape for a moment at least' (Stern, 2004: 75). He points out that this is a primary motivational force separate from attachment, but together they form a mutually contributing system. 'Attachment keeps people close so that intersubjectivity can develop or deepen, and intersubjectivity creates conditions that are conducive to forming attachments' (Stern, 2004: 102). Stern dates the baby's dawning *awareness* of intersubjectivity to between the seventh and ninth month of life when 'infants gradually come upon the momentous realisation that inner subjective experiences, the "subject matter" of the mind, are potentially shareable with someone else' (Stern, 1985: 124). However, the *capacity* and motivation for intersubjective exchange appears to be present from birth; for example, the baby's smile can immediately be put to use to maintain or reward the mother's attention and share her

pleasure (Balbernie, 1997). This is the 'primary intersubjectivity' investigated by Trevarthen (1980), within which the baby's active contributions, aided by a pre-wired appreciation of the parent's intention to communicate, have a direct impact on the quality of interpersonal exchange (Murray and Trevarthen, 1986). When all goes well, as it usually does, there is goodness of fit between baby and mother. But if there has been a glitch, as in the case about to be presented, the target of therapy may be conceptualised as the intersubjective field between infant and parent, and the objective is for the parent to be able to intuitively accompany their child's development.

Holding and containment

Bowlby (1988: 140) linked the provision of a secure base with Winnicott's and Bion's descriptions of 'holding' and 'containing' respectively. These hard-worked hypotheses may be seen as fine-tuned descriptions of aspects of mutually influencing intersubjective contact based on emotional attunement; and they are key constructs that inform infant mental health interventions (Pozzi, 2003; Weatherston, 1999). Ogden, taking the point of view of adult psychoanalysis, explained how these two terms address different aspects of experience: 'Holding is concerned with being and its relation to time; the container-contained is centrally concerned with the processing (dreaming) of thoughts derived from lived emotional experiences' (Ogden, 2004: 1362). When applied to the relationship between mother and infant these conceptualisations describe important aspects of the parent's side of the intersubjective contract, and they also throw light on the dynamics behind other facets of intersubjectivity such as attunement, affect regulation, reflective function and the sensitive caregiving that promotes security of attachment.

It is important to appreciate the innate interpersonal skills of the baby: 'The evidence is clear that infants possess at birth, not only a coherent and differentiated emotional system that covers the full range observed in adults, but also the distinctions between "person-related" and "body-related" functions of emotions' (Trevarthen, 1993: 74). The ideas of containment and holding both emphasise the *responsiveness*, or triggered psychological activity, of the mother who is seen more as a fielder of projections or someone who completely identifies with her baby, without allowing enough for either her or the baby's proactive part in this game for two. Babies are innately motivated to communicate, not project, and so are their mothers. It is hard to imagine how projection could occur prior to the prefrontal region of the cortex being wired up to the limbic system, which matches when Stern dates the awareness of intersubjectivity; and unless it contributed to immediate survival or future reproductive success, it would not be a characteristic that evolution would have selected for.

Winnicott thought that the small baby did not have the capacity to differentiate activity stemming from self or mother, and so could be regarded as merged, because at this stage 'the object is not yet separated out from the subject' (Winnicott, 1971: 130); but perhaps this is not accurate. Babies from the start are active promoters of their own point of view since, as Trevarthen (1980: 336) stresses, 'They also possess rudimentary

personal powers that affect their caregivers intimately so that within a short time of birth a subtle infant–caretaker relationship is established.' Such

> . . . intrinsically prompted developments have profound effects on the behavior of an affectionate, firmly "attached", parent, binding him or her to the life experiences of the child. The child "educates" the adult to discover meanings that make sense and joy to both of them.
>
> (Trevarthen, 2005: 61)

Holding describes a devoted recognition, but this is mutual.

Stern's concept of affect attunement is an important guide, as it alerts us to look for '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: 142). It is the child's internal world that is being acknowledged. The basis of such cross modal imitation, to return to Winnicott's viewpoint, is the normal primary maternal pre-occupation, a state of mind that enables the mother to identify (not necessarily with) the infant's experiences and thus prevent inappropriate or overwhelming 'impingements' so that the baby remains at an optimal emotional level, and does not have to react in a way that compromises his or her 'going on being' (Winnicott, 1962). He described how the mother has 'the capacity to put herself in the baby's place and know what the baby needs in the general management of the body, and therefore of the person' (Winnicott, 1962: 57). He called this early maternal provision 'the holding phase', when with the 'dawn of intelligence and the beginning of a mind as something distinct from the psyche . . . the infant changes from a relationship with a subjectively conceived object to a relationship with an object objectively perceived' (Winnicott 1960: 45).

Similarly, Bion (1962: 36) associated containment with the particular caregiving function of maternal 'reverie', seen as 'that state of mind which is open to the reception of any "objects" from the loved object and is therefore capable of reception of the infant's projective identifications whether they are felt by the infant to be good or bad.' Thus projective identifications may be growth promoting and not merely defensive. Pozzi (2003) describes this as an emotional experience 'where the mother is in touch with and open to receive the infant's state of mind, sensations, and feelings of any sort, without being submerged in them' (Pozzi, 2003: 15). In Bion's model, once these infantile projections have been received the mother may then re-work them into useful thoughts, which then guide her responses to the baby and so, in turn, affect the latter's state of being.

Projective identification has been the best concept up until recently to explain such 'mutually influencing intrapsychic changes' (Balbernie, 1999: 218). But, in the light of intersubjectivity, projective identification is also a description of a subjective experience being discerned and reproduced, including both conscious and unconscious expectations. This applies equally to the idea that 'unwanted' feelings become generated in the other; the broadcasting and reception may be subliminal but, unless we fall back on telepathy, there is no other way for this to occur other than by neurological reverberation: 'We use our first five senses to take in the signals from another person. Then the mirror neuron system perceives these "intentional states", and by way of the

insula alters limbic and bodily states to match those we are seeing in another person' (Siegal, 2007: 167). With babies there is innately skilful multi-channel signalling, not fugitive projective identifications looking for a suitable home; limbic resonance based on activated mirror neurons, or the 'role responsiveness' described by Sandler (1976), are more useful perspectives.

The adult's capacity to recognise when they resonate with the infant's internal world is dependent on their own past and the intactness of their brain; functional MRI demonstrates that 'empathic resonance occurs via communication between action representation networks and limbic areas provided by the insula' (Carr *et al.*, 2003: 5502). Clinical experience and experimental evidence concur that

> . . . individuals whose emotional needs were not met in childhood or who have insecure working models as adults are less accurate at identifying infant emotions, more likely to make negative attributions about a distressed infant, and more likely to be amused or neutral in response to infant distress than others.
>
> (Leerkes and Siepack, 2006: 26)

This is intersubjective disorder, where containment and holding are unavailable or defended against.

Britton (1998) gives a description of containment that need not necessarily involve projection.

> The mother, if she is receptive to the infant's state of mind and capable of allowing it to be evoked in herself, can process it in such a way that in an identifiable form she can attend to it in the infant. In this way something which in the infant is near-sensory and somatic is transformed by the mother into something more mental which can be used for thought or stored as memory.
>
> (Britton, 1998: 22)

Although this avoids the implication that something moves from one mind into another, the idea that the baby arrives primed to communicate is missing.

The concept of containment might benefit by allowing for the baby's motivation to find recognition within the parent's mind. The baby is reaching out more than getting rid of. Maternal containment is a special consequence of the infant's purposeful but non-conscious signalling; in the absence of intersubjectivity, it will be a leaky vessel. The mother is able to sidestep overt behaviour, what the baby does, in favour of attuning to the internal state of what the baby feels and needs and thus, ultimately, to whom the baby is. Fonagy (2001) puts this in attachment terms:

> Secure attachment may thus have a great deal in common with successful containment. What is critical is the mother's capacity mentally to contain the baby and respond, in terms of physical care, in a manner that shows awareness of the child's mental state yet reflect coping (mirroring distress while communicating an incompatible affect).
>
> (Fonagy, 2001: 166)

The psychoanalytic concepts of 'holding' and 'containment' also speak to the same process that is central to Schore's important integrative work, how 'psychobiologically regulated affect transactions that maximise positive and minimise negative affect cocreate a secure attachment bond between mother and infant' (Schore, 2003: 65). Although perhaps it could also be said that the attachment bond is mainly there to maintain the *physical* closeness that is necessary for the affect transactions (limbic resonance or neuronal mirroring), the stuff of mindful intersubjectivity, that sculpt the baby's mind to fit into his unique world.

Case example

Daisy and her mother, Clare, were referred to our Infant Mental Health Service as part of Sure Start when Daisy was two and a half months old. The specialist Sure Start midwife had been concerned during the pregnancy. She had visited with the Sure Start health visitor in order to film mother and baby together. The video demonstrated Daisy assiduously avoiding any form of exchange with her mother. There was no example of mutual eye contact, and every moment was checked in an effort to find one so that it could be printed out as a picture and given to Clare. Even though it is normal for babies to sometimes avoid stimuli, Daisy's distancing from any shared moment appeared excessive. It was as if she was retreating from the experiences found within intersubjectivity. Usually for infants of two months and over, eye-to-eye contact is easy to make and is invariably followed by smiling, chatting and gestures: 'In the gentle, intimate, affectionate, and rhythmically regulated playful exchanges of proto-conversation, 2-month-old infants look at the eyes and mouth of the person addressing them while listening to the voice' (Trevarthen and Aitken, 2001: 6). It looked as if Daisy was working hard to shun her mother's face, causing concern that she might have features of infantile autism. Autism, defined by being devoid of intersubjectivity and characterised by an inability to generate mind-sight, does not preclude attachment. Interestingly, 'recent research suggests that an inactive mirror-neuron system may explain the deep troubles with language, learning and empathy that do so much to isolate the autistic person' (Dobbs, 2006: 26) (see also Dapretto *et al.*, 2006).

Slightly more optimistically, I thought she might be a baby who felt over-impinged upon and had withdrawn; or perhaps she was defending against 'unthinkable anxiety' because her mother could not process her distress to make it tolerable by 'her capacity to put herself in the baby's place and to know what the baby needs in the general management of the body, and therefore of the person' (Winnicott, 1962: 57). The lack of any observable direct contingent communication or mutual coordination of behaviour between mother and infant suggested that, for whatever reason (baby or parent led), 'primary intersubjectivity' had not been established (Aitken and Trevarthen, 1997; Trevarthen and Hubley, 1978).

I went with the midwife for my first visit. To begin with all we knew was that Clare was a young mother with moderate learning disabilities living with her partner in a cramped first-floor flat that she found hard to manage. The lack of mutual eye contact, or any other contact for that matter, between mother and baby was immediately obvious. At first Daisy seemed switched off or sleepy. As soon as she became more alert,

Clare asked me if I wanted to give her a cuddle, and when I made my excuses Daisy was thrust into the arms of the startled midwife. After a few minutes, she handed Daisy back to her mother, who placed her on a mat on the floor and made no further effort to pick her up. This pattern continued for many visits, in spite of heavy hints from me that babies liked to be held most of all by their mothers. Clare would assure me that Daisy preferred to be on the floor.

Immediate background to the referral

Clare had endured an onerous year. The pregnancy had been difficult, and she was sick and in pain from almost the moment that she had conceived. It had been a traumatic birth, with Clare undergoing 20 hours of labour after being induced before she was given a rushed Caesarean. Clare had found the whole birth experience extremely upsetting and it still preyed on her mind. She developed post-natal depression and, although on medication, she often became extremely miserable and found herself crying when alone. This suggested that Daisy's avoidance might stem from having had a relatively unresponsive mother, as in the 'Still Face' paradigm (Tronick *et al.*, 1977) or simply when the mother–infant communication is out of joint (Murray and Trevarthan, 1986), and this withdrawal was a way of reducing distress. Post-natal depression compromises intersubjectivity, the baby's advances are less likely to generate a contingent response, as the mother will find it hard to spontaneously play her natural part. Clare had no social network for support and spent long solitary hours in her flat.

From Clare's point of view, she feared that something might go wrong between her and Daisy, and she said that there were many times when she did not feel close to her daughter and did not understand her. She openly wanted to be different from her own mother and became keen for help, although she was understandably ambivalent about this. I attempted to visit weekly but Clare missed a number of appointments to begin with, more than would be expected given her reluctance to go out unaccompanied, but perhaps I passed some sort of test by perseverance alone. It was a situation that deeply worried me to begin with; but this receded as I gained an understanding, got more involved and became increasingly fond of both of them. This was a system that began with too much distance and it had to be joined before it could be changed.

Personal history

I slowly pieced together over many months that Clare's past had been sad and difficult. Her mother had abandoned her and her siblings to her father just before her second birthday, and prior to this they were all poorly looked after. (Over a year later, when Daisy reached the same age, Clare went through a period of depression; and her mind became full of memories of all those who, over the last two years, had told her that she was not a good mother.) On one visit, Clare's aunt was present and she recalled how Clare had been severely neglected by her mother from birth onwards, badly fed, ill and generally uncared for. Clare had been placed as a toddler in the local family centre and there were several staff members still there who could remember her. They described her as being very miserable and withdrawn, 'a little scrap of a thing'; and confirmed the high

level of physical and emotional neglect that she had suffered. After her mother deserted the family, her father was her sole carer until she was taken into care at age eight. She was placed in a children's home, before being fostered at 11 with the family who looked after her until she came out of care. When Clare was in foster care, she had suffered from bulimia, but had no professional help.

Clare felt unsafe everywhere. She frequently had panic attacks when outside, even just walking back from the nearby supermarket. She did not feel secure in her flat or in her relationship with her partner who often shouted at her. However, after four sessions (over a period of more than four weeks) Clare told me that she had done 'some research' and thought that babies did badly if their parents quarrelled in front of them, and so she now did her best to make sure they did not argue when Daisy was in the room. This was the first time I heard her consider that she could take a practical responsibility for creating a safe space for Daisy. She was determined that she would protect Daisy from the abusive experiences she had suffered while growing up.

Some session details

We met in the family home on a weekly basis. Initially we tried to unpack the issues from Clare's past in an attempt to see how her insecure childhood was affecting her immediate relationship with her baby. I noticed, but did not comment directly, that when Clare was with Daisy she found it hard to take cues from her and be relaxed and responsive to the moment. It looked as if, at least within sessions, Daisy did not get many playful times or cuddles. Daisy's tendency to avoid looking at her mother was marked, but Clare did not mention this. On an early visit, someone called to Clare from outside and she rushed out. I used the opportunity to engage with Daisy who, more rapidly than expected, became responsive and made alert eye contact.

Clare tended to rely on noisy toys to amuse or distract Daisy and was frequently intrusive to a degree that Daisy may have experienced as overwhelming. She would use heightened stimulation, such as a rattle, as a strategy to calm Daisy down and often did not hold her when this might have been expected. There seemed to be hardly any examples of contingent communication, suggesting compromised affect attunement which, if present, would have led to more responses from Clare that better matched the quality, timing and intensity of Daisy's signals. In the early sessions, as mentioned, Clare often asked me if I would like to hold Daisy, so I stressed that really she was the most important grown-up in the room for Daisy, who would undoubtedly prefer to be picked up by her mother. When I had a chance, being wary that Clare expected criticism, I suggested that her voice might calm Daisy down more efficiently than a mechanical noise and would certainly be more interesting. What seemed important here was Clare's conviction that she alone was somehow not 'good enough' to meet the needs of her baby, perhaps because her own needs had been dismissed when she was a similar age. I also wondered if Clare unconsciously included herself in the dangers that she saw everywhere, so that the distancing from her child was in the service of protection.

Clare appeared to feel supported by finding that somebody was taking an interest in her, and listening and responding to her point of view. She was extremely anxious about other people passing judgement on her, and when this did occur (for example, when a

social worker said that her flat was dirty) she was devastated. Daisy continued to avoid eye contact with her mother and at the same time Clare was finding it hard to be attuned to the everyday needs of her child. I suggested that, using the model of Interaction Guidance (McDonough, 1993, 2004), I might film them playing together and then we could look at the result to see what Clare thought. Clare liked this idea. Video feedback of mothers and infants playing together has been shown to be effective in a brief treatment intervention that combined a psychoanalytic approach with an in-depth analysis of immediate interactions (Beebe, 2003). As well as using the video feedback to reinforce positive aspects of interaction between Clare and her baby, I encouraged her to think about what might be going on in Daisy's mind and also to recall how she herself might have been feeling, or what she was thinking, at the time. This was an attempt to encourage 'reflective function', which, when it is present, can be seen as a basis for the development of secure attachment:

> Attunement requires an awareness of the infant as a psychological entity with mental experience. It presumes a capacity on the part of the caregiver to reflect on the infant's mental experience and re-present it to the infant translated into the language of actions the infant can understand.
>
> (Fonagy *et al.*, 1991: 207)

Clare came to actively enjoy the filming of her play with Daisy, and she has kept her own copy of these sessions. They provided a tangible means of seeing how the relationship between them changed, which increased Clare's self-confidence so that she became more able to be assertive and positive about herself.

The first time I filmed Clare playing together with Daisy, it looked as if Daisy was more interested in looking toward me than at her mother. Daisy was six months old and, due to many missed sessions, we only really began regular work at this time. The lack of eye contact, and general avoidance, remained marked; and perhaps Daisy was still defending against her mother's depression and anxieties as well as too much being done to her rather than with her: 'If personal confrontations are forced upon infants at this age, they resist or withdraw' (Trevarthen and Hubley, 1978: 211). Research has shown that

> . . . interactive behavior marked by depressed mood, negative facial expressions, and apathy, decreased sense of parental efficacy, and impaired interactive behavior in terms of lower sensitivity and heightened intrusiveness were associated with increased sustained withdrawal behavior in infants and toddlers.
>
> (Dollberg *et al.*, 2006: 304)

From the beginning, Clare was convinced that Daisy was 'a very intelligent baby', an idea she has firmly held onto. Obviously, I did not discourage this, although my immediate impression was that Daisy's development was roughly average. I suspected that Clare was projecting out onto her daughter a wish for herself, a wish based on how she had been put down throughout her life for being stupid and how much she wanted that not to happen for her daughter. Clare confirmed this. However, either I was wrong

or Daisy's development surged, as at eight and 18 months she scored appreciably above average on the 'Ages and Stages Questionnaire'.[2]

One of the themes that we worked on continually, helped by the use of video, was the difficulty that Clare often had in understanding what Daisy wanted from moment to moment. She was explicit about this. I made links back to her own early experiences with her mother, who seemed not to have thought about Clare at all, and how in many ways Clare had to re-invent mothering. There were two barely separable issues here, how to emotionally resonate with her child and what to provide for her child. By this time, Clare's partner had left and she had moved into a rented house. She often asked for reassurance that Daisy was doing well, and at other times I had to offer it unasked when Clare became anxious about normal behaviour (such as night waking), which she interpreted as a sign of either something wrong with Daisy or her own failure. We began to see a distinct change in what occurred between Clare and her child. Most importantly, Clare was more attuned and relaxed with Daisy so that a benign circle of interaction came to be established.

Clare saw Daisy as being very like herself. At times she would tell me things about Daisy that were obviously untrue, not so much a matter of projection (although that was an element) as Clare simply being unaware that she and Daisy could be dissimilar. She would talk about how Daisy liked to do things alone or disliked playing with other children; and with these specific examples, I tried to take up the likelihood that when Clare was little, nobody really played with her and so it might be hard for her to accept that Daisy could too be different. Some of these similarities, though, were both positive and normal; for instance, Clare was convinced that Daisy enjoyed books as much as she did, and therefore she spent a lot of time with Daisy reading to her and looking at picture books together. On one visit, I arrived to find Daisy and Clare having an immensely enjoyable time with each other looking at a peek-a-boo lift the flap book together. This was an important developmental achievement, and marked the dawn of 'secondary intersubjectivity' when there is an awareness of a shared focus of interest. Trevarthen and Hubley (1978) describe this as when the infant can systematically combine curiosity in immediate physical reality with communication about their knowledge and intentions, 'a deliberate sought sharing of experiences about events and things is achieved for the first time' (Trevarthen and Hubley, 1978: 184).

Sometimes it seemed useful to be fairly direct in developing new ways of playing. One day, shortly after I arrived, Clare showed me a wooden box of animal picture dominoes that she had just brought for Daisy. She thought that Daisy would like playing with these. I thought (to myself) that unrealistic expectations might cause both to end up disappointed. As Clare opened the box, I said something about what would be usual play for an 11-month-old, and Daisy must have been listening as she obliged by simply shoving the coloured dominoes around on the floor. Clare looked crestfallen as she wondered if she would do anything else. I got down on the floor with Daisy and began a game of dropping the dominoes into the empty box, whereupon Daisy promptly picked them out again. She was delighted at this, chortling and waving her arms and legs, and continued with the game as I withdrew and Clare took over. They carried on playing together in this way for the next 10 minutes, both plainly enjoying

the interaction. Daisy wriggled and vocalised with gusto and was turn-taking within the game. Clare was interested when I pointed out that Daisy was really loving the to-and-fro with her mother here, the game itself was just the way to achieve this.

On my next visit, Daisy spontaneously initiated a teasing game with her mother that she found hilarious, holding out a sponge and snatching it back at the last moment with squeals of contagious merriment. This showed a sense of expectation of what might happen if she allowed it, a basic theory of mind and an ability to react on the basis of her mother's interest in the sponge. Clare in turn became caught up in the spirit of the game. Such mutually pleasurable cooperative play, where a large part of the fun is the anticipation of the other's response, confirms the achievement of secondary intersubjectivity which is heralded by the 'systematically combining of interests of the infant in the physical, privately-known reality near him, and his acts of communication addressed to persons' (Trevarthen and Hubley, 1978: 184). The lucky question was when I asked if Clare thought Daisy would enjoy playing with the sponge if she was not there. 'No,' she decided, and then described her perception of Daisy's glee at doing something with her as the sponge was passed back and forth.

While toddlers are absorbing their emotional vocabulary, they are learning a language of relationships passed on by parents. 'A caretaker with a predisposition to see relationships in terms of mental content permits the normal growth of the infant's mental function. His or her mental state anticipated and acted on, the infant will be secure in attachment' (Fonagy *et al.*, 1991: 214). The non-defensive processing of feelings and their transformation into thoughts, words and responses by the 'self-regulating other' (Stern, 1985: 102) within the shared intersubjective space is what both holding and containment are all about. The special quality of communication within the 'intersubjective matrix' is that it is a 'continuous creative dialogue with other minds'; and this is 'the overriding crucible in which interacting minds take on their current form' (Stern, 2004: 77 and 78). When a caregiver has too much on their mind over and above the baby then this communication may be compromised, with a greater chance of the child being insecure and a lesser chance that they will confidently construct reasonably accurate internal representations of mental states. 'Secure attachment and reflective function are overlapping constructs, and the vulnerability associated with insecure attachment lies primarily in the child's diffidence in conceiving of the world in terms of psychic rather than physical reality' (Fonagy *et al.*, 2002: 351).

Because of a change in where I worked, my visits became less frequent. Clare was worried about this drop in support to begin with but found she could manage. She was delighted when Daisy began to walk, and this expanded the repertoire of games they played together. We began to talk about what was likely to come next developmentally. They seemed pleased with each other and themselves, and Daisy was a cheerfully showing off toddler who was immensely full of herself. Several years later Daisy is now in her first year at school, and is seen as a bright and lively child who arouses no concerns. While I was finalising this paper Clare received an invitation to meet with the school governors as Daisy is seen as a potential grammar school entrant and they want to offer a form of scholarship to help her achieve this. Clare is managing well and has enrolled on a number of adult education courses.

Inescapable intersubjectivity

Moments of overlapping intersubjectivity are times when the baby and mother are most in tune with each other and communication is fascinating. From a clinical viewpoint, it can be assumed to be part of the normal human condition, and when this has gone wrong there is a natural incentive to effect a repair. Such connection is more of a shared mood than a thought, as shown by the features of the improving relationship between Clare and Daisy who had begun by virtually pulling back from each other. During babyhood, this area of mutual influence sets up the conditions for the processes of attunement, holding, containment and affect regulation to harmoniously interpenetrate each other. This is simply how human nature works: 'From all we know, every primate baby is designed to be physically attached to someone who will feed, protect, and care for it, and teach it about being human – they have been adapted over millions of years to expect nothing less' (Small, 1998: 40). The attachment system is there to 'stick' adult and child together at the right time, a time when the unknowing child frequently and appropriately feels anxiety; and, as evolution is parsimonious, this closeness has become used to socialise the child, not just to keep it safe from predators or from getting lost.

Daisy was initially attached to her mother, but typical intersubjectivity had been thwarted. In a space of two and a half months, Daisy had switched off nature's imperative to communicate. Trevarthen (2001: 98) summarises how

> It is becoming increasingly clear that the human central nervous system, with the human body, is designed for an exceptionally elaborate brain-to-brain linking so the motive regulations of one brain can powerfully interact with those of the brain in another person.

Such a level of psychological contact is central to individual development, and at the same time, it ensures its genetic continuation by contributing a special advantage later on. After all, one is not going to cut the mustard in competitive mate-selection, and so pass on the relevant genes, without being able to fathom the moods and wishes of a potential mate. Moments of intersubjectivity continue to be treasured throughout life; as Martin Buber said many years ago: 'In the relationships through which we live, the innate You is realised in the You we encounter' (Buber, 1937: 78).

If the motive for seeking intersubjective contact and the capacity to register it are innate then this implies a biological significance on both a personal and species level. As far as the former is concerned: 'Human infants have profoundly undeveloped brains. Maintaining proximity to their caregivers is essential both for survival and for allowing their brains to use the mature states of the attachment figure to help them organise their own mental functioning' (Siegal, 1999: 149). This closeness is essential for the development of the uniquely human skill of speech since 'language arises from the syntactic under-standing generated by our mirror neurons' (Dobbs, 2006: 25). The discovery of audiovisual mirror neurons in the ape homologue of Broca's Area indicates the start of the evolutionary process that led to the human speech brain region, since 'these neurons have the capacity to represent action contents; (and) they have auditory access to those contents so characteristic of human language' (Kohler *et al.*, 2002: 848).

On a wider level, Stern (2004: 98) posits that intersubjectivity has contributed to species survival as it 'promotes group formation, it enhances group functioning, and it assures group cohesion by giving rise to morality.' An increase in the role of intersubjective contact in the socialisation process, necessary for such a secondarily altricial species, gave *Homo sapiens* an edge on the competition. The major difference between *Cro Magnon* and *Neandertal* (who co-existed in Europe) may have been the ability to conceptualise things that cannot be seen and may not exist; and this 'shift from primary to higher-order consciousness facilitated a different experience and socially agreed apprehension of the spectrum of human consciousness' (Lewis-Williams, 2002: 190). It has been speculated that 'the change was a genetic adaptation that gave key neurons the mirroring capacity they now hold, paving the way for accelerating advances in understanding, communication and learning' (Dobbs, 2006: 27). Language, tool-making and culture are predicated on complex imitation. Such an advantageous transformation in the quality of consciousness, including being self-aware and aware of other selves and so able to read intentions, capitalised on the early brain plasticity that had previously evolved with the *Australopithecines* (roughly four million years ago), marking the change to bipedal locomotion and the balancing act between size of hips (too wide, slow runner, get eaten) and the synaptic sparseness of the neonate's brain (small skull, post-birth brain growth, plasticity). The main reason for the comparatively major increase in brain volume for the *Homo erectus* lineage may have been selection for the mental skills required to function in large social groups, including the cognitive capacity for handling all the plots and permutations of relationships this involved.

Importing the world

Humans have evolved within a social environment; and babies begin to adapt immediately to their intersubjective ecological niche, as defined by the caregiving within the family. 'The human brain is the only brain in the biosphere whose potential cannot be realised on its own. It needs to become part of a network before its design features can be expressed' (Donald, 2001: 324). To begin with, Daisy was falling through the holes! The intersubjective processes behind both 'holding' and 'containment' play a necessary and important, but not dominant, part here; these broadly similar concepts describe how the mother introduces the baby to the ways in which experiences can be owned and mastered. But the full spectrum of intersubjective communication is a vehicle for internalising more than just self and affect regulation. 'In humans intersubjective awareness motivates cultural learning – the intergenerational transmission of knowledge and skills with all the conceptual and material consequences' (Trevarthen and Aitken, 2001: 18). Perhaps there is a clue here as to how Daisy seemed to leap ahead once the relationship with her mother improved; and, tragically, perhaps this was a fault line in Clare's early development.

Moments of emotional sharing, when baby and parent are engaged in reaching out to one another, are when both the child's psyche and neurobiology are being actively moulded to the mother's version of relationships and reality. 'The hand that rocks the cradle rarely controls the world. But the voice that sings the lullabies and barks cautionary messages in the first years of life provides critical information about the social

niche into which the child has been born' (Hrdy, 2000: 77). The mind of the child will reflect the socially constructed assumptions the mother carries. But it is more than just a matter of fitting in to family and society for the child: 'Only through limbic resonance with another can he begin to apprehend his inner world' (Lewis *et al.*, 2000: 156). Or, as Winnicott (1971: 112) put it, when the baby 'looks at the mother's face . . . what the baby sees is himself or herself.' Clare's growing confidence in her ability to attune to Daisy's internal world could be explained by the concepts of holding, containment and reflective function; but, applying Occam's Razor,[1] it would be more economical to say that what was observed was a baby's natural response to enhanced intersubjectivity.

All brains, not only human ones, have evolved purely to predict, a purpose that is 'pervasive throughout most, if not all, levels of brain function' (Llinas, 2002: 22). Given the central importance of the social environment it is no surprise that infants automatically create an idiosyncratic clairvoyance about relationships, enabling them to forecast their own and other's responses. Internal working models are intrinsic to brain design and make interpersonal navigation more efficient. But internal working models are not formed by attachment *per se*; they are fashioned by the forces within the 'intersubjective matrix' that attachment sets up. Clare was unwittingly preparing Daisy for an environment where intimacy was to be shunned, thus removing the likelihood that she would go on to use meaningful relationships. Fortunately, they were able to rediscover each other. At two and a half months, when Daisy was first filmed, babies have clear ideas about what to expect from caregivers, based on innate preparedness and skills, and the ability to make an emotional response, which, in the wrong circumstances, may become an adaptation. As Trevarthen describes, 'Experimental studies with 2 month olds showed that unresponsive or noncontingent behavior from the mother precipitated well-organised negative emotional reactions, indications of frustration, depression, or shame' (Trevarthen, 2001: 101). The quality of emotional engagement during moments of intersubjective sharing in the early years is the business of caregiving and, when necessary, infant mental health interventions. Fortunately, given the right conditions, making such communication is what babies are naturally best at.

Child and Family Service
Delancey Hospital
Charlton Lane
Cheltenham
Gloucestershire GL53 9DU
UK
e-mail: robin.balbernie@glos.nhs.uk

Notes

1 'No more things should be presumed to exist than are absolutely necessary.' 'Occam's Razor', attributed to Occam, but thought to be earlier in origin.
2 There are two versions of the 'Ages and Stages Questionnaire'. The one I was using covers general developmental achievement; another (not published at that time, the ASQ: SE)

measures social and emotional development. These are extremely useful tools, designed to be easily accessible to parents, who take the lead in completing them. In our infant mental health service in Cheltenham, we use the measure of social and emotional development to monitor and evaluate the progress of the babies within the families referred to us. They are available from Paul Brookes Publishing Co. (www.brookespublishing.com) and can be ordered through any bookshop.

References

AITKEN, K.J. and TREVARTHEN, C. (1997) 'Self-other organisation in human psychological development'. *Development and Psychopathology*, 9: 653–78.

BALBERNIE, R. (1997) 'Containment and contentment'. *Journal of Child Psychotherapy*, 23 (2): 245–53.

BALBERNIE, R. (1999) 'Inadmissible evidence: an example of projective identification'. *Clinical Child Psychology and Psychiatry*, 4 (2): 215–23.

BALBERNIE, R. (2002) 'An infant in context: multiple risks and a relationship'. *Infant Mental Health Journal*, 23 (3): 329–41.

BALINT, M. (1968) *The Basic Fault.* London: Tavistock Publications.

BEEBE, B. (2003) 'Brief mother–infant treatment: psychoanalytically informed video feedback'. *Infant Mental Health Journal*, 24 (1): 24–52.

BION, W.R. (1962) *Learning From Experience.* London: Heinemann.

BOWLBY, J. (1988) *A Secure Base.* London: Routledge.

BRITTON, R. (1998) *Belief and Imagination.* London: Routledge.

BUBER, M. (1937) *I and Thou,* trans. W. KAUFMANN (1970). Edinburgh: T. and T. Clark.

CARR, L., IACOBONI, M., DUBEAU, M.C., MAZZIOTTA, J.C. and LENZI, G.L. (2003) 'Neural mechanisms of empathy in humans: a relay from neural systems for imitation to limbic areas'. *Proceedings of the National Academy of Science*, 100 (9): 5497–502.

DAPRETTO, M., DAVIES, M.S., PFEIFER, J.H., SCOTT, A.A., SIGMAN, M., BOOKHEIMER, S.Y. and IACOBONI, M. (2006) 'Understanding emotions in others: mirror neuron dysfunction in children with autistic spectrum disorders'. *Nature Neuroscience*, 9 (1): 28–30.

DOBBS, D. (2006) 'A revealing reflection'. *Scientific American Mind*, 17 (2): 22–7.

DOLLBERG, D., FELDMAN, R., KEREN, K. and GUEDENEY, A. (2006) 'Sustained withdrawal behavior in clinic-referred and nonreferred infants'. *Infant Mental Health Journal*, 27 (3): 292–309.

DONALD, M. (2001) *A Mind So Rare.* New York: W.W. Norton & Company.

FONAGY, P. (2001) *Attachment Theory and Psychoanalysis.* New York: Other Press.

FONAGY, P., GERGELY, G., JURIST, E.L. and TARGET, M. (2002) *Affect Regulation, Mentalisation, and the Development of the Self.* New York: Other Press.

FONAGY, P., STEELE, H., STEELE, M., MORAN, G.S. and HIGGITT, A.C. (1991) 'The capacity for understanding mental states: the reflective self in parent and child and its significance for security of attachment'. *Infant Mental Health Journal*, 12 (3): 201–18.

HRDY, S.B. (2000) *Mother Nature.* London: Vintage.

KOHLER, E., KEYSER, C., UMILTA, M.A., FOGASSI, L., GALLESE, V. and RIZZOLATTI, G. (2002) 'Hearing sounds, understanding actions: action representation in mirror neurons'. *Science*, 297: 846–48.

LEERKES, E.M. and SIEPAK, K.J. (2006) 'Attachment linked predictors of women's emotional and cognitive responses to infant distress'. *Attachment & Human Development*, 8 (1): 11–32.

LEWIS-WILLIAMS, D. (2002) *The Mind in the Cave.* London: Thames and Hudson.

LEWIS, T., AMINI, F. and LANNON, R. (2000) *A General Theory of Love.* New York: Vintage Books.

LIEBERMAN, A.F., SILVERMAN, R.S. and PAWL, J.H. (2000) 'Infant–parent psychotherapy: core concepts and current approaches'. In ZEANAH, C.H. (ed.) *Handbook of Infant Mental Health*, 2nd edn. New York: The Guilford Press.

LLINAS, R.R. (2002) *i of the Vortex: from Neurons to Self.* Cambridge, MA: The MIT Press.

MCDONOUGH, S.C. (1993) 'Interaction guidance: understanding and treating early infant–caregiver relationship disturbances'. In ZEANAH, C.H. (ed.) *Handbook of Infant Mental Health.* New York: The Guilford Press.

MCDONOUGH, S.C. (2004) 'Interaction guidance: promoting and guiding the caregiving relationship'. In SAMEROFF, A.J., MCDONOUGH, S.C. and ROSENBLUM, K.L. (eds) *Treating Parent–infant Relationship Problems.* New York: The Guilford Press.

MURRAY, L. and TREVARTHEN, C. (1986) 'The infant's role in mother–infant communication'. *Journal of Child Language*, 13: 15–29.

OGDEN, T.H. (2004) 'On holding and containment, being and dreaming'. *International Journal of Psycho-Analysis*, 85: 1349–64.

POZZI, M.E. (2003) *Psychic Hooks and Bolts: Psychoanalytic Work with Children Under Five and Their Families.* London: Karnac.

SANDLER, J. (1976) 'Countertransference and role responsiveness'. *International Review of Psycho-Analysis*, 3: 43–7.

SCHORE, A.N. (2003) *Affect Regulation and the Repair of the Self.* New York: W.W. Norton and Company.

SIEGAL, D.J. (1999) *The Developing Mind: Towards a Neurobiology of Interpersonal Experience.* New York: The Guilford Press.

SIEGAL, D.J. (2007) *The Mindful Brain.* New York: W. W. Norton and Company.

SMALL, M.F. (1998) *Our Babies, Ourselves.* New York: Anchor Books.

STERN, D.N. (1985) *The Interpersonal World of the Infant.* New York: Basic Books.

STERN, D.N. (2004) *The Present Moment in Psychotherapy and Everyday Life.* New York: W.W. Norton and Company.

TREVARTHEN, C. (1980) 'The foundations of intersubjectivity: development of interpersonal and co-operative understanding in infants'. In OLSEN, D.R. (ed.) *The Social Foundation of Language.* New York: W.W. Norton and Company.

TREVARTHEN, C. (1993) 'The function of emotions in early infant communication and development'. In NADEL, J. and CAMAIONI, L. (eds) *New Perspectives in Early Communicative Development.* London: Routledge.

TREVARTHEN, C. (2001) 'Intrinsic motives for companionship in understanding: their origin, development, and significance for infant mental health'. *Infant Mental Health Journal*, 22 (1–2): 95–131.

TREVARTHEN, C. (2005) 'Stepping away from the mirror: pride and shame in adventures of companionship'. In CARTER, C.S., AHNERT, L., GROSSMANN, K.E., HRDY, S.B., LAMB, M.E., PORGES, S.W. and SACHSER, N. (eds) *Attachment and Bonding: a New Synthesis.* Cambridge, MA: The MIT Press.

TREVARTHEN, C. and AITKEN, K.J. (2001) 'Infant intersubjectivity: research, theory, and clinical application'. *Journal of Child Psychology & Psychiatry*, 42 (1): 3–48.

TREVARTHEN, C. and HUBLEY, P. (1978) 'Secondary intersubjectivity: confidence, confiding and acts of meaning in the first year'. In LOCK, A. (ed.) *Action, Gesture and Symbol: the Emergence of Language.* London: Academic Press.

TRONICK, E., ALS, L. and ADAMSON, L. (1977) 'The structure of face-to-face communicative interactions'. In BULLOWA, M. (ed.) *Before Speech.* Cambridge: Cambridge University Press.

WEATHERSTON, D. (1999) 'Holding: its practical application in infant mental health services'. *The Signal*, 7 (4): 1–8.

WINNICOTT, D.W. (1960) 'The theory of the parent–infant relationship'. In WINNICOTT, D.W. (1972) *The Maturational Processes and the Facilitating Environment.* London: The Hogarth Press and the Institute of Psycho-Analysis.

WINNICOTT, D.W. (1962) 'Ego integration in child development'. In WINNICOTT, D.W. (1972) *The Maturational Processes and the Facilitating Environment.* London: The Hogarth Press and The Institute of Psycho-Analysis.

WINNICOTT, D.W. (1971) *Playing and Reality.* London: Tavistock Publications.