

**VOICE, VITALITY AND MEANING: ON THE SHAPING OF THE INFANT'S
UTTERANCES IN WILLING ENGAGEMENT WITH CULTURE.
COMMENT ON BERTAU'S "ON THE NOTION OF VOICE"**

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ABSTRACT. The newborn human voice communicates, and a foetus learns the sound patterns of the mother's voice transmitted through her body. It is our nature to vocalise, to perceive others' vocalisations, and to learn from their messages. Bertau reviews a rich literature on the social voice and its cultivation, how projects different ways of being, and acquires different personal narrative histories through dialogic transactions in the community. In responding, we propose that the life of the voice cannot be separated from the rhythm of human life time, the 'musicality' of moving in company. Infant vocal and gestural games seek affectionate 'holding' from known others and to share adventures of experience in companionship. The mother, influenced by her special intimacy with the baby, becomes a person with several voices, and how she adapts this poly-voicedness indicates her emotional health and the quality of her relationship with her baby, her home and society. The baby too, as it grows in playfulness and self-consciousness, 'becomes' different voices. In a family, a theatre of 'voice persons' is created, which leads the child participate in the living chorus of voices in the community of work and recreation, with its rituals of activity and habits of talk.

Marie-Cécile Bertau (2007, this issue) reviews theories of 'voicedness' between people when they communicate, and within them when they think. She gives special attention to the fertile arguments produced by the Russian school of literary theorists from the 1920s, and examines how voices and selves of children and their mentors shape each other. The vital relationship between the living, embodied and felt self and the shared meaningful context of language is made clear. Voices and their dialogues are internalized over time by stepwise transformation of memories of what they indicate, carrying in their wake laminated histories of shared experiences, stories of existence that eventually become internal dialogues.

Bertau talks of the "living materiality of voice", which, as Bakhtin (1986) has suggested, includes a manifoldness, a plurality of subjectivity and of personalities that

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emerges from dialogue. This idea of living materiality is central to Bertau's argument, and productive, for it underscores the dynamic aspect of vocal self-consciousness and its physicality, both of which have the advantage of being observable and measurable. The heard voices of mothers, according to Bertau, give shape to infants' voices that become expressive tools and complex socio-culturally situated identities. The infant is a willing apprentice to this 'education' in the cultural practice of language.

The voice is *vital* in both senses of the word. As an inherently dialogical phenomenon it is the essential basis for social life and, as it is also naturally inquisitive about the external world of others in the discovery of meaning with them, it is by nature a creative living organism.

Sharing the Time of Life

In responding to this essay we propose that voice cannot be separated from the stream of moving in time, from the 'musicality' of it, the rhythms and cadences of its expression and in memory of being in company. In the beginning, the heard voice *is life time*, because for a newborn infant it is the most salient thread of existence between the uterus and the world. The baby is born 'knowing' the mother by her voice.

Voices, emerging from within moving human bodies, like all movements, *make time*, anticipating and adjusting to the experience that they create (Trevarthen & Gratier, 2005). And vocal exchange involves confluence of 'fluxes of inner time' (Schutz, 1951). It implies a creative harmonising of the rhythms in duets.

While we agree that voice acquires a 'thickness' or 'substance' and richly detailed 'forms' within socio-cultural contexts by learning, we would add that human experience is *innately* dialogical (Bråten, 1992; Thompson, 2001). Moreover, in spite of developmental transformations, such as those famously outlined by Vygotsky (1929), human vocalisation can never lose this natural dialogicity, the motives and emotions that are inherited adaptations of the human body and mind for all intersubjective enterprises.

The behaviour of infants in their delicately negotiated engagements with sympathetic partners and playmates demonstrates that there is an *innate intersubjectivity* that enables synchrony of intentional rhythms, expressive gestural forms and qualities of voice with others from birth (Trevarthen, 1979, 1998; Trevarthen & Aitken, 2001, 2003). Discoveries of the past 4 decades require a fundamental reappraisal of our theories of how the making and learning of cultural meaning is motivated, especially of the contribution of the child's sympathetic motives to the genesis of human sociability. The phenomena of infant communication are frequently 'reduced' back to a monological cognitive account, even when the story purports to explain cultural learning by the acquisition of joint attention and the coordination of intentions that blend modalities in a space of action. It is not sufficient to cite only the evidence of assimilations of

intentions and their orientation in a common spatial context to identify forms of interest between child and adult. Like all parents have to do, we must offer respect for the infant's motives and emotions and the purposes and concerns they express (Reddy & Trevarthen, 2004; Trevarthen 2005a). The earliest dialogues are a sharing of the ways movements explore their effects in time. We must listen for the infant's voice, and how it multiplies.

How The Voice the Infant Is Born With Grows

By 6 weeks after birth, infants use their 'voices', the expressions and gestures of all their body with powerful conversational intent. Their vocalisations are invitations to engage in repartee with companions' minds.

Film studies of the development of infants' actions show transitions in motives of 'innate intersubjectivity' adapted for cooperative awareness and cultural learning (Trevarthen, 1979, 1998; Trevarthen & Aitken, 2001). The 'protoconversations' of two-month-olds (Bateson, 1979) use expressions of eyes, face, voice and hands in dialogic encounters that stimulate immediately responsive behaviours of parents, encouraging their affectionate and appropriately contingent support (Murray & Trevarthen, 1985; Nadel et al., 1999). Adult and infant move to the same tempo and mutually regulate sympathetic human contact, with a deliberate 'courtesy' like the address and reply of an improvised and amiable debate. The parent often refers to the speechless infant 'saying' things, or 'telling a story'. Infants not only produce modulated vocal sounds but also produce them at the right moment within an ongoing flow of speech addressed to them. Using a term from the Marxist social philosophy of Jürgen Habermas (1970), this behaviour with its 'dialogue constituent universals' was called Primary Intersubjectivity (Trevarthen, 1979). Soon it becomes evident that babies challenge as well as ask for support and playful elaboration -- in play mothers and three-month-olds create vocal interchange in synchrony and alternation, sharing many emotions by mutual 'attunement' (Stern, 1974, 2000; Stern, Jaffe, Beebe & Bennett, 1975; Stern, Hofer, Haft & Dore, 1985).

By applying computer-aided musical acoustic techniques to vocal exchanges between infants and adults, Stephen Malloch (1999) has clarified how the pulse and expressive/emotional qualities of voices are engaged in improvised 'musicality', creating phrases and narratives that enable parent and child "to share a sense of passing time" (Malloch, 1999, p. 45). Malloch's theory of Communicative Musicality and his detailed acoustic diagrams of the pitch and harmony of voices in time help us interpret the interplay of purposes, feelings and interest in which the infant, even a premature newborn, can play an active and discriminating part. It also opens the way to a general theory of active human communication, applicable in the study of the evolution and development of language, for educational and therapeutic applications, and in the

creation, sharing and teaching of musical art (Gratier, 1999, 2003; Malloch & Trevarthen, 2007; Robb, 1999; Trevarthen & Malloch, 2000, 2002).

Even in the early months of life, the 'inarticulate' voice, aided by face expressions and gesture, has the communicative status of a proto-language (Halliday, 1975); it *is* the means for intersubjective engagement. To assume that language 'replaces' preverbal forms of communication overlooks the fact that voice has a communicative function in and of itself and that it partakes in crucial ways in the shaping of linguistic meaning. Infants remind us of the direct and lively forms of communication that persist in social negotiations of all kinds, spoken and unspoken, and that can give special moral support between persons when there is need of sympathetic help and collaboration with taxing tasks or difficult ideas.

Within a few months, before the end of the first year, and before speech, the steps by which dialogic games lead to sharing 'acts of meaning' (Halliday, 1975) come clear through age-related changes in the infant's motives and interests. A major step forward in the infant's motivation was recorded at the University of Edinburgh in July, 1974. Penelope Hublely, filming a mother and her daughter of 10 months, observed the start of *cooperative person-person-object awareness*, later identified as Secondary Intersubjectivity (Trevarthen & Hublely, 1978). This baby was coupling interests in persons and objects that she had kept separate until then, gaining an enhanced sympathy for the purposes for object use coming to expression in movements of her mother's body.

Research with infants and their mothers from one to twelve months demonstrates increasingly complex playfully mannered patterns that first 'experiment' with 'person-person games', then include objects that infants want to look at or manipulate, making them 'toys' in play 'dramas' or 'person-person-object games', often voiced with onomatopoeic nonsense sounds. Infants participated in small repetitive rituals created with the mothers, gradually taking more initiative in cooperative play. Toward the end of the first year, well before speech begins, infants grasp the purposes of others' actions, extending them, perverting them, noticing when they were accidental or 'absent-minded', and therefore 'not important', sometimes being helpful, often teasing. All of this brings to the infant's attention a wealth of meanings from everyday activities in the community of the family (Hublely & Trevarthen, 1979; Trevarthen & Marwick, 1986; Trevarthen, 1988). We called this 'cultural learning' and relate it to the 'intent participation learning' observed in many cultures where formal schooling is of less importance or absent (Greenfield & Lave, 1982; Rogoff et al., 2003).

Six-month-olds show to others an expression of joyful pride in performing learned displays, such as the actions of a hand clapping song, of making a comical sound with their lips, using the 'show' to confirm affectionate relationships, announcing a social identity or 'Me' (Trevarthen, 1990, 2002). The same baby will act wary and

ashamed with a stranger who, 'stupidly', does not know the game. The young performer thus demonstrates a sense of the moral sentiments that can keep or break social ties, and that may facilitate sharing of meanings and purposes, or make their understanding more difficult (Trevvarthen, 1995, 2005b). Observing these signs of self-awareness we learn how cultural understanding enriches sociability for an infant, and how it changes the infant's voice in society.

Vasu Reddy has demonstrated how this 'other awareness', 'awareness of the self in the eyes of the other', prompts infants to be clowns, even from the second month of life (Reddy, 2003; Reddy & Trevvarthen, 2004). The emotions of a joking, teasing 'Me' are inseparable from the social world in which they are created and accepted. They signal, and strengthen, 'belonging' in a family or small community (Gratier, 2003). Meaning is discovered and celebrated in imaginative performances, rich in mimesis and metaphor, in both of which the expressive quality of acts is the message, making parables that need no words (Donald, 2001; Turner, 1996). More sophisticated linguistic habits retain the value of expressions discovered in 'infant semiosis' as a 'common sense' of signs is built (Trevvarthen, 1994).

Imitations and the Invitations of Initiative Lead to Being An Affectionate Companion, Bold in Play and Proud In Knowledge

As Bertau says, in imitative dialogues, a sequence whereby the infant imitates the mother's imitation of his own vocalisation is clearly a transformation of the self through the other. It involves an experiencing and an exploration of self from the outside where the social self meets the innate self. The introjected Other in Self has both a structuring and a guiding function, exercising a growing 'character' and 'identity'.

The infant seeks to be imitated as much as it seeks to imitate, and affectionate adults imitate infants. Nagy has shown that newborns provoke imitations with partners whom they have previously imitated, and that in the beating of their heart infants show excitement and expectation in these transactions, actively projecting voice and feeling (Nagy & Molnár, 2004). Kugiumutzakis and his students describe the dialogues and emotions of imitation with infants, even premature newborns, confirming that infants stimulate others to imitate them, with emotions of interest and pleasure (Kugiumutzakis, 1999; Kugiumutzakis et al., 2005).

When a happy mother imitates she reproduces the intonational contour and quality of the infant's voice, taking on the baby's voice as one of her own possible voices, and she thereby transforms the baby's expressed self in confirming ways (Stern, 1990). Vocal imitation involves maintaining a degree of sameness or similarity as well as the introduction of variation that expresses changing feelings, self-confidence and intensity of purpose, vital for the regulation of deference and provocation in all social encounters. In play with infants, the expressions of voice, of both adult and child, change, often in extreme ways -- cooing with affection, laughing or squealing with

delight, shouting or screaming with anger or pain. Dramatic imitative games are created and some become the cultural rituals of lullabies or teasing action songs passed on from mother to daughter or son.

Already in infancy peers can be vocal companions with whom interpersonal relations can be negotiated (Selby & Bradley, 2003), but for toddlers the society of voices has become much bigger. Moving freely in the family and playground the child can make friends with all ages and with other children building a 'musical culture' out of many singing, dancing, chasing and story-telling 'voices' (Bjørkvold, 1992).

Voice as Holding

The expressive rhythms of human voices have the potential for holding attention and interest and at times they hold comfort and well-being. Winnicott (1971) beautifully describes the importance of the mother's Holding for the infant, which is inseparably physical and mental. Holding supports the infant's sense of identity and existence. We propose that the vocal rhythms of interpersonal engagement constitute a Holding environment for the infant that is in continuity and coherent with the physical holding involved in caregiver's mothering techniques.

In the contexts of childcare, techniques of the body as defined by Mauss (1934) are ways of moving the body in time; ways that afford anticipations and surprises, inviting others to partake in the collaborative shaping of up-coming action. It has been shown that infants participate actively in their care routines and that they learn the subtle patterns of posturo-tonic engagements associated with their caregivers' beliefs and representations (Stork, 1986). Rhythms of childcare 'hold and contain' children's emotions and excitement, 'cultivating' their expectations of live company. They have a 'regulatory' function because they are responsive to the child's need for engagement and the improvisation of shared patterns of experience. Similarly rhythms of motherese and infant-directed singing hold and contain the infant's attention, excitement and involvement, as the infant's delight holds the mother's affection (Trehub & Trainor, 1998).

The sonic spaces in which the foetus then infant gain consciousness may form what the French psychoanalyst Didier Anzieu (1995) calls an 'audio-phonic skin' which both contains and protects the infants, and, he proposed, supports his capacity to signify, then symbolise. This sonic space bounded by an audio-phonic skin acts as the first mirror or echo, reflecting and refracting not just the infant's self but also his self in others (Anzieu, 1995). Sonic space must be seen as a primordial intersubjective space, one actively created by the infant as well as the mother.

The Many Voices of a Mother

The infant recognises the mother's voice at birth (De Casper & Fifer, 1980) but the voice the newborn knows is not the voice the mother addresses to him. A woman

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speaks to her newborn with the voice of motherhood, which is in itself a 'double-voice'; the voice of her new maternal identity for herself, and the voice responding to the impulses and feelings of the infant mind (Papousek & Papousek, 1987). A mother's voice speaking to her baby delineates the intimate space where Ellen Dissanayake (2000) says Art is born -- a place of dancing, singing inventiveness that makes little dramatic rituals of mutual enjoyment rich in repetitions and surprises. The mother speaks with no one else the way she does with her baby, and fathers and siblings are stimulated by the infant's interest and pleasure to become 'artists' in similar ways.

A growing awareness of this 'special' voice that belongs to the infant, and to the mother, and then to the father with the infant, must be an important basis for the sense of self, confirming a feeling of uniqueness that is recognised and appreciated by the others. From before birth, the voice of the mother is a vehicle for both continuity and change. The foetus knows the mother's voice throughout the last months of intra-uterine life, but what is perceived are the lilts, inflections and cadences of the voice rather than any static 'finger print'. In other words, life before birth presents stable audible and felt temporal contours and signature tunes that can be thought of as preparing for protective maternal care after birth. The mother's familiar voice may be the source of a feeling of 'existence' and a sense of Time.

Motherese should not be thought of merely as an evolutionarily adapted universal behaviour that scaffolds an underdeveloped mind into consciousness, language and rationality. Mothers speak in many voices – and sometimes in many languages - and each voice spins stories that resonate with social, cultural and historical meaning. What is certainly crucial is that, in well-being, infants can hear and experience this unity in multiplicity, that they know all of the voices belong to one loving and caring mother. At the same time they may begin to hear the continuities and overlaps between the mother's voice and those of close others who share similar world-views.

Studies of interactions between infant and mothers suffering from psychopathological conditions confirm this crucial role of 'voice'. Mothers suffering from post-natal depression speak to their infants with monocord, low-pitched voices and have difficulty engaging their infants in lively protoconversation (Bettes, 1988; Robb, 1999). Depressed mothers' speech is not only less musically expressive, it is also less focused on the infant's experiences and agency (Murray, Kempton, Woolgar & Hooper, 1993). Depressed mothers do not take on their infant's voice as much as non-depressed mothers who use a form of 'reported speech' to report and comment on the infant's feelings as though from the inside, shifting perspective by taking on other voices. Perhaps depressed mothers lack the rich multiplicity that makes up 'voice'.

Analyses of interactions between mothers suffering from 'borderline personality disorder' and their infants shed further light on the issue of "the individual manifoldness of voice" (Bakhtin, 1979, p 157-159; cited by Bertau) in mother-infant exchange.

Women who suffer from this disorder have a difficulty negotiating interpersonal spaces for intimacy. Their social lives are often marked by sudden shifts of mood feeding tumultuous relationships. With their infants, these mothers tend to be unpredictably intrusive or withdrawn and to express more negative than positive affect (Gratier & Apter-Danon, in press). Acoustic analyses of vocal interactions between ‘borderline’ mothers and their young infants reveal quite strikingly basic incoherencies in the ways these mothers use their voices. They often sound like many different mothers speaking in turn because the timbre of their voices and the speed of the speech shift markedly, which has a powerful effect on infants who are trying to making sense of their own voice in their mothers’ voices.

Voice and Belonging

A mother’s voice is also the voice of her community. It carries the history of her affiliations. A voice is never one’s own (except perhaps in mental illness), it carries the imprint of close others and communities of belonging through styles of speech, accent, the recurrent use of words or turns of phrases, etc. From the first non-verbal dialogues the infant holds with close others a process of belonging is set in motion. As the infant interacts meaningfully with close others, culture begins to inhabit its body and voice. We have shown that the vocal exchanges of 2-month-old infants carry the imprint of the specific conversational styles of the cultures they were born in (Cowley, Moodley & Fiori-Cowley, 2004; Gratier, 2001; 2003). From the earliest experiences of social exchange infants are picking up the temporal and qualitative shapes of expression most typical of their communities of belonging. This constitutes what can be thought of as a ‘protohabitus’ with reference to Bourdieu’s notion of *habitus* as the regulated improvisation that guides specific social behaviour (Bourdieu, 1990). ‘Protohabitus’ provides the first set of rules for social exchange that an infant can predict in the course of interacting with close others. These ‘structuring structures’ are continually reshaped through everyday encounters with members of a community. Protohabitus grows out of the innate motives for sharing and meaning and gradually roots an infant within more or less defined communities of belonging (Gratier & Apter-Danon, in press).

The rhythms of parents’ vocal styles carry cultural meaning, like flowing rivers, though ever changing, have memories, carrying minerals and sediments from other places and other times. Belonging is first played out in the body and the voice and in the anticipations of how and when the bodies and voices of others will behave -- how the game will be played and how the rules may change or endure. Culture is in the body and in time before it is reflected upon and talked about in consciousness, or literature. This is why culture runs deep and languages leave their traces in rhythmic feel and anticipatory emotion, in life and literary art.

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