

CMPCP

AHRC RESEARCH CENTRE FOR MUSICAL PERFORMANCE AS CREATIVE PRACTICE

## Shaping Music In Performance

10-11 March 2010

Hodgkin Building, Guy's Campus  
Kings College, London

Shapes of Sound In Music That Tell Stories:  
How Communicative Musicality Moves Us  
Prof. Colwyn Trevarthen,

Department of Psychology, University of Edinburgh, Scotland

PERCEPTION, MOVEMENT  
& ACTION RESEARCH  
CENTRE (PMARC)



INSTITUTE FOR MUSIC IN  
HUMAN & SOCIAL  
DEVELOPMENT (IMHSD)

My theme is this:

There are two sides to *the dynamic shapes of all human art*  
- **self-regulation** of feeling in the body and in its moving;  
- and **sharing** meaning in stories of imagined action and  
interactive communication or drama.

Art has **beauty of self-conscious form**, and **moral  
purpose in community**. Music as art in sound must be  
well done, but it is *not only formal technique or sound  
technology*, either in composition or in performance.

The theory of Communicative Musicality, based on  
research with the musical talents of infants, attempts to  
give these principles precise definition, identifying the  
essential parameters of *pulse, quality and narrative*.

'Musicality' may be defined as **the Human Way  
of Moving, with Rhythm and Expression** -- to  
*Create Action* of all the Body, and to *Communicate*  
Stories of Purpose, Thought and Feeling.

It is active in all the 'imitative arts', which play  
with the pulse and melody inherent in movements,  
however they may be transmitted, in sound, by  
acting and dancing, by drawing and painting, and  
by speaking and writing -- all are 'musical' in form  
and meaning, for those who are moved by them.

### Natural Communicative Musicality Expression of the Idea from 230 Years Ago

"After the pleasures which arise from gratification of  
the bodily appetites, there seems to be none more  
natural to man than Music and Dancing.

In the progress of art and improvement they are,  
perhaps, the first and earliest pleasures of his own  
invention; for those which arise from the gratification  
of the bodily appetites cannot be said to be his own  
invention."

Adam Smith (1777/1982)

Of the nature of that imitation which takes place in what are called the  
imitative arts. In, *Essays on Philosophical Subjects*,.  
(Ed. Wightman and Bryce;) Indianapolis: Liberty Fund.

### Musical Emotional Narratives

"Without any imitation, instrumental Music can produce  
very considerable effects... : by the sweetness of its  
sounds it awakens agreeably, and calls upon the  
attention; by their connection and affinity it naturally  
detains that attention, which follows easily a series of  
agreeable sounds, which have all a certain relation both  
to a common, fundamental, or leading note, called the  
**key note**; and to a **certain succession or combination  
of notes, called the song or composition**."

Adam Smith, loc. cit.

"Music is given to us with the  
sole purpose of establishing an  
order in things, including, and  
particularly, the co-ordination  
between man and time"

Stravinsky, I. (1936): *Chronicle of My Life*.  
Gollancz. London, p.83.

But just as the eye completes the lines of a drawing, which the painter has knowingly left incomplete, just so the ear may be called upon to complete a chord and cooperate in its resolution. ... *Dissonance, in this instance, plays the part of an allusion.* ... All music is nothing more than a **succession of impulses that converge towards a definite point of repose.** That is as true of Gregorian chant as it is of a Bach fugue, as true of Brahms's music as it is of Debussy's. ... This **general law of attraction** is satisfied in only a limited way by the traditional diatonic system, for that system possesses no absolute value.

Igor Stravinsky (1947). *Poetics of Music in the Form of Six Lessons.* Cambridge, MA: Harvard University Press, pp. 34 to 36.

**The sounding tone constitutes ... the essential axis of music.** Musical form would be unimaginable in the absence of elements of attraction which make up every musical organism and which are bound up with its psychology. **The articulations of musical discourse betray a hidden correlation between the tempo and the interplay of tones.** All music being nothing but a succession of impulses and repose, it is easy to see that the drawing together and separation of poles of attraction in a way determine **the respiration of music.**

Igor Stravinsky (1947). *Poetics of Music in the Form of Six Lessons.* Cambridge, MA: Harvard University Press, p. 36.



**The Apple in Eden: How Do We Share Meaning Before Words?**

Infant psychology teaches us that *knowledge is shared creativity in movement.*

We are born to live in a cultural world of actions, beliefs and material creations, *all beginning as works of imitative art, sensing bodies in movement, together.*  
Titian - "The Fall of Adam"

Technology, science and mathematics, and the arts strive to master practice in the material world, are **conventional products of practice.** They begin in *how we move and move together, learned with aesthetic feeling, and moral sensibility, in 'communicative musicality'.*

**Imaginative Meaning Shared Before School**

In early childhood knowledge is gained by *sharing make-believe.*

Technology, science and mathematics strive to measure and master the material world by being free of sentiment and fantasy. They are *conventional products of romantic imagination.* However disciplined by rules to give stable definition to our collective experience of the time and space of our experience, they can begin only in *how human bodies, with their extravagant motility, move, know and share emotions together, with aesthetic feeling for what is creative and harmonious, and for good or evil in relationships which make cooperation possible.*

**STAGES OF EXPERIENCE, RELATIONSHIPS AND EDUCATION, TO SCHOOL AGE**

<b>Whitehead (1929)</b> (Creativity & Cooperation)	Romance	Discipline	Generalization	
<b>Erickson (1950)</b> (Ego Development Emotions in Relationships)	Trust v Mistrust	Autonomy v Shame & Doubt	Initiative v Guilt	Industry v Inferiority
<b>Piaget (1947)</b> (Cognitive)	Sensory-Motor	Pre-Operational	Concrete	Formal
<b>Bruner (1968)</b> (Cognitive Representation)	Enactive	Iconic	Symbolic	
<b>Donaldson (1999)</b> (Modes, of Action, Loci of Concern) Intellect & Emotion	Point (Here & Now)	Line (There & Then)	Construct (Anywhere Anytime)	Transcendent (Nowhere)

A child begins *sharing of habits of moving before birth,* responding to the feelings and sounds of the mother's life, *learning the rhythms and emotions of her activity.*

In first moments after birth, an infant may look and listen with innocent concentration for confirmation of human expressions, already building knowledge of others' being. The process of shared consciousness and story-making advances rapidly, *from the 'ritual courtesy' of protoconversations, to the teasing fun of games, and then to cooperation in practical tasks and 'acts of meaning'* by which a common sense world becomes ready to name its objects and actions with words.

Language is invented in common experience, *a fabricated tool of human collective fantasy.* It can be thought for oneself, or studied as a 'thing' in text, but *is learned by sharing.*

Music cultivates motives and emotions of shared movement.

WHAT RHYTHM IN THE MIND IS FOR: The Brain Thinks, Imagines and Remembers in Time, With the Rhythms of an Intrinsic Motive Pulse the IMP -- and these rhythms communicate

Using the Body

Rhythmic movements result from predictive motor images generated in the brain to 'use' and 'feel' the forces of the periphery (Bernstein, 1967).

How does a gymnast shape her somersault while in the air?

Trevarthen, C., Delafield-Butt, J. and Schögler, B. (2010) Psychobiology of musical gesture: Innate rhythm, harmony and melody in movements of narration. In A. Gritten & E. King (eds.) *Music and Gesture – 2*. Aldershot, UK: Ashgate

**CHILDREN ARE BORN MUSICAL**  
 They have all the sensibilities of an adult musician without training in conventions of composition or skills of performance. They move in rhythmical ways and explore the tones and melodies of their voice, imitating the intonations and narratives of other persons' expressions long before being able to talk. And they love to perform for the attention and affective appraisal of others. This is what we call 'communicative musicality', and it is foundation for the learning of many stories of human interest besides music.

**THE MUSIC AND DANCE OF SHARING**

This Is a Challenge for Psychology & for Neuroscience

**Japanese Boy, 10 Months Old, With His Mother, Appreciating Her Performance**

He watches her rhythmic hand play to accompany a nursery song, and bows politely to her at the end.

**THE HIDDEN REALM OF “VITALITY DYNAMICS”:**  
 Exploring Dynamic Experience and Vitality in Psychology, Neuroscience, Development, and Art  
 Daniel N. Stern M. D.  
 Coming soon. Oxford University Press

Vitality dynamics are psychological, subjective phenomena. They concern temporally contoured movements that are initiated by invisible felt forces ... felt as aliveness. Vitality dynamics are ... designed to fit the workings of the human world

Consider the following list of words.

exploding	surging	accelerating
Swelling	bursting	fading
drawn out	disappearing	fleeting
forcefull	powerful	weak
cresting	pulsing	tentative
rushing	pulling	pushing
Relaxing	langourous	floating
fluttering	effortful	easy
Tense	gentle	halting
gliding	swinging	tightly
holding still	loosely	bounding

*and many more.*

These words are common, but the list is curious. Most of the words are adverbs or adjectives. *They are not emotions or motivational states ... pure perceptions ... sensations -- they have no modality. They are not cognitions or acts, as they have no goal state and no specific means.* They fall in between all the cracks. They are *the felt experience of force – in movement – with a temporal contour - and a sense of aliveness. ... shapes of expressive movement.* They concern the **How**, the manner, the style, not the What nor the Why.

Vitality dynamics are the child of movement.

Movement is our primary experience and vitality dynamic experience is the most primitive and fundamental of all felt experience.

EFFICIENT FREE MOVEMENT HAS PACE,  
FORM & TONE, LIKE MUSIC

'Musicality' may be defined as the human way of moving with Rhythm and a wealth of Expression --

It Creates Action of the Body with Emotion, and It Communicates Stories of Purpose, Thought and Feeling -- *Driven by Time in the Brain in a CHRONOBIOLOGICAL SPECTRUM OF RHYTHMS*

TIMES OF THE MIND AND OF MUSIC  
ARE INNATE

Basic rhythms, and their emotional qualities, are the same in infants and adults.

This makes communication of the shared vitality of *intentions, interests* and *feelings* possible, before 'facts' of shared knowledge about actions and objects are identified in speech.

SHORTEST  
PERCEPTIBLE &  
CONTOLLABLE EVENTS

0.05 to 0.2 seconds



The inside stories go on slowly when you are asleep, imagining and remembering, dreaming of acting and experiencing with feeling.

The rhythm of energy in the body can be shared in streams of intimate vitality, unconsciously.

**EMBODIED SYNCHRONICITY -- Sharing the stories of dreams in breathing and heartbeat.**



Infants are much cleverer than we had thought at discriminating *musical rhythms and tones of human sounds, and appreciating a story.*

They hear and learn musicality of mother's talk and simple tunes *before birth.*

A two-month-old can be a skilled performer in an *improvised vocal duet or protoconversation, a shared story over tens of seconds.*

**A CHILD IS BORN WITH BODY & BRAIN READY TO MOVE IN COMPANY - MUSICALITY IS INNATE - IT CONDUCTS OUR MENTAL DRAMA & SHARES IT**

**A WONDERFUL EXAMPLE OF TRANSMODAL MEANING**



**Mors lilla Olle**



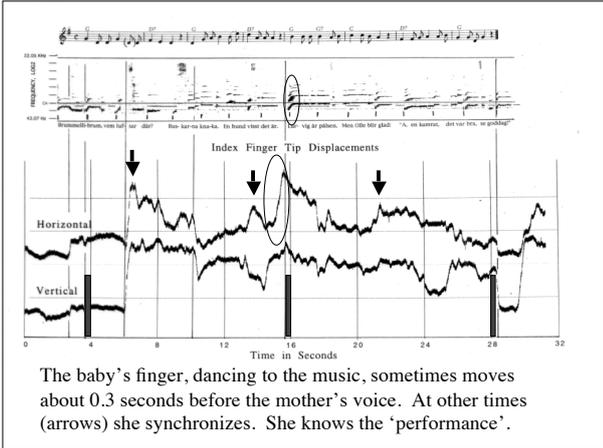
*Demmelblom, vana ladar där?  
Balkarna baka. En hund vint det är.  
Lagom är gilla. Mors Olle lilla Olle.  
"Å, en kanna, det var bra, se godligt!"  
Ett stycke åt skogen med blanda stek,  
och där från korgen - Åh, Åh, var ska gå!  
Mors lilla Olle, mors lilla Olle, gå!  
"Hej då, jag var, att du tyckte om kaffe!  
Mors lilla Olle, gå, gå, gå!  
Skogen sprang bort, se du lilla Olle!  
"Å, varför du hade du svaret om vika?  
Mors Olle, hej kanna kanna språk!"*

**Mother's little Olle meets a bear and feeds him blueberries**

**A Swedish Mother Sings to Her Blind 5-Month-Old Daughter**



How Maria shows us the shape of phrases and stories in song. This five-month old blind baby girl conducts her mother's songs with her left hand. Her hand moves 1/3 second before the melody of her mother's voice, making graceful gestures, telling a story she knows well.



### The Rhythms and Tones of a Story (experience with Swedish vowels)

#### Mors lilla Olle

Text och musik: Alice Tegnér

Brummelibrum, vem lufsar **lär**?  
 Buskarna knaka. En hund visst det **är**  
 Lurvig är pälsen. Men Olle blir **glad**  
 »Å, en kamrat, det var bra, se **goddag!**

Klappar så björnen med händer **små**  
 räcker fram korgen: »Se där, smaka **på!**  
 Nalle han slukar mest allt vad där **är**  
 »Hör du, jag tror, att du tycker om **bär!**

Mor fick nu se dem, gav till ett **skri**  
 Björnen sprang bort, nu är leken för **bi**  
 »Å, varför skrämde du undan min **vän**  
 Mor lilla, bed honom komma **igen!**

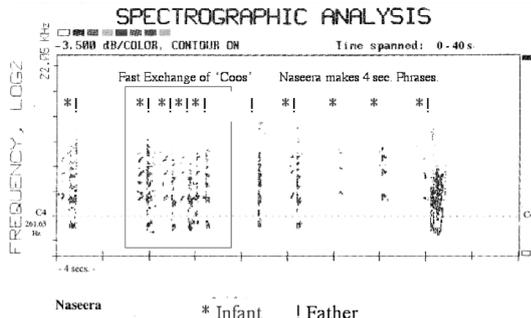
### NEWBORNS ARE EXPRESSIVE

A Musician's Daughter, 6 Hours Old

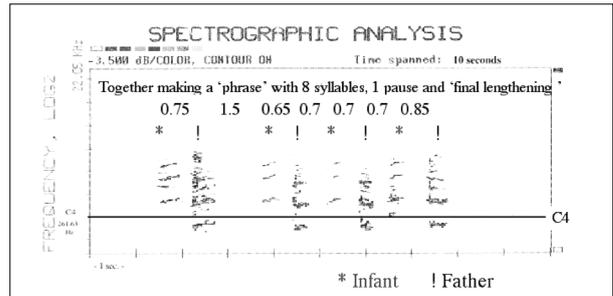
### Naseera, born 3 months early, kangarooing with father

**The voice of an immature newborn**

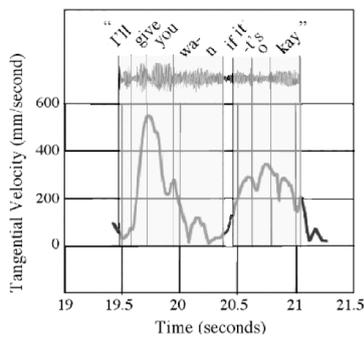
Naseera, 2 months premature, 'kangarooing', 'chats' with Father. Sharing time with vocal expression, and making up a 'story'.



Spectrographic analysis made by Stephen Malloch (1999)



The rhythm of sounds is very regular, near 0.7 seconds (*andante*), until the last, when the father comes in late. Each interval corresponds to a *syllable*, and the group (c. 4 seconds) approximates a *phrase* in speaking. The last interval corresponds to the normal increase in duration of the last syllable in a spoken phrase (*final lengthening*).



Arm movements of a newborn infant synchronise with an adult's speech (the microphone signal and vertical lines indicate the timing of syllables)

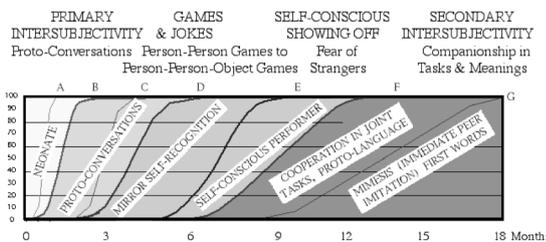
Trevarthen, C., Delafield-Butt, J. and Schögler, B. (2009). Psychobiology of musical gesture: Innate rhythm, harmony and melody in movements of narration. In Gritten and King, (eds.), *Music and Gesture 2*. Aldershot, UK: Ashgate.

**Age-Related Developments in Body and Mind**

In the first 18 months after birth advances in communication and self-awareness, and learned meaning, are related to developments in the body and movement, and also to changes in perception, cognitive abilities and memory.

The 'grasp' of the mind is growing, with new 'plans for activity', and new friends are found.

*The growth of a creative human cultural intelligence needs not 'stimulation', but the appreciation of sympathetic human company to share experiences, and help them intend and experience, with pride.*



**SIX TO TWELVE WEEKS**

Intense attention to face, seeking eyes. Synchronizes in vocal and gestural dialogues with 'communicative musicality'

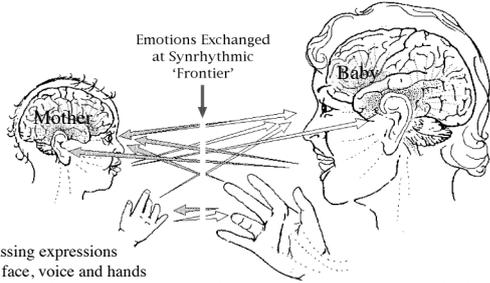


**IN EARLY WEEKS A BABY SEEKS INTIMATE CHATS**

At 7 weeks Téa is very interested in communicating.

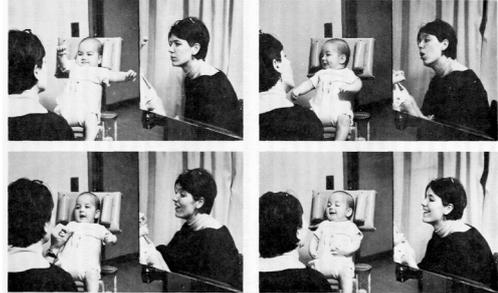


**SYNRHYTHMIC REGULATION:** Mother and infant can communicate **psychologically**, regulating sympathy by expressions of emotion.



Passing expressions of face, voice and hands back and forth, rhythmically, imagining each other, participating in feelings. Telling and acting out stories with emotion, listening to thoughts and imitating actions is how humans learn -- in shared vitality and awareness.

**THE BABY LEADS THE DANCE OF INTERSUBJECTIVITY**  
Jody, 9 weeks old, and his mother at the  
Center for Cognitive Studies, Harvard University, 1969



Research Project on Infant Communication with Prof. Jerome Bruner, Dr. T. Berry Brazelton and Dr. Martin Richards

We tell one another our intentions, interests and feelings from birth, by **moving in sympathy** -- creating stories of life with people we love.



**The Prosser Family in Edinburgh, 1979**

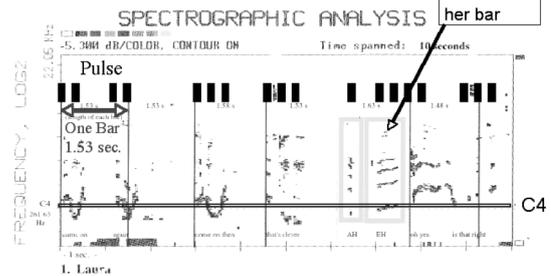
**Laura**, at 6 weeks, starts to chat with her Mother, **Kay**, at Edinburgh University. She pays attention.



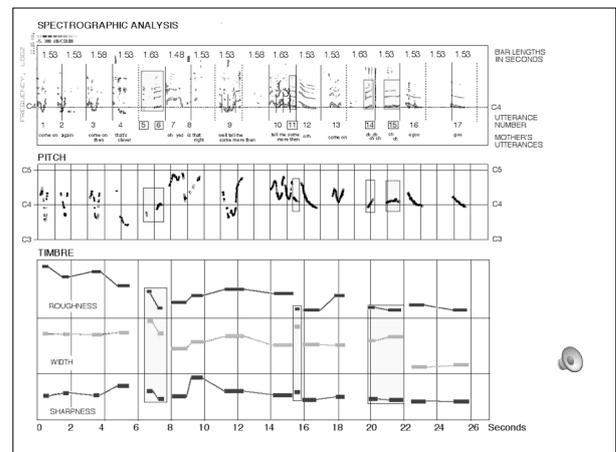
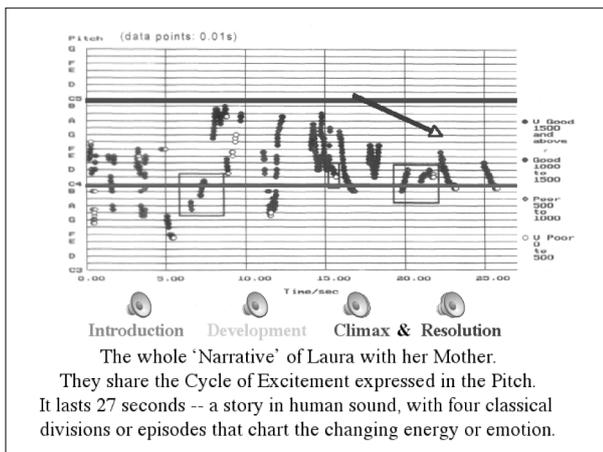
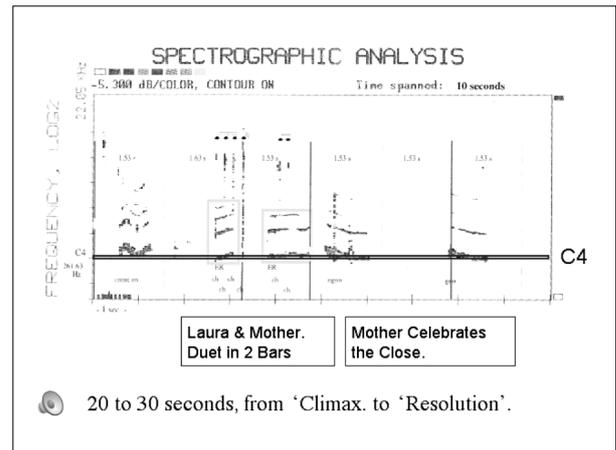
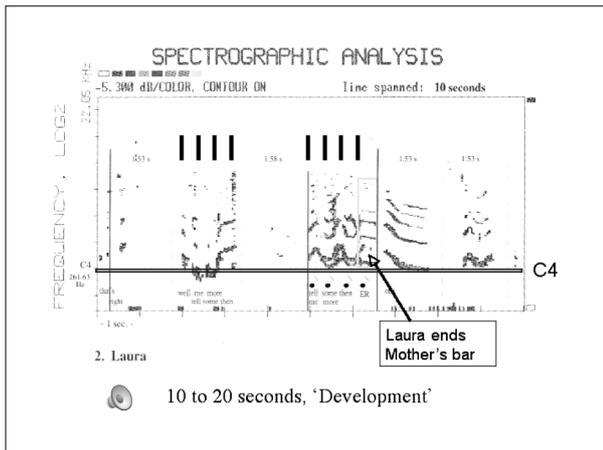
**THE BODY SHOWS INTIMATE INTENTIONS**  
Laura, 6 weeks old, and her mother, Edinburgh University, 1979



Stephen Malloch, a musician and acoustics expert, listened carefully to their Sounds of Affectionate Interest. He discovered the Communicative Musicality of Laura's and her Mother's Protoconversation -- a Story in Sound.



First 10 seconds of a short 'story': 'Introduction'.



**INTERSUBJECTIVE CHRONOBIOLOGY**

The rhythms, expressive qualities and narrative making in movements of dialogues or 'protoconversations' with 2-month-old Laura in Edinburgh led to Dr. Stephen Malloch, a violinist and music acoustics expert, to a theory of **Communicative Musicality**

This explains how time and energy in moving communicates by sensing messages in the expressive **vitality**, or 'flow' of energy, in human movements.

*The theory is explored in a book published this year*

*Communicative Musicality: Exploring the Basis of Human Companionship*

Stephen Malloch and Colwyn Trevarthen

Oxford University Press 2009. Paperback March 2010

As I listened, intrigued by the fluid give and take of the communication, and the lilting speech of the mother as she chatted with her baby, I began to tap my foot. I am, by training, a musician, so I was very used to automatically feeling the beat as I listened to musical sounds. ... It suddenly dawned on me that I was tapping my foot to human speech—not something I had ever done before, or even thought possible.

I replayed the tape, and again, I could sense a distinct rhythmicity and melodious give and take to the gentle promptings of Laura's mother and the pitched vocal replies from Laura.

### COMMUNICATIVE MUSICALITY (Malloch, 1999)

**Music** communicates because it engages an **Intrinsic Motive Pulse (IMP)** in the brain.

The sense of 'musicality' comprises:

- (1) **PULSE:** A rhythmic time sense (syllables, the beat, phrases and longer elements);
- (2) **QUALITY:** Sensitivity for the temporal variation in intensity, pitch and timbre of voices and of instruments that mimic the human voice;
- (3) **NARRATIVE:** Perception of the emotional development of the melodic line, which supports anticipation of repeating harmonies, phrases and emotional forms in a vocal or musical performance.

### Narrative

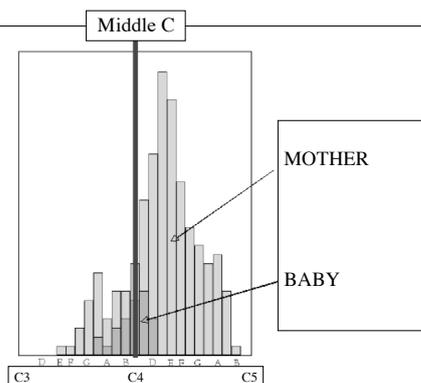
- Pulse and Quality are combined in the forms of emotional narrative, **which allow two persons to share a sense of purpose in passing time.**
- We examine the musical companionship that is created with her baby as a mother shares a protoconversation or chants a nursery rhyme.
- We conclude that Communicative Musicality is vital for companionable communication between mother and infant.

Stephen Malloch (1999).

**The proto-conversational story becomes a life story.**



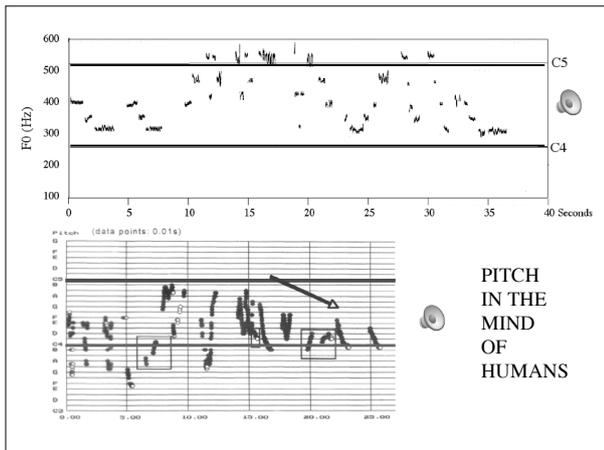
PITCH DISTRIBUTION IN LAURA'S PROTOCONVERSATION  
PITCH MEASURES FEELING FOR OTHERS



<http://news.bbc.co.uk/2/hi/science/nature/8117915.stm>

Scientists in Germany describe flutes dating back to the time that modern humans began colonising Europe, 35,000 years ago. They are the oldest musical instruments found to date.

The researchers say that music was widespread in pre-historic times. It may have been one of a suite of behaviours displayed by our own species which helped give them an edge over the Neanderthals.



**DEPRESSED MOTHERS  
LOSE MUSICALITY -- THEY CANNOT  
SHARE MOTIVES AND FEELINGS**

When they talk with their infants, taking part in adventures of action and of thought is more difficult for both, when 'out-of-touch'.

The baby may become depressed, too.

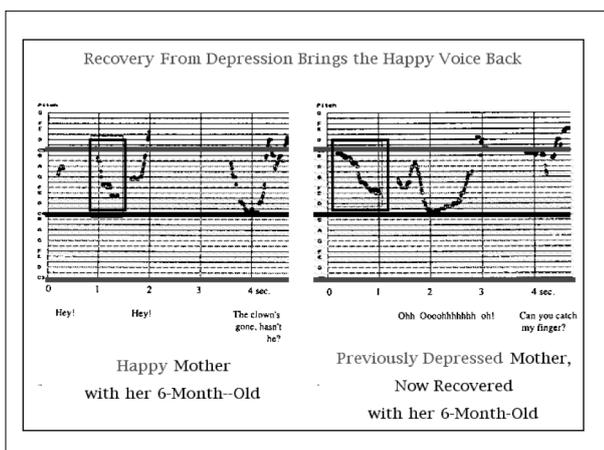
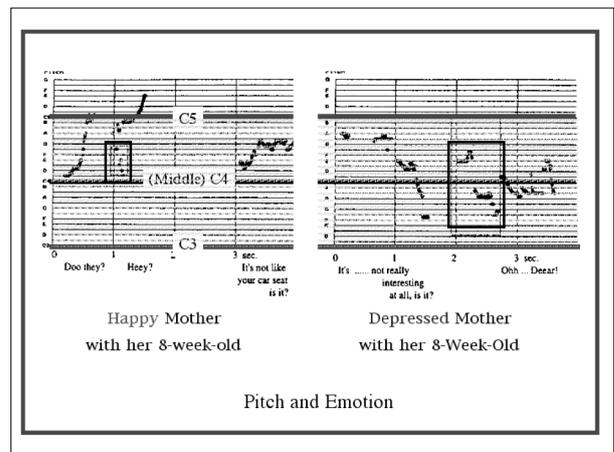
Lynne Murray's  
Test of the  
Infant's Sensitivity  
--1975

INTERRUPTION

NORMAL

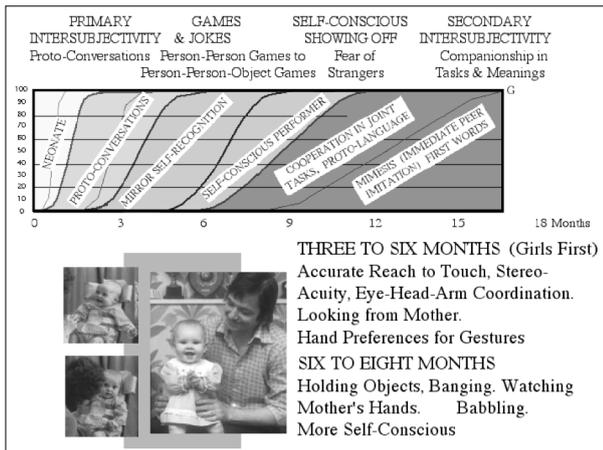
BLANK FACE

(Trevarthen, Hubley and Sheeran, Scientific Foundations of Paediatrics, 1981)



**GAMES & RITUALS,  
WITH PEOPLE  
AND WITH THINGS**

**Person-Person,**  
with a performer's pretence  
then  
**Person-Person-Object** with 'toys'.



After 3 months, a baby quickly becomes stronger, more curious, eager to look at surroundings, and to grasp and manipulate things.

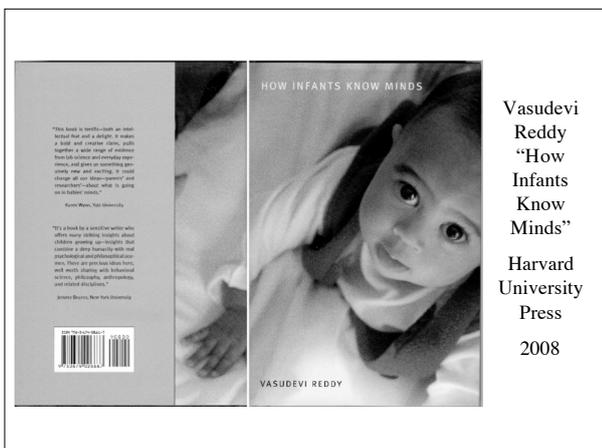
There is a growing tension between doing something for oneself, or with others -- and this makes for **self-consciousness, teasing and fun, and invention of games**. (This is why the infant begins to find mirrors interesting -- they tease expectations of communication)



### 'SELF-CONSCIOUSNESS' AT 3 MONTHS



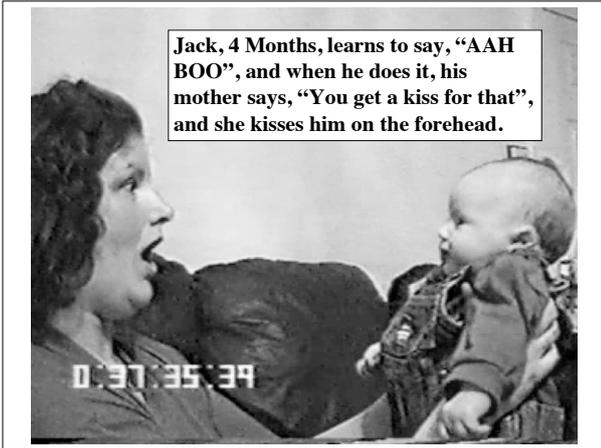
Vasudevi Reddy's study of babies' 'coyness' in front of the mirror began her interest in 'other awareness'.



A mother and all the family become more lively. They start playing **rhythmic body games**, and enjoy **music, songs and dancing** which become part of the fun of their life together.

They are sharing their **special rituals and dramas**, feeling them intimately in their bodies and minds, and remembering them in a '**proto-culture**'.

**They negotiate the invented life of meaning.**



Research on **songs for infants** in many languages has taught us how we share **story-telling** underneath, or beyond, the spoken word -- in the body.

**The infant's rhythmical feelings can be mirrored** and modified by song and instrumental music.

Responses to music prove that the organized **rhythm and melody catch a baby's attention** and move him or her to dancing in time with hands and legs.

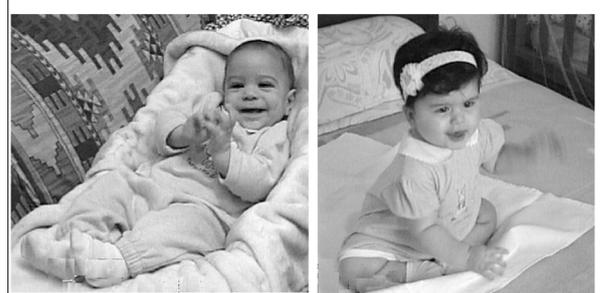
**Songs are quickly learned** and remembered. They become favourite messages of friendship, **emblems of the infant's identity, or membership of a group.**

### MUSICAL COMPANIONSHIP

The rhythm and expression of music carries *a message of human company*, the friendly 'Other', telling a moving narrative, giving fresh human purpose to time in the mind.

Music teacher and psychologist Dr. **Katerina Mazokopaki** has studied the development of rhythmic talents of babies in Crete.

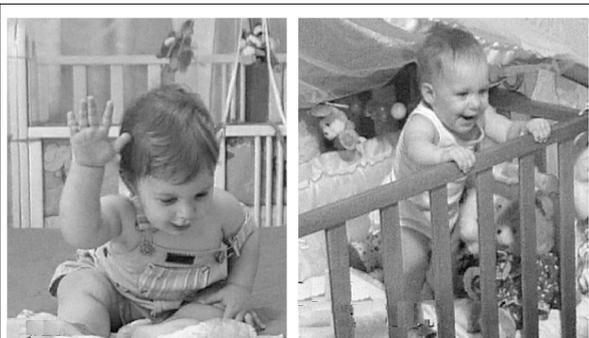
Mazokopaki, K. & Kugiumutzakis, G. (2008). Infant rhythms: Expressions of musical companionship. In Malloch, S. & Trevarthen, C. (Eds.) *Communicative Musicality: Narratives of expressive gesture and being human*, 185-208. Oxford: Oxford University Press.



Babies at home in Crete celebrate the pleasure of a traditional Greek children's song. They happily express their appreciation of musical rhythm.

Georgos, 3.5 months, dances with face and hands.

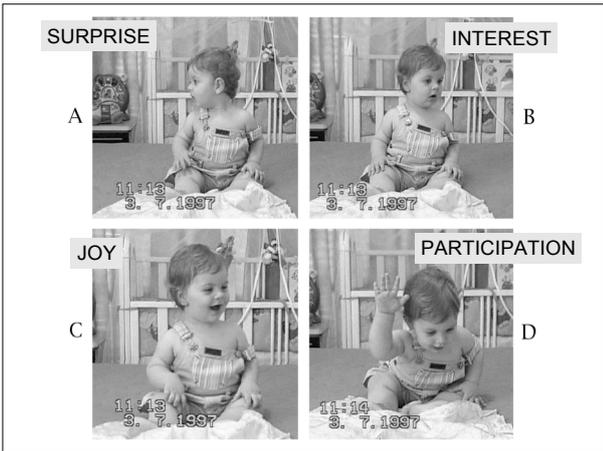
Katerina, 9 months, beats time with her arms. Both sing.



Seated on the carpet, Panos, 9 months, beats time with his hand and Anna, 10 months, who stand in her cot, bounces and sings with her whole body, wiggling her hips. Both also sing their delight.

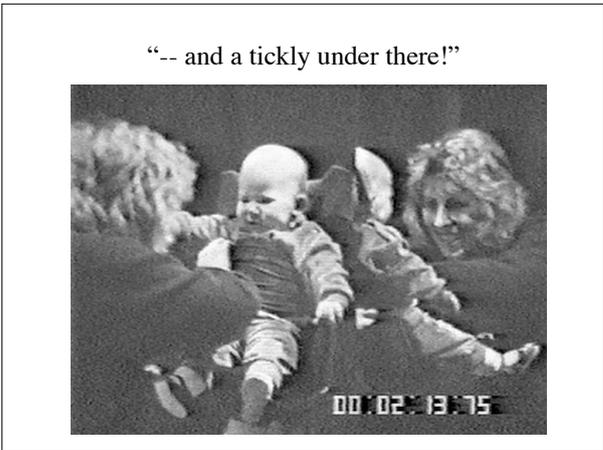
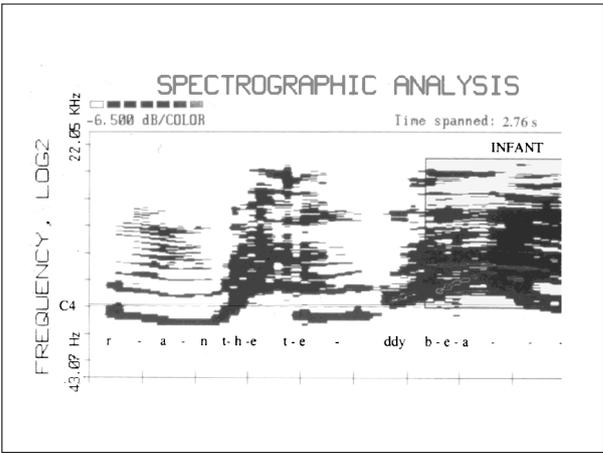
Baby Panos hears the story the music is telling. He is sitting on the floor at home in Crete by himself when a cheerful song comes on from the radio.

- First he is surprised and interested.
- Then he looks around, "Who is there?"
- He smiles with pleasure, recognising the happy sounds.
- And then he joins in, celebrating the rhythm with his hand and 'singing'.



A FAVOURITE ACTION SONG

Round and round the gar-den,  
 • ' • ' • •  
 Ran a ted-dy bear,  
 • ' • ' • -  
 One step, two step,  
 • • • •  
 Tic-kl-y un-der **there**.  
 • ' ' • ' • -



A POPULAR SCOTTISH CLAPPING STORY

Clappa, clappa handies,

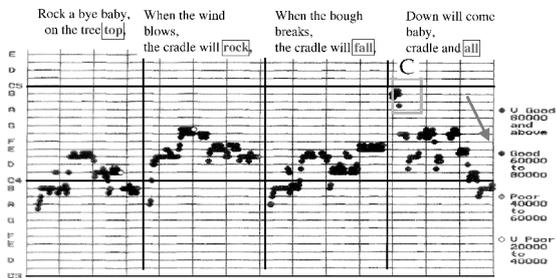
• ‘ • ‘ • •  
 Mommy’s at the well,

• ‘ • ‘ • -  
 Daddy’s away to Hamilton,

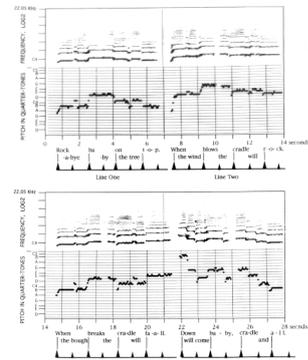
• ‘ • ‘ • ‘ •  
 To buy wee Megan a bell.

‘ • ‘ • ‘ •

Megan, 5 months, “Clappa-clappa-handies”



Rock a bye baby, on the tree top, When the wind blows, the cradle will rock,



When the bough breaks, the cradle will fall, Down will come baby, cradle and all.

Emma, 6 months: Looking at self, touching Mother’s tongue  
 Her pride is marked by the circles.



Clapping hands with shared joy; imitating, watching own tongue

Emma, 6 months: “Clap Handies!” (She is left-handed).





Emma, 6 months,  
On father's knee.

Her mother says,  
"Clap handies!"

Emma 'shows' or  
'performs'  
to the camera,  
with intent look  
and a proud grin.

(Photo © John and Penelope Hubley, 1979)

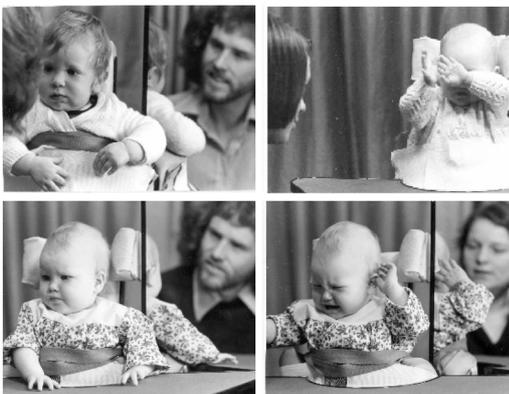
That's pride!



But, With a Stranger she is worried and 'Ashamed'  
-- He does not 'get it'.



Even a nice stranger is hard for a 10-month-old to bear.



And Mother gets told off!

## DEVELOPMENT OF COOPERATING IN TASKS

Beginning to share the endless game of  
cultural jobs to do, and tools to do them.

**‘Secondary Intersubjectivity’ or Sharing Tasks**

At about 9 months important advances occur in sharing experience.

The baby’s increased interest in what other people are doing and the things they use leads to following directive messages, trying to make conventional messages or to use objects ‘properly’ -- in the approved ‘ritual’ way.

This is vital preparation for learning language to name meanings or conventions of ‘human sense’.



“Master Baby” by Sir William Orchardson, Scottish National Gallery. A one-year-old with her mother. Person-Person-Object Game.



Object



Person

**BEFORE 9 MONTHS  
TWO ATTENTIONS**

*“Put the man in the truck!”*

Emma, 7 months  
Is bright, but she doesn’t get her mother’s message.

**She is too young to share the purpose of a task.**

*“Don’t chew it. Put it in there!”*

For Basilie, 12 months, it is easy and amusing.



OK, If that’s what you want me to do.

*“Here, put this one in the truck!”*

*No problem!*

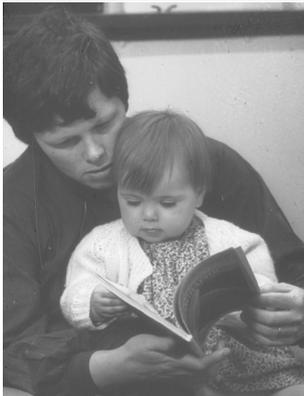


Easy!



Happy?.

*“Oh, what a clever girl!” (Yes I am good, aren’t I)*



Basilie pointed and vocalised a 'protolanguage' request for the magazine. Her mother said, "Oh, she recognizes the *National Geographic* by its yellow cover, and likes to look at the pictures."

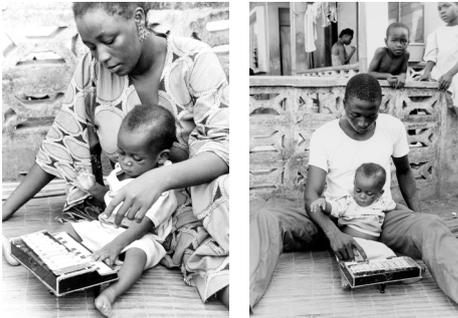
Sharing meaningful things with a best friend

Adegbenro, Lagos, like to play his piano with his mother.



(Photo © John and Penelope Hubley, 1979)

Mother and uncle in Adegbenro's *Zone of Proximal Development*



(Photos © John and Penelope Hubley, 1979)

But Adegbenro is a capable and proud performer on his own.



(Photo © John and Penelope Hubley, 1979)

Adegbenro asks for his favourite rattle.



His mother gives it to him.



(Photos © John and Penelope Hubley, 1979)



"Look what I've got!"  
Mother smiles.

(Photo © John and Penelope Hubley, 1979)