

CPAT - ASSOCIAZIONE NAZIONALE DI ANALISI TRANSAZIONALE
 CENTRO DI PSICOLOGIA E ANALISI TRANSAZIONALE
 SCUOLA DI SPECIALIZZAZIONE IN PSICOTERAPIA
 SCUOLA DI COUNSELLING PSICOSOCIALE (S.C.P.)

ALLE ORIGINI DELLE EMOZIONI
 COME I SENTIMENTI DI AMICIZIA E COMPAGNIA
 NELL'INFANZIA DANNO SIGNIFICATO ALLA VITA
 Sala Meili - Centro Culturale Svizzero
 Via Palestro 2 - Milano, Venerdì 29 Maggio 2009

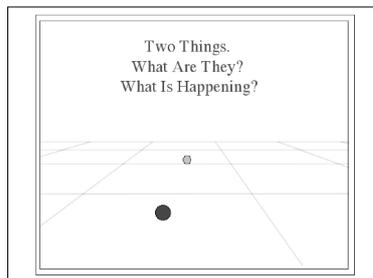
II - Musicalità, confidenza, fiducia condivisa,
 per un apprendimento cooperativo
 Prof. Colwyn Trevarthen,
 Department of Psychology, University of Edinburgh, Scotland

PERCEPTION MOVEMENT
 & ACTION RESEARCH
 CENTRE (PMARC)

INSTITUTE FOR MUSIC IN
 HUMAN & SOCIAL
 DEVELOPMENT (IMHSD)

OBJECTS IN MOTION CAN COME TO LIFE
 Here are two objects recorded by 'motion capture'
 technology in a 3D space. What do their motions convey?

Is their motion just physical?
Are they alive – moving -- acting with vitality?
Are they aware or intelligent?
Are there two of them, separately active?
Are they communicating, socially?
Do they show changing emotions?
Are they showing signs of sympathy?
Could they be telling a story?



WHAT, THEN, ARE YOUR ANSWERS?

Is their motion just physical?
Are they alive – moving -- acting with vitality?
Are they aware or intelligent?
Are there two of them, separately active?
Are they communicating, socially?
Do they show changing emotions?
Are they showing signs of sympathy?
Could they be telling a story?



Baby Bailey is male, and one week premature.

He was born 2 weeks before term at the Royal Infirmary of Edinburgh by induced labour. His mother had high blood pressure, otherwise there were no complications. Mother and baby Bailey were being discharged at time of recording, on 25 September 2006, 1 week after he was born.

The movements of the hands face and voice of a newborn baby are paced by 'time in the mind' -- by 'neural clocks' that control the energy of muscle activity in steps of time. This is the *Intrinsic Motive Pulse (IMP)* of the baby's animal nature. **Movements have Rhythm**

Though sometimes chaotic with reflex 'corrections', the infant's gestures and expressions show different **emotional qualities of urgency or peacefulness**, graceful *ease* or *tension, pleasure* or *displeasure*.

These emotions are **powerfully communicative**.

Human Movements have the innate Expressive Quality of 'Communicative Musicality'

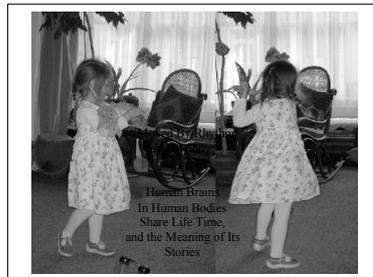
ALL MOVEMENTS OF THE BODY ARE COORDINATED BY RHYTHMIC 'PROSPECTIVE CONTROL'

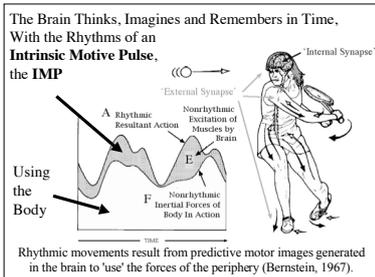
– sensing the dynamic forces of action in a **forward moving present moment**.

Thoughts 'represent' actions in time of moving -- to an anticipated future, and back in a recollected past.

The brain anticipates contacts with the environment rhythmically, in brain-generated time.

Effective intentions and intelligent consciousness both depend on the 'clocks' of 'mind time' that give measure to action and experience. They make the acts and thoughts of our complex bodies 'musically' creative.





Infants are much cleverer than we had thought at discriminating **musical rhythms and tones of human sounds**.
 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 BABY IS BORN READY TO MOVE IN ARTFUL WAYS

'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.

These impulses are 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 over 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*, pp. 176-213. Indianapolis: Liberty Fund. Part II, page 187.

Musical Emotional Narratives
 "Without any imitation, instrumental Music can produce very considerable effects; though its powers over the heart and affections are, no doubt, much inferior to those of vocal Music, it has however, considerable powers: 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., p. 203

Music Moves Between Memory and Imagination
 "Time and measure are to instrumental Music what order and method are to discourse; they break it into proper parts and divisions, by which we are enabled both to remember better what has gone before, and frequently to foresee somewhat of what is to come after: we frequently foresee the return of a period which we know must correspond to another which we remember to have gone before; and according to the saying of an ancient philosopher and musician, the enjoyment of Music arises partly from **memory** and partly from **foresight**."

Adam Smith, loc. cit., p. 204

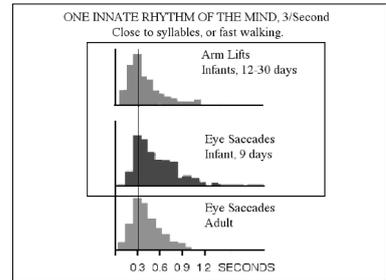
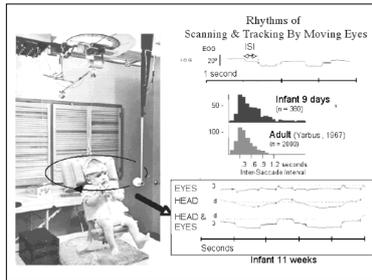
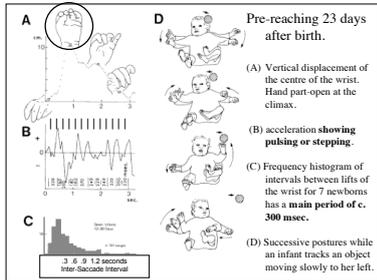
THE MUSICAL INTELLIGENCE WE ARE BORN WITH



TIMES AND FEELINGS OF THE MIND ARE INNATE, AND SHARED

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

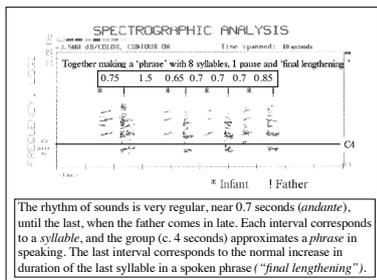
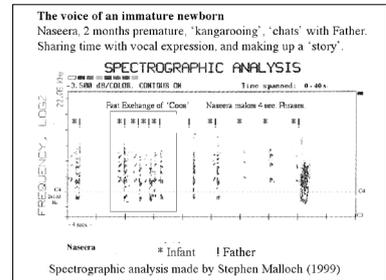
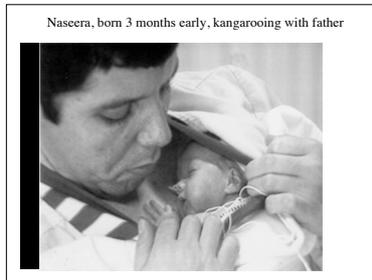
This makes communication of the shared vitality of intentions, interests and emotional 'feelings' possible -- before 'facts' of shared knowledge about actions and objects are identified in speech.



EVEN THE RHYTHMS FOR SPEECH ARE INNATE

A premature infant can share a conversation.
A video of Naseera, who was born 3 months premature, was made in an ICU in Amsterdam by Saskia van Rees, who makes videos of birth, neonatal care, communication with infants and with children who have special needs.

See her website:
Saskia van Rees
Stichtinglichaamstaal (Body Language Foundation)
Internet: <http://www.stichtinglichaamstaal.nl/>
Email: info@stichtinglichaamstaal.nl/



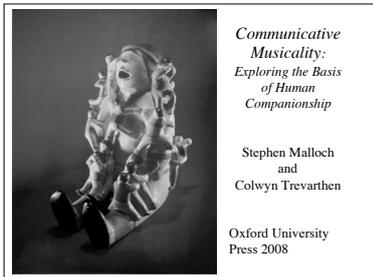
COMMUNICATIVE MUSICALITY IN PROTO-CONVERSATION WITH LAURA AT 6 WEEKS

INTERSUBJECTIVE CHRONOBIOLOGY

The rhythms, expressive qualities and narrative potential of movements in dialogues or 'protoconversations' with a 2-month-old led to a theory of **Communicative Musicality**

How the intuitive mastery of time and energy in moving communicates by sensing messages in the expressive 'flow' of energy in others' movements

The theory is explored in a book published in 2009



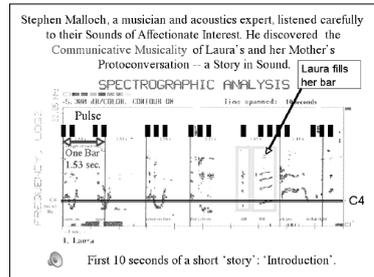
*Communicative Musicality:
Exploring the Basis
of Human
Companionship*

Stephen Malloch
and
Colwyn Trevarthen

Oxford University
Press 2008



LAURA'S VOICE SHARES A STORY WITH KAY

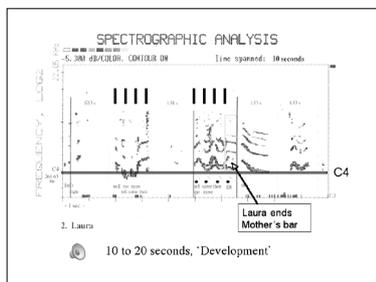


Stephen Malloch, a musician and acoustics expert, listened carefully to their Sounds of Affectionate Interest. He discovered the Communicative Musicality of Laura's and her Mother's Protoconversation -- a Story in Sound.

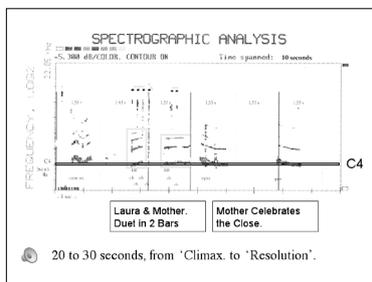
SPECTROGRAPHIC ANALYSIS

1. Laura

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



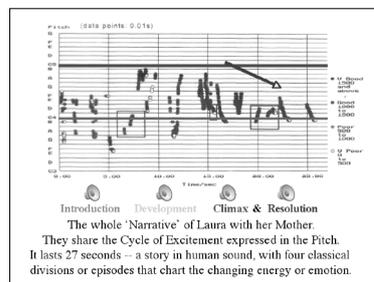
10 to 20 seconds, 'Development'



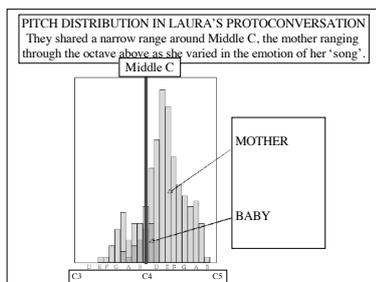
Laura & Mother: Duel in 2 Bars

Mother Celebrates the Close.

20 to 30 seconds, from 'Climax' to 'Resolution'.



Introduction Development Climax & Resolution
The whole 'Narrative' of Laura with her Mother.
They share the Cycle of Excitement expressed in the Pitch.
It lasts 27 seconds -- a story in human sound, with four classical divisions or episodes that chart the changing energy or emotion.



PITCH DISTRIBUTION IN LAURA'S PROTOCONVERSATION
They shared a narrow range around Middle C, the mother ranging through the octave above as she varied in the emotion of her 'song'.

MIDDLE C

MOTHER

BABY

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 Beyond Words

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.

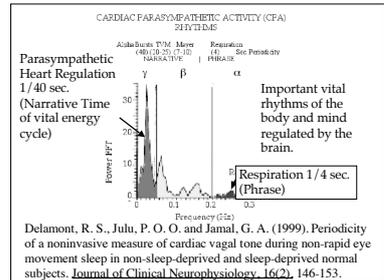
Stephen Malloch (1999)

The inside sense of time in brain and body makes a story of vitality that goes on when you are asleep or awake, regulating heartbeats, breathing, thoughts and dreams

The slow rhythms of its drama communicate powerfully -- in actions, music and speech

Good teachers sense these rhythms in their pupils' minds and bodies, and share them, helping sympathy of thought and action -- and therapists should know them too.

PHYSIOLOGICAL SYNCHRONICITY
Sharing dreams of breathing and heartbeat.



LANGUAGE
What the Mother Says: A Different Layer of Communication With the Same Narrative Melody -- the Same Rhythmic Sense of Purpose in Time

INTRODUCTION	DEVELOPMENT	CLIMAX	RESOLUTION
1 Come on	7 Oh yes!	10 Tell me some more then	15 Ch ch ch
2 Again	8 Is that right?	11 *	16 Ahooo
3 Come on then	9 Well tell me some more then	12 Oooh	17 Goo
4 That's clever		13 Come on	
5 *		14 Ch ch ch ch	
6 ***			



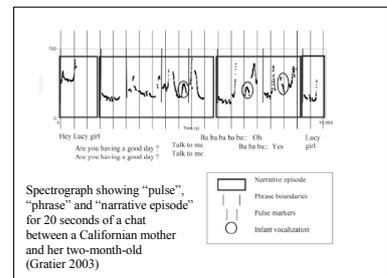
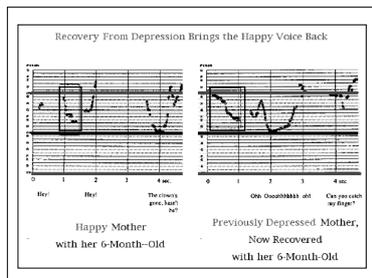
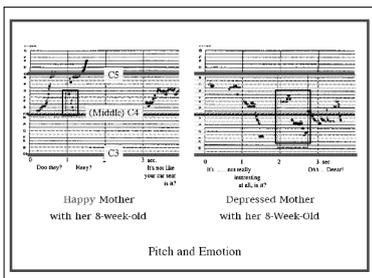
WHEN THE RHYTHM OF VITALITY IS NOT SHARED, JOYFUL INTIMACY BECOMES DISTRESS
Babies detect when the rhythm is wrong. Then they express their sadness at loss of 'contingency' -- when 'out of touch' in the dance.

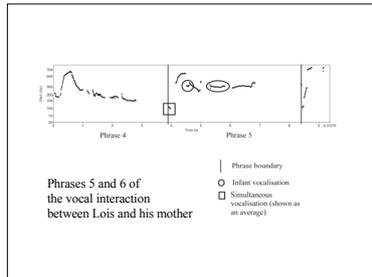
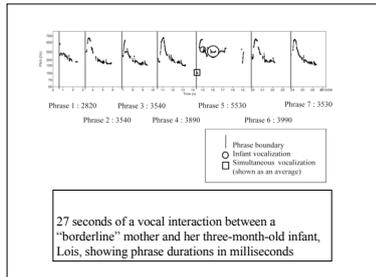
Research of Prof. Lynne Murray at Reading University, and Dr. Maya Gratier in Paris, has explored how the mother-infant dyad is affected when interpersonal timing is disturbed, experimentally, or by illness.

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.

The baby may become depressed, too.





THE BODY RHYTHMS OF BABY SONGS ARE FULL OF MEANING -- BABIES FEEL PROUD TO SHARE THEM

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, making **movements of meaning.**

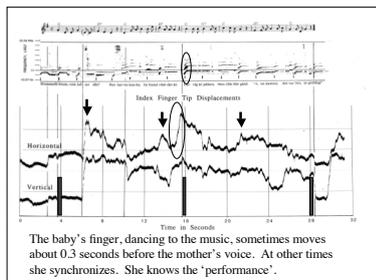
Songs are quickly learned and remembered. They become favourite messages of friendship, **emblems of the infant's identity, or membership of a group.**

A WONDERFUL EXAMPLE OF TRANSMODAL MEANING

Mors lilla Olle

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

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.



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.

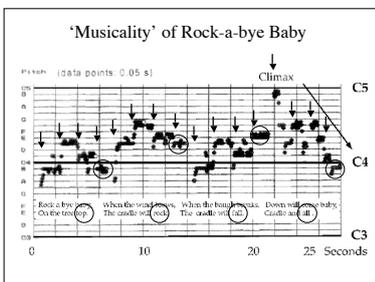
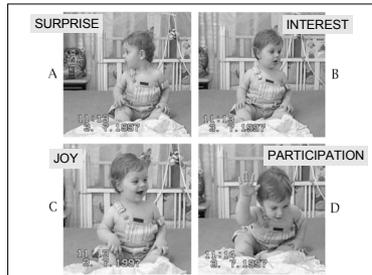
Katerina, 9 months, beats time with her arms. Both sing.



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.
 • • • • •



“-- and a tickly under 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”

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 Habley, 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!

From birth, every human being is a purposeful, imaginative, affectionate, and musical person -- seeking meaning by moving in sympathetic and creative company, feeling proud.

For a handicapped or mentally ill person, finding company in meaning can be very difficult and frustrating. They are ashamed.

A companion -- parent, friend, teacher or therapist -- can make sharing come alive

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

(Photo © John and Penelope Habley, 1979)

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



(Photo © John and Penelope Hubley, 1979)

Japanese Boy, On His First Birthday,
With His Mother

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



Ten-month-old Christina dances with Grisela,
and Annie Lennox, in the Shetlands



Eliot, nearly 6, and his mother compose and perform a song