

Edge Hill University


IDENTITY
CULTURE | HEALTH | SOCIETY

Festival of Ideas 2017


Faculty of Health and Social Care
15th June 2017 - 1:00pm - 3:00pm

We Need to Belong:
Finding One's Personality,
Sharing Life Stories In a Community.

Prof. Colwyn Trevarthen,
School of Philosophy, Psychology and Language Studies,
University of Edinburgh, Scotland



PERCEPTION, MOVEMENT & ACTION RESEARCH CENTRE (PMARC)



INSTITUTE FOR MUSIC IN HUMAN & SOCIAL DEVELOPMENT (IMHSD)

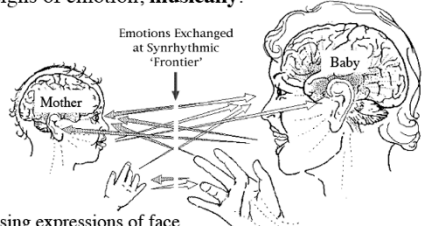
Understanding how a newborn baby is born a skilled communicator in movement of a uniquely complex body, and with intimate feelings for people, helps create a **natural science of culture**. With this we appreciate that education and therapy rely on communication of purposeful enjoyment by actions that need no words

A newborn's brain is one third the size of an adult brain, but **has all parts in place for creative life, including unique human face, eyes, voice and hands for sharing emotions, intentions and states of being.**



They wait for bright company, to share stories.

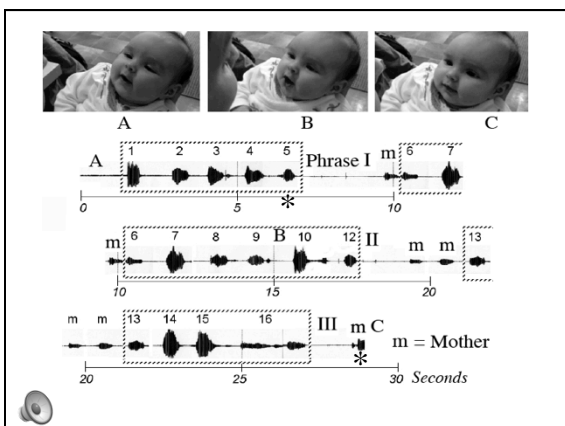
SYNRHYTHMIC REGULATION: After birth mother and infant communicate **psychologically**, regulating sympathy by signs of emotion, **musically**.




Passing expressions of face, voice and hands back and forth, rhythmically, imagining each other, participating in feelings

The Baby is Ready for Stories of Conversation


New Zealand 10-week-old, 'lectures' her mother, with open gaze and lively face, sharing mind time.





This is an oak tree,
needing rich soil and sun,
to grow large and strong


And a newborn infant is an
**imaginative person, expecting
to enjoy affectionate and
appreciative human company,
in movement-with-feeling, born
with a plan for story-telling
that will have age-related changes.**



Jon-Roar Bjørkvold,
Prof. of Musicology, University of Oslo

a will to survive
a power to grow
a musicality to move
an urge to play
a courage to create



We need to be
in command of
a complex
body, and to
be ready to
communicate
with it.

*(From
Community
Playthings)*

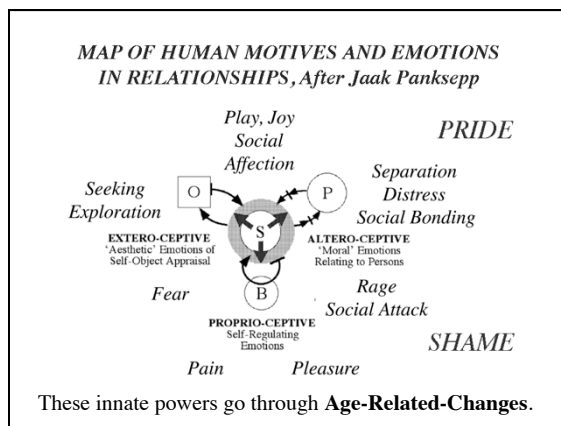
**The Coming to Life of Human
Companionship,
and Meaningful Well-Being**

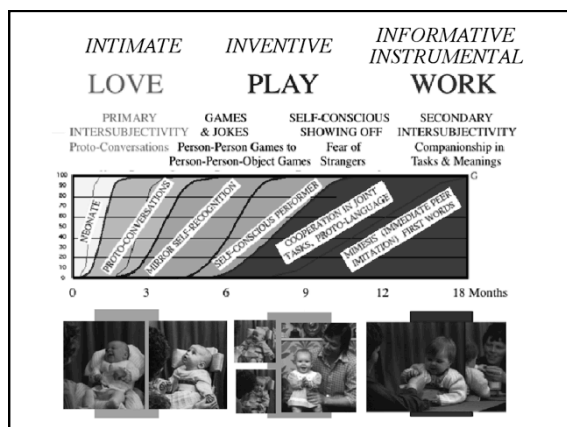
Developments before birth show how the
motives of a creative **Self** grow with the
body, **integrating its powers of movement
with self-feeling proprioception.**
Clever distance senses grow to know a
World, and they share actions and
experiences with **Other Persons**, bringing
meanings to life in affectionate company.
They all grow strong in play.

THE MEANING OF PLAY

**“Asking what play gives to human life is like
asking what growth, flowering and coming to
fruit with seeds does for plant life. We play to
make sense of life in activity. We move our
bodies with rhythms of imagination, and display
emotions as expressions of feeling that value our
experiences so we can cooperate in social life.”**

Trevarthen, C. (2017). Play with infants: The impulse for human
story-telling, In, Tina Bruce, Pentti Hakkarainen and Milda
Bredikyte (Eds.) *The Routledge International Handbook of Play in
Early Childhood*. Abingdon: Taylor & Francis/Routledge

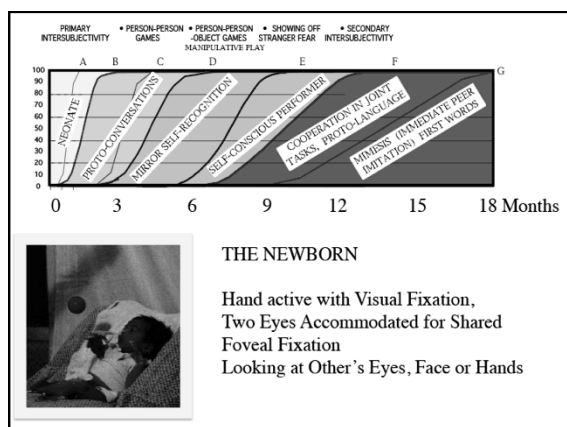





I

AN SOCIABLE SELF AT BIRTH.

Neonatal Imitation
Imaginative Projects of rhythmic movements,
 in controlled serial order
 seek sympathetic exchange,
 to become **Propositions of a Meaningful Life**
 with value to be shared, in companionship

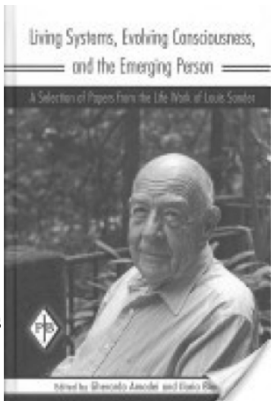


“The old model of thinking of the newborn infant as helpless and ready to be shaped by his environment prevented us from seeing **his power as a communicant in the early mother-father-infant interaction**. To see the neonate as chaotic or insensitive provided us with the capacity to see ourselves as acting 'on' rather than 'with' him.”



Dr. T Berry Brazelton
 1979 Evidence of communication during neonatal behavioural assessment, p. 79.

Living systems, evolving consciousness, and the emerging person:
 the life work of **Louis W. Sander**
 How emerging knowledge of developmental processes, biological systems, and therapeutic process can be integrated in terms of basic principles that govern the living system



ON THE FIRST DAY – EXPECTING CONNECTION

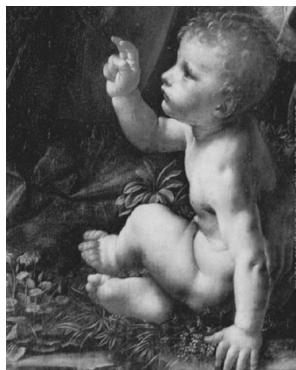


Moments after birth, an infant may look and listen attentively for confirmation of human feelings.

DAY 4 - AVA IS ALSO READY TO SHARE A STORY WITH HER GRANDMOTHER



Story-making, from first conversations, to the fun of games, and then to cooperation in tasks and 'acts of meaning, becomes language, to signal important objects and actions



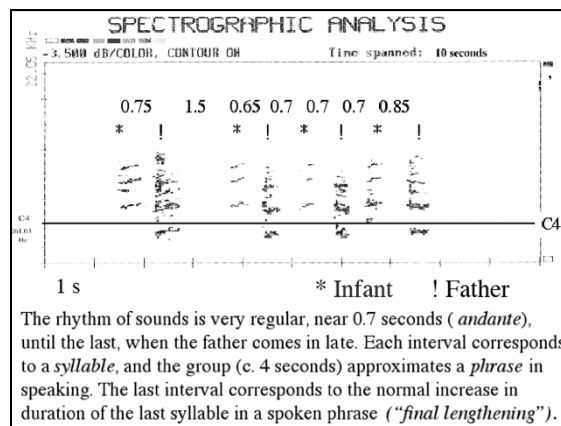
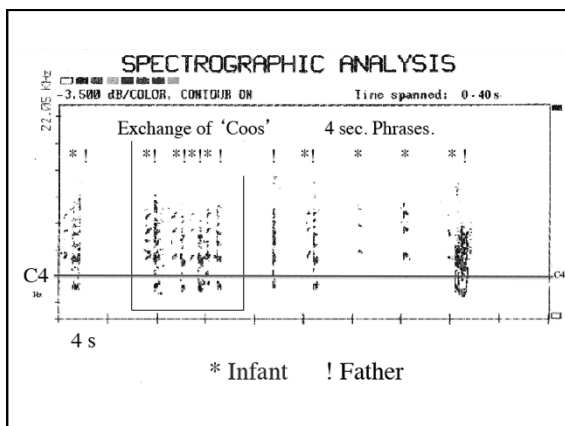
Infant Jesus blesses the infant Saint John, his playmate in the *Virgin of the Rocks* by Leonardo da Vinci, painted 1483-1486.

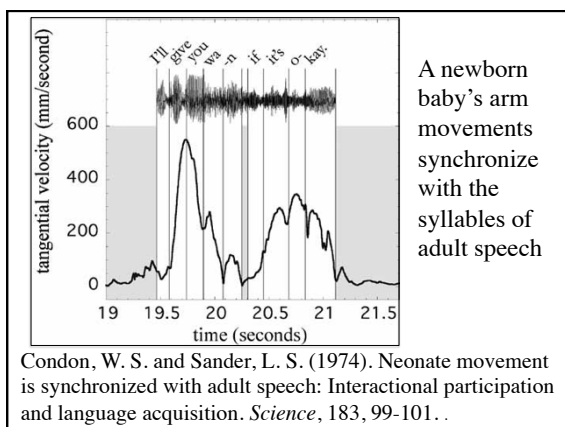
The rhythms of speech are innate

A video of Naseera when she was 2 months premature proves infants are born to share vocal ideas in precise synchrony. She has a conversation with her sympathetic father.

From van Rees, S., and de Leeuw, R. (1993). **Born Too Early: The Kangaroo Method With Premature Babies**. Video by Stichting Lichaamstaal, Scheyvenhofweg 12, 6093 PR, Heythuysen, The Netherlands.

Naseera kangarooing with father 8 weeks before term. They share many feelings and express their pleasure.

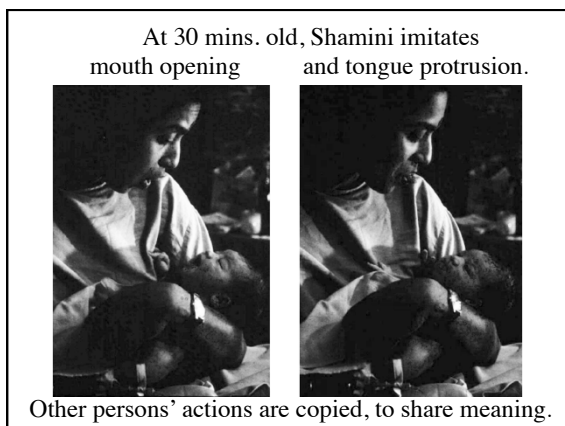




Young awake infants are visibly active mentally -- thinking and 'talking' with 'mimesis'.

They show **gestures of the hands** -- indicating **feelings** in their bodies, orientation of their **interest** to events in the world, and the **sympathy** they have for other persons who may respond to their signs, acting and thinking with them.

Infant hand gestures are part of a rich display of expressions by posture and attitude of the head and eyes, and intricate movements of the face.



Emese Nagy
 Reader in Psychology,
 University of Dundee,
 Dundee, Scotland,
 Psychologist and physician,
 researching the psychology
 of the neonates, foetuses and
 children with autism.

She demonstrated that newborns imitate with the intention to take part in a dialogue with emotional appraisal of the quality of the engagement with a responsive partner.

The Newborn Infant:
A Missing Stage in Developmental Psychology
Emese Nagy (2011)
Infant and Child Development, 20: 3–19.

“Although neonatology, the study of the newborn, is well established in medical science, psychological research on the newborn is relatively scarce.

... **the neonate’s early social preferences and responses indicate a unique, sensitive, experience-expectant stage of development.”**

Dr. Emese Nagy in Szeged, Hungary, with Newborn



She found out why newborns imitate – to share.

Emese, as experimenter, shows index finger extension



Baby imitates, with his right hand



Two fingers – experimenter



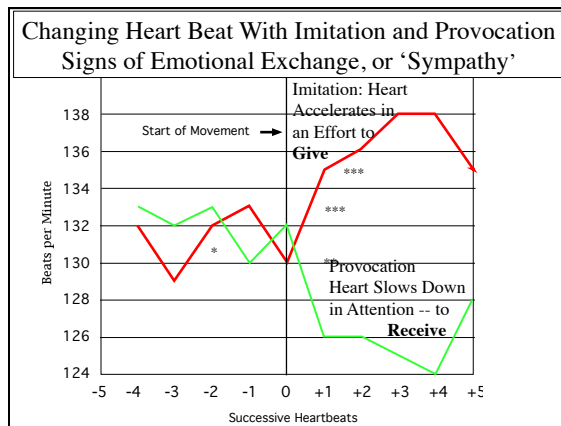
Two fingers – baby



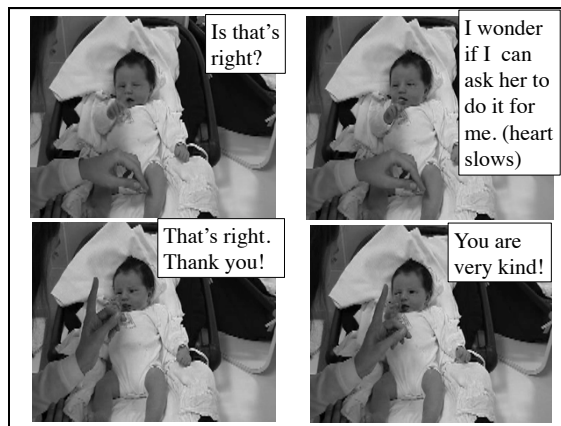
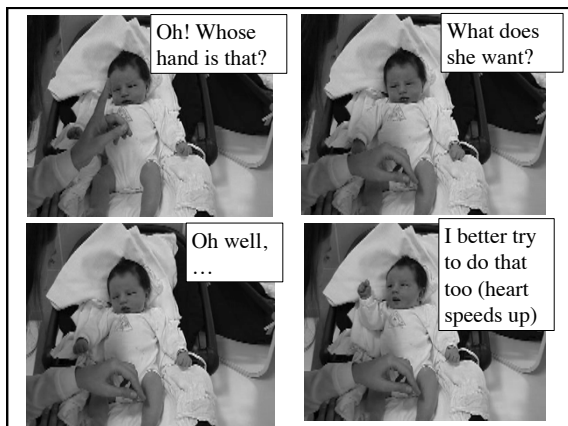
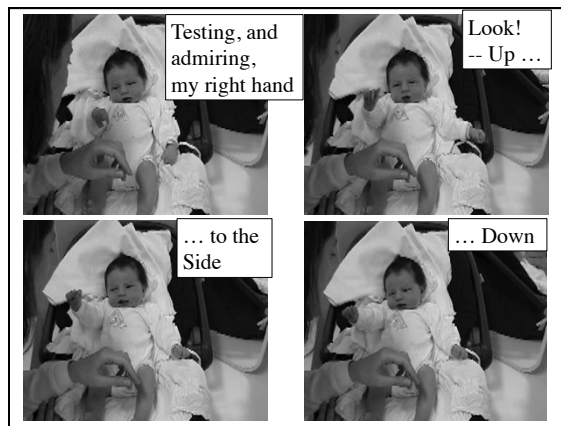
WHY DO BABIES IMITATE?

What Emese found when she waited for the baby's turn.
 "Searching for the mechanism of neonatal imitation resulted in the discovery of a *neonatal initiative capacity*, I called "*provocation*".
 Newborns spontaneously produced previously imitated gestures while waiting for the experimenter's response."

Nagy E, Molnár P (2004) *Homo imitans or Homo provocans?*: Human imprinting model of neonatal imitation.
Infant Behavior and Development 27, 54-63

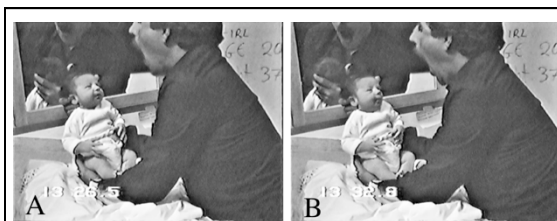


15 seconds of dialogue
 with a baby less than 2 days old



A cycle of imitations of Mouth Opening with a female infant 20 minutes after birth.

Recorded at a maternity hospital in Herakleion, Crete in 1983 by **Giannis Kugiumutzakis** for his PhD research at the University of Uppsala.



A (0 sec.) The researcher opens his mouth. The infant looks at his mouth, with slightly closed eyes and pursed mouth.

B (+ 6.3 sec.) The researcher opens his mouth for the fourth time. The neonate watches him. The right hand moves up.



C (+ 0.8 sec.) The researcher opens his mouth wide for the fifth time. The neonate imitates him, synchronously watching his mouth. The right hand closes.

D (+ 1.8 sec.) The infant imitates again, looking up at the researcher's eyes. Right hand moves down and opens.



E (+ 1.8 sec.) Both pause, waiting. The infant is still looking at his eyes.

F (+ 0.6 sec.) The infant makes a third large imitation looking at the researcher's mouth.

Remarkable evidence from motion-capture technology, showing us **innate motives**, difficult to explain 'logically'.

The impulses are not 'cognitive' – they are **emotive**, provoking dynamic thoughts and dreams, telling stories.

To understand them requires a new science of mind – of **hope and value in moving, of intelligent motives, interests and feelings, displayed to be shared.**

Two Things.
What Are They?
What Is Happening

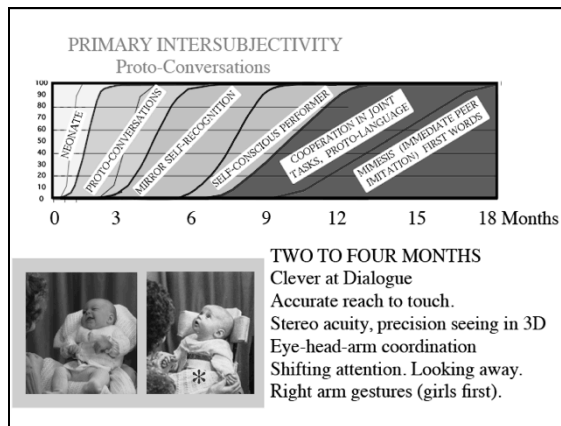
Arm moves of a hungry newborn were recorded
Red marker, left arm;
Green right arm

They match the music of "Wee Willie Winkie", a traditional Scottish lullaby, sung by Sheena Wellington.
Baby's mood changes with his mother's care.

II

STORY-TELLING AT 2 MONTHS.


Primary Inter-subjectivity
Mutual regulation of 'chats,'
sharing emotions about hopeful actions.



A mother and 9-week-old boy. **The infant leads the dialogue with body and voice. Mother imitates.**
Harvard Center for Cognitive Studies, 1967, with Jerome Bruner, Berry Brazelton and Martin Richards.

THE DISCOVERY OF PROTO-CONVERSATION
Mary Catherine Bateson (1979):
Observations from films of an infant 7 to 14 weeks old with the mother.
“... the mother and infant were collaborating in a pattern of more or less alternating, non-overlapping vocalization, the mother speaking brief sentences and the infant responding with coos and murmurs, together producing a brief joint performance similar to conversation, which I called 'proto conversation' These interactions were characterized by a sort of **delighted, ritualized courtesy and more or less sustained attention and mutual gaze.**”

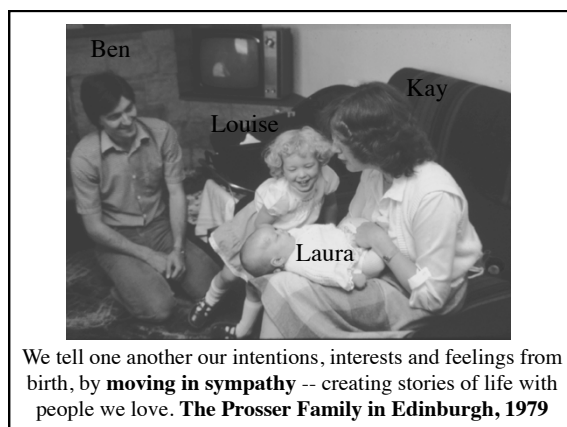
Bateson concluded,



“**The development of the capacity for participation in complex sequenced behavior** must lay the groundwork for participation in **games** and for the development of **playful patterns of imitations**, and so the study of such performances can shed light on a variety of types of learning, including **language** acquisition.”

Leanne
6 weeks,
Edinburgh
1979

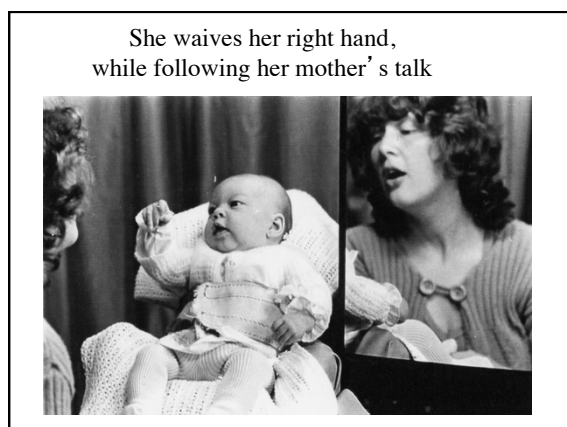
Expressing interests and feelings to her sympathetic mother



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, 6 weeks, with Mother, at Edinburgh University, 1979, share a Proto-Conversation of 27 seconds.

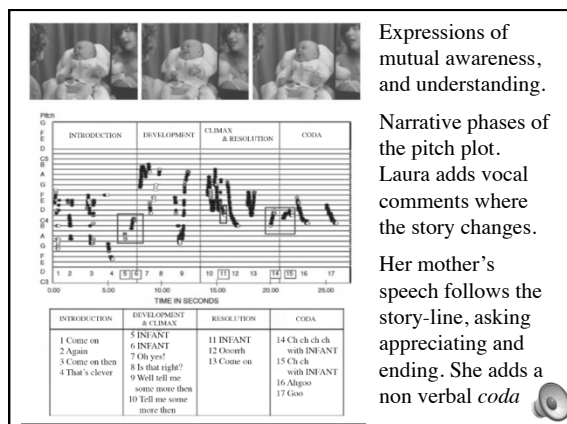


She waives her right hand, while following her mother's talk



Laura's conversation with her mother was analysed by musician and acoustics expert **Stephen Malloch**. He measured the sound of their vocalizations in *spectrographs* and *pitch plots*. With film we correlated these vocal expressions of emotion with gestures of head, face and hands.

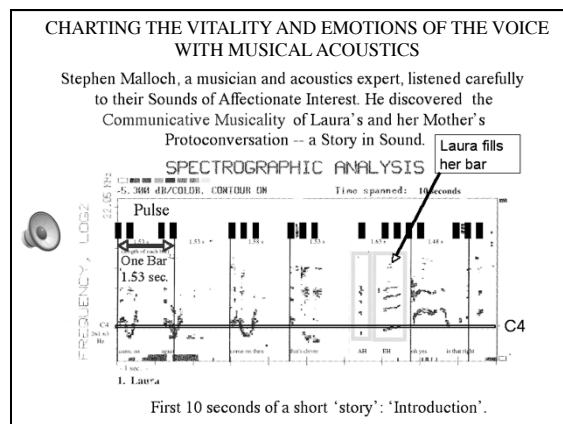
Laura was a gifted partner with her mother.



Expressions of mutual awareness, and understanding.

Narrative phases of the pitch plot. Laura adds vocal comments where the story changes.

Her mother's speech follows the story-line, asking appreciating and ending. She adds a non verbal *coda*

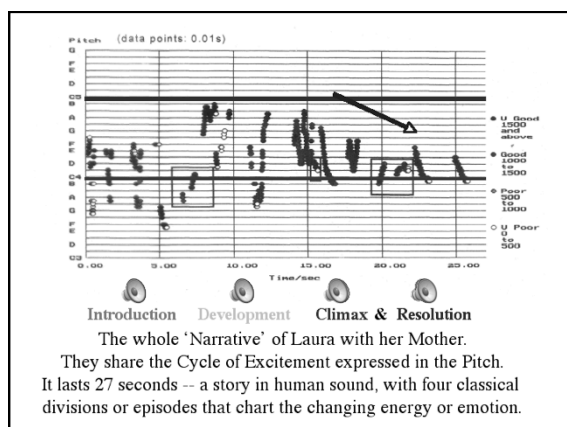
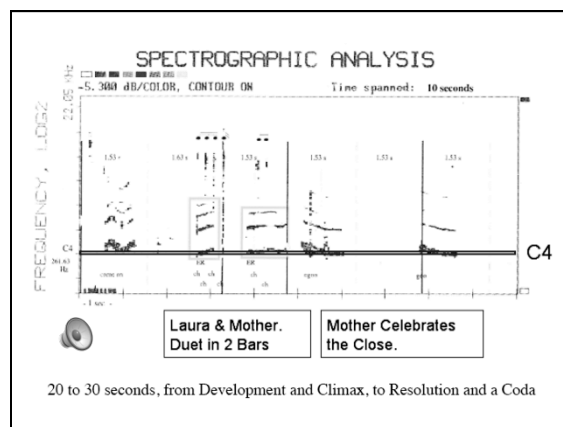
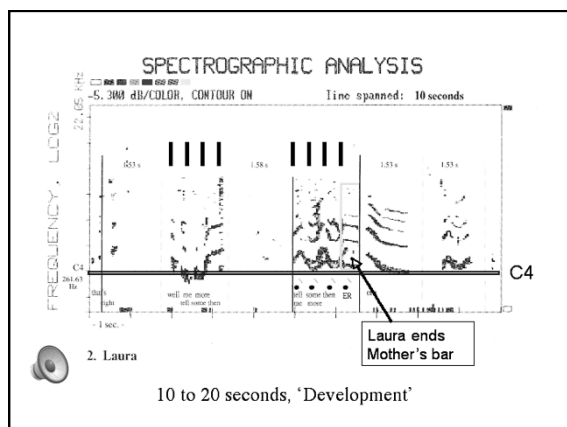


CHARTING THE VITALITY AND EMOTIONS OF THE VOICE WITH MUSICAL ACOUSTICS

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.

Laura fills her bar

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



THEORY OF COMMUNICATIVE MUSICALITY
Malloch, 1999

Music communicates by engaging an **Intrinsic Motive Pulse (IMP)** generated in the brain.
The sense of 'musicality' comprises:

- (1) **PULSE**: A rhythmic time sense (of syllables, the beat, phrases and longer elements);
- (2) **QUALITY**: Sensitivity for the temporal variation in intensity, pitch and timbre or tone 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 ACTIONS WITH PERSUASIVE FEELING

- 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 parent/infant communication.

Stephen Malloch (1999)

Communicative Musicality: Exploring the Basis of Human Companionship

Stephen Malloch and Colwyn Trevarthen

Oxford University Press 2009
Paperback 2010

Lynne Murray Research Professor in Developmental Psychopathology, University of Reading.



Lynne studies child and adolescent psycho-pathology, and its prevention and treatment, bi-directional influences in early mother-infant interactions, and effects of postnatal depression, from infancy until the age of 23 years. Now she is looking at mothers with anxiety disorder and their children. She has also studied the effects of cleft lip and palate on mother-infant interactions and child development, and investigated treatment for postnatal depression, in the UK and South Africa.

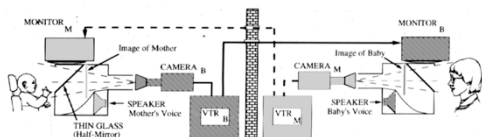
LYNNE STUDIED THE EFFECTS OF NONCONTINGENT BEHAVIOUR OF ADULTS COMMUNICATING WITH INFANTS

DEPRESSED MOTHERS LOSE MUSICALITY -- THEY STRUGGLE TO 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.

TESTING EMOTIONS OF RELATING BETWEEN MOTHER AND INFANT

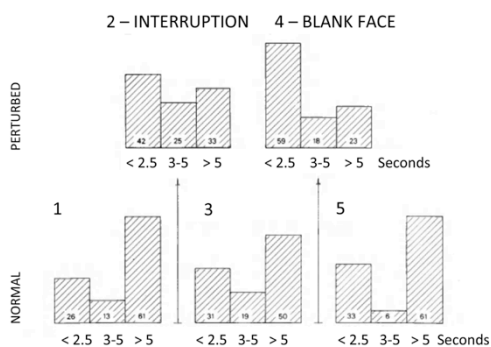
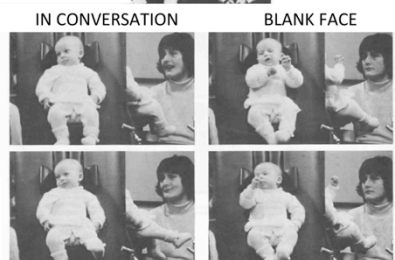
Lynne Murray's "Blank Face" and "Double Television Replay" experiments, 1975-1980



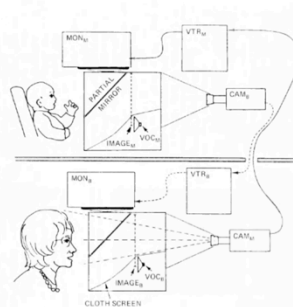
MURRAY'S "BLANK FACE" TEST



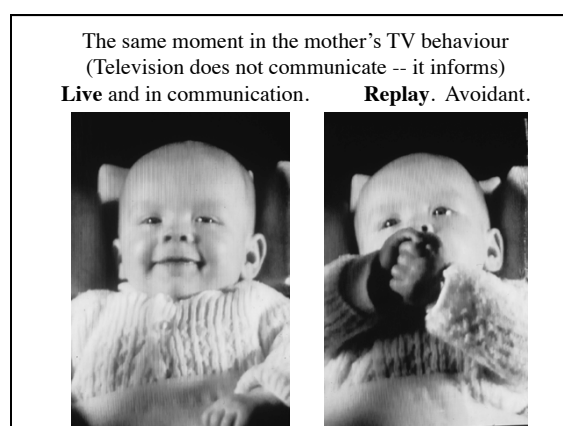
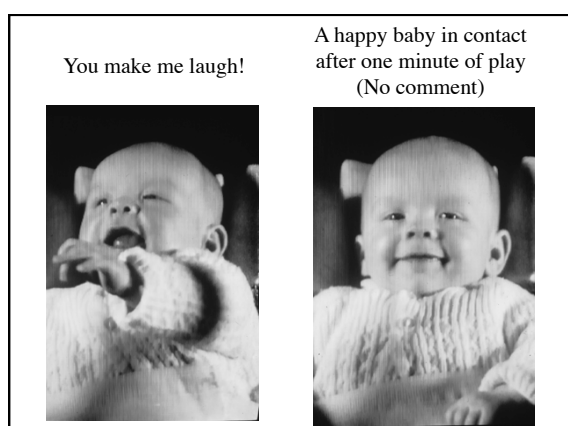
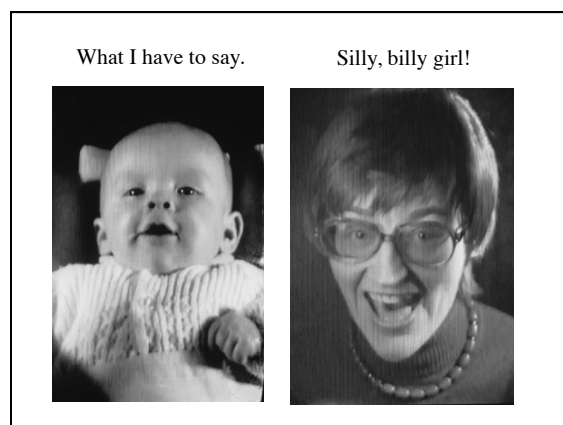
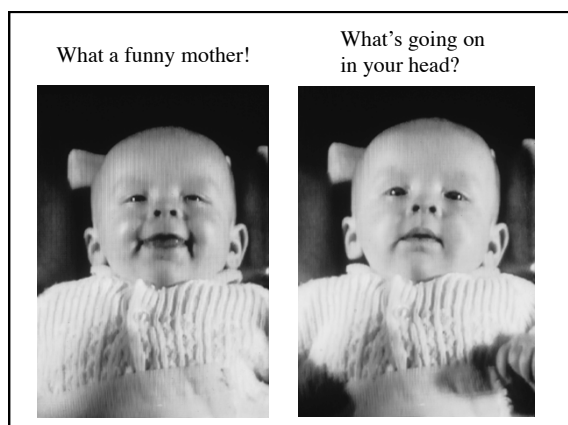
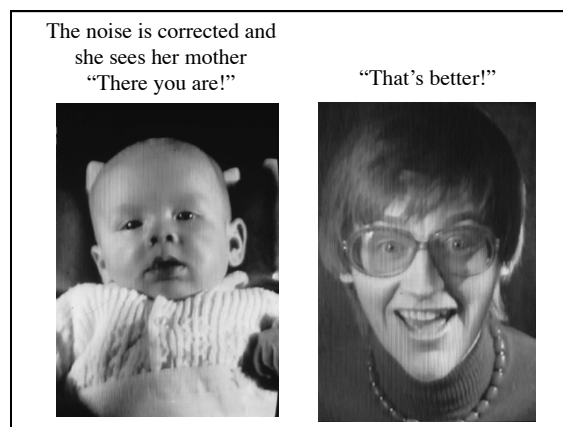
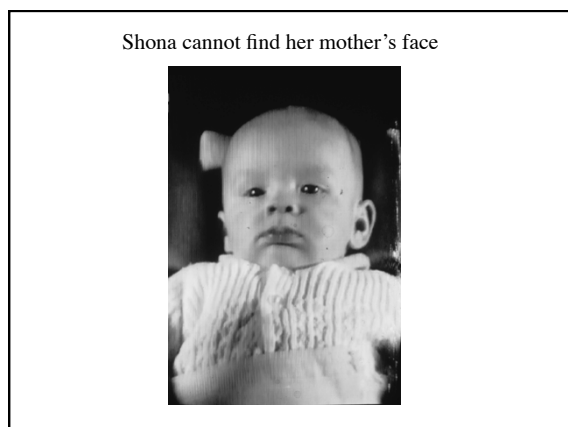
An 8-week-old with Mother












Changes in duration of eye contact with the mother. With mother's "Blank Face" the infant makes brief glances



DOUBLE TELEVISION COMMUNICATION
Baby Shona, 8 Weeks, in one Room,
Her Mother in Another
They See, and Hear, Each Other, Full Size, in Colour



LIVE				REPLAY
				
				

The happy minute of Shona's mother is replayed.

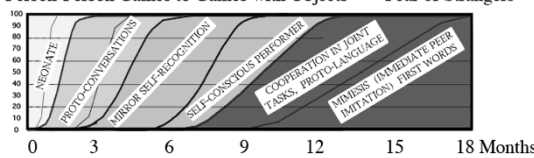
Shona is out of touch, withdrawn, sad when mother is just a recording

III


STRONGER BABIES, PLAYING GAMES -
SHARING MUSICAL STORIES TO CELEBRATE
COMPANIONSHIP
WHICH IS ANIMATED BY JOY,
AND SELF-CONSCIOUS MORAL EMOTIONS
OF *PRIDE* AND *SHAME*

PERSON-PERSON GAMES AND SONGS.
PERSON-PERSON-OBJECT GAMES
AND LEARNING TASKS, WITH
'UNDERSTANDING' COMPANIONS

GAMES & JOKES **SELF-CONSCIOUS SHOWING OFF**
Person-Person Games to Games with Objects Fear of Strangers



0 3 6 9 12 15 18 Months





FIVE TO EIGHT MONTHS
A more lively, interested person!

Crawling, Sitting,
Pulling Up to Stand.

Grasping and Holding Objects.

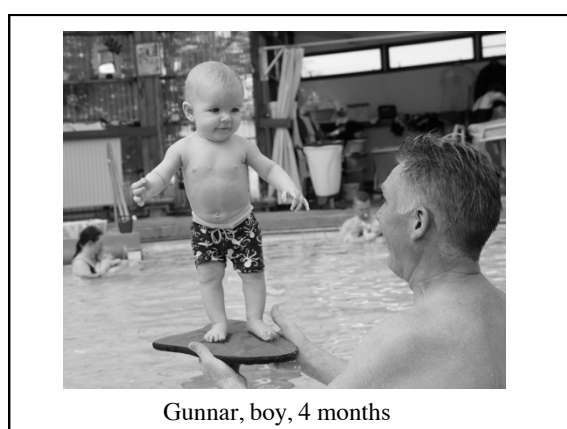
Babbling, Looking at Mother's Hands

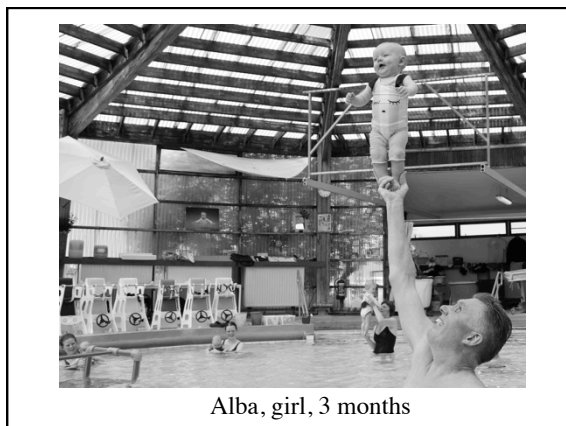



UNGBARNASUND SNORRA
BABY - SWIMMING

SNORRI MAGNÚSSON
ÍPRÓTTAKENNARI OG ÞROSKAPJÁLFI
SPORTS TEACHER AND SOCIAL PEDAGOG

Snorri Magnússon a swimming instructor in Iceland is a social pedagog but has devoted his professional career to baby swimming and has taught/lead classes 6 days a week for 25 years.







Alba, girl, 3 months

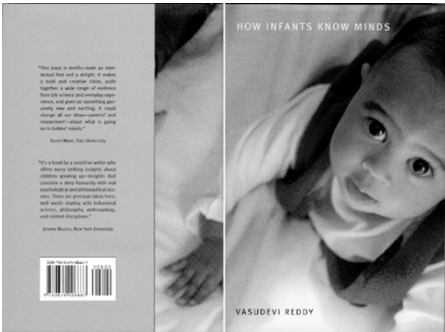


Vasudevi (Vasu) Reddy
 Professor of Developmental
 and Cultural Psychology
 Department of Psychology
 University of Portsmouth,
 England


**‘SELF-CONSCIOUSNESS’
 AT 3 MONTHS**

Vasu Reddy’s study of babies’
 ‘coyness’ in front of the mirror
 began her interest in
 ‘shared other- awareness’.

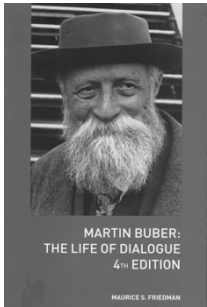


Vasudevi Reddy “*How Infants Know Minds*”
 Harvard University Press, 2008

“Buber singles out the fundamental relational character of human beings. Such relational character is at least two-fold. It can be a third-person relation, an *I-It* (and I-She, I-He) or a second-person relation, an *I-You*. Buber calls them the *two basic words*.”



Vittorio Gallese
 2012



Martin Buber
 (1878-1965).

MARTIN BUBER'S THEORY OF KNOWLEDGE

“It is only because the meeting of the I and the Thou precedes the child’s awareness of himself as I that he is able to infer the meaning of the actions of others. On the basis of his relationship with others, the child then comes to a knowledge of the external world...of knowable and passive objects.

The child establishes what is ‘objective’ reality for him **through the constant comparison of his perceptions with those of others.**”

Maurice S. Friedman (2002) *Martin Buber: The Life of Dialogue*, 4th Edition. London and New York: Routledge, pp. 193-194

FUN AND GAMES AT 4 AND 5 MONTHS



Leanne, enjoying her mother bouncing her hands at 4 months. At 5 months, she looks at her reflection in the camera window, and anticipates the story of "Round and round the garden, like a teddy bear".

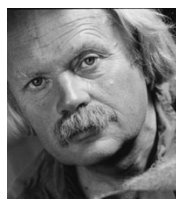

Emma, 6 months: Clapping hands, touching Mother's tongue
Her pride is clear when she looks at herself in the window.



Clapping hands with shared joy; imitating, watching own tongue

INNATE MUSICALITY
In every human world, infants and toddlers play with and explore an imaginative 'unreality' in movement, one that companions sense too. And they love to display it with pride.
 On their own, and with friends, young children create what Jon-Roar Bjørkvold, a Norwegian musicologist, calls *Children's Musical Culture*

Jon-Roar Bjørkvold,
 Prof. of Musicology,
 University of Oslo





We all need this Muse Within, for we are what I shall call *muse-ical beings*. To lose our *museicality* would be to lose a profoundly essential part of our humanity. (p. xviii)

Description of children's learning reveals a universal appetite for a culture that acquires differences in knowledge and skills for different worlds to be shared in productive work and storytelling.

It is motivated with emotions that test both grace in action and graciousness of communication, before there is instruction in principles of performance and explanation, or moral codes.

John Blacking
 Ethnomusicologist
 and Social Anthropologist



"In tribal and peasant societies much of the formal and informal education of young people was effected through 'affective culture', and especially by systems of non-verbal communication such as 'dance' and 'music'.

During the 1960s and 1970s in the United Kingdom and other industrialised countries, concern for the development of the emotions increased greatly in arguments about educational policy and in the practice of primary and secondary education."

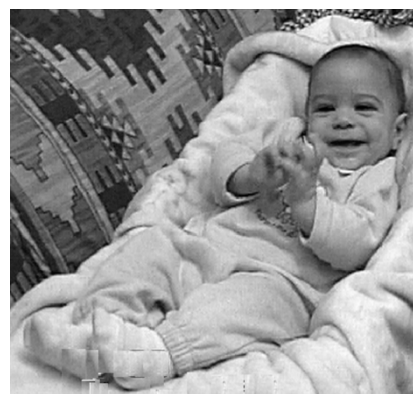
“Are then dance, music and other artistic activities peripheral or central to general cognitive development? Are they simply optional extras which can help children to learn in a pleasant way word-based social and technical skills and moral values, and to acquire a sense of group identity? **Or are they essential forms of knowledge which are necessary not only for a balanced personality but also for the development of cognitive capacities?**”

“The most easily accepted argument for the positive influence of affective culture on cognitive development is that which asserts that **people learn best in a warm and familiar environment, in which new knowledge can be easily related to the values, symbols and social experience of the home and neighbourhood.**”
(Blacking, 1988)



Babies at home in Crete take part in a traditional Greek children’s song. They happily express their appreciation of musical company.

Music teacher and psychologist Dr. **Katia Mazokopaki** has studied the development of the rhythms of these babies when music ‘talks’ to them.



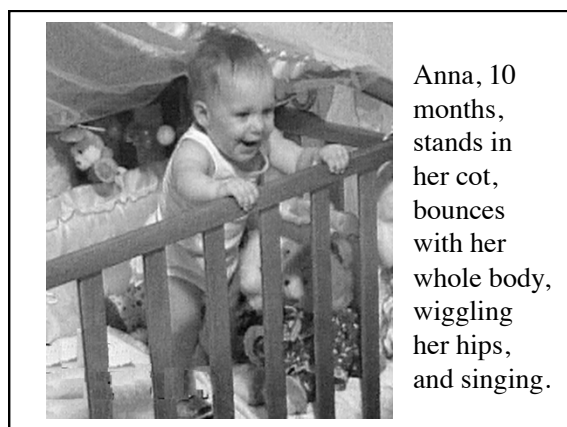
Georgos, 3.5 months, dances with face and hands, and sings.



Katerina, 9 months, beats time with her arms, flying, and she is singing too



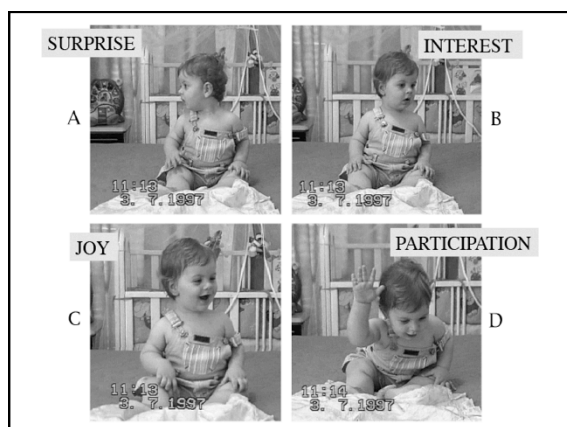
Panos, 9 months, seated on the carpet, beats time with his hand



Anna, 10 months, stands in her cot, bounces with her whole body, wiggling her hips, and singing.

Baby Panos greets the story of the music.... He is sitting on the floor at home alone when a cheerful song comes 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'.



"Infants certainly did not listen to the songs merely as receptive auditors who were discriminating musical features. They attended carefully and then acted as good 'musical performers'. They were listening very attentively in the beginning of the song, looking for the source of sound, expressing surprise and interest. They seemed to need to explore the musical sound a little, and then they participated by dancing and singing, expressing pleasure and increasing joy. They shared rhythms and emotions."

Mazokopaki and Kugiumutzakis, 2009, pp. 201-202.

A WONDERFUL EXAMPLE OF TRANSMODAL MEANING

(Book of Songs by Alice Tegner)

Mors lilla Olle

Interpretation: Mors lilla Olle

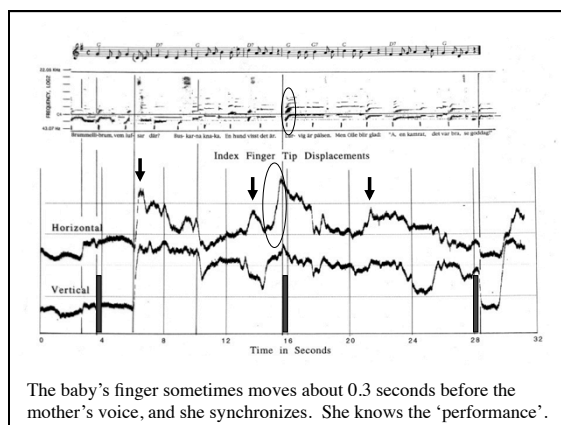
Bussomblomma, varu lilla Olle!
 Du är min kärlek, du är min glädje,
 Långt är jag från dig, Olle lilla glädje,
 Och jag kommer dit när jag är gladigast!
 Klippor du klippan och blanda med,
 Och du får kungen och den småsta gästa
 Håll i sin duktus när du väl är
 Och du får se, när du tyckes om blåk
 Men lilla, vad härom kommer jag?
 Ömmar spring här, när du lilla Olle!
 Och, vilken duktus du smakar som blå!
 Men lilla, vad härom kommer jag?

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, making graceful gestures, telling a story she knows well.



The baby's finger sometimes moves about 0.3 seconds before the mother's voice, and she synchronizes. She knows the 'performance'.

The Rhythms and Tones of a Story

Mors lilla Olle

Text och musik: Alice Tegnér

Mors lil-la Oi-le i sko-ger (gick) ro-sor på kind och sol-sken (lick)

Läp-par-na små ut-av bär ä-ro (blä) "Da-ra jag slapp att så en-sam lät (gå)!"

At the ends of adjacent lines the vowels rhyme. Babies imitate these. (Swedish has many vowels)

Brummelibrum, vem lufsar (lä)?
 Buskarna knaka. En hund visst det (är)
 Lurvig är pålsen. Mea Olle blir (glad)
 »Å, en kamrat, det var bra, se god (dag)»

Klappar så björnen med händer (små)
 räcker fram korgen: »Se där, smaka (på)
 Nalle han slukar mest allt vad dä (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 fö (bi)
 »Å, varför skrämde du undan min (vän)
 Mor lilla, bed honom komma (gen)

There are 8 different rhyming vowels in the song.

Research on **songs for infants** in many languages has taught us how all humans 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.**

SHARING STORIES IN SONG AND GESTURE

Japanese Boy, 10 Months Old,
 With His Mother, Appreciating Her Performance,
 with Humour. He watches her rhythmic hand play to a nursery song, and bows respectfully with her at the end.



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].

Legend:
 U Good 80000 and above
 Good 60000 to 80000
 Poor 40000 to 60000
 U Poor 20000 to 40000

Clappa, clappa handies,
 Mommy's at the well,
 Daddy's away to Hamilton,
 To buy wee Megan a bell.

Emma responds to "Clap Handies" (She is left-handed).

MORAL FEELING OF A PROUD SELF

Emma, 6 months, on father's knee.

Her mother says, "Clap handies!"


Emma 'shows' or 'performs' to the photographer, with intent look and a proud grin. (Father is proud too)

That's pride!

THE QUEEN'S GOLDEN JUBILEE
 SPECIAL BLUE FOUR OF FOUR www.radio-times.com #50
RadioTimes
 ALL YOUR TV & RADIO FOR THE WEEK AHEAD
 1-7 JUNE 2002
 Your guide to the celebrations
Jubilee!
 HAPPY AND GLORIOUS QUEEN OF OUR TIMES

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


SHAME
Escaping
Mis-understanding
With a Stranger,
Hiding Confusion
Emma
at 6 Months



Even infants sense strangers sometimes do not share their understanding, and this worries them. Its not fear - they have *anxiety of meaninglessness*.
Such feelings make teaching of ideas and practices a moral task. Shame stops learning.

Shona, 2 months
Out of touch,
frightened

Emma, 6 months. Facing strangers



Lonely and hiding, confused with SHAME

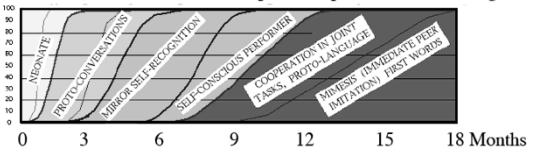
Paul and Andrew, 10 months.
Alone with strangers

IV

SHARING PURPOSES AT ONE YEAR, AND HOW A 'COMMON SENSE' OF MEANING GROWS.


To Share a Task
The beginning of cooperative awareness and acts of meaning or
'Secondary Intersubjectivity'
Discovered by Penny Hubley, 1974

SECONDARY INTERSUBJECTIVITY
Companionship in Tasks & Meanings

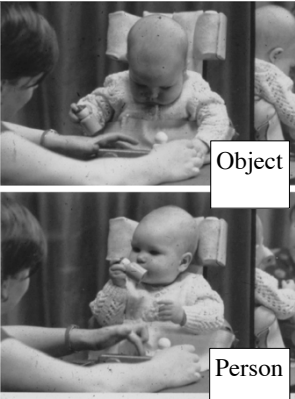


NINE TO EIGHTEEN MONTHS

Attention to Others Interests & Actions. Combining Own With Others Intentions.
Sharing Tasks, Meanings & Ritual Behaviours.
Growing 'Self Importance'



BEFORE 9 MONTHS
TWO ATTENTIONS
"Put the man in the truck!"



Object

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

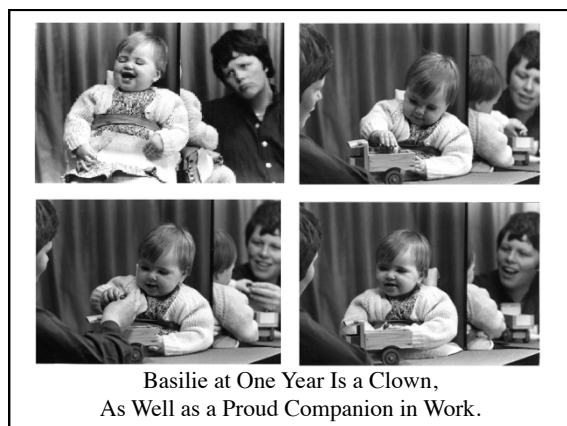
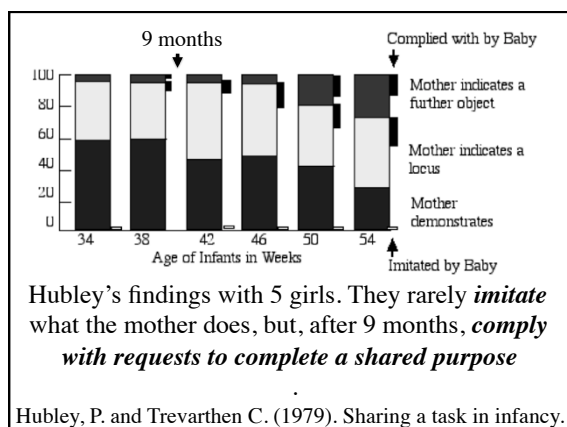
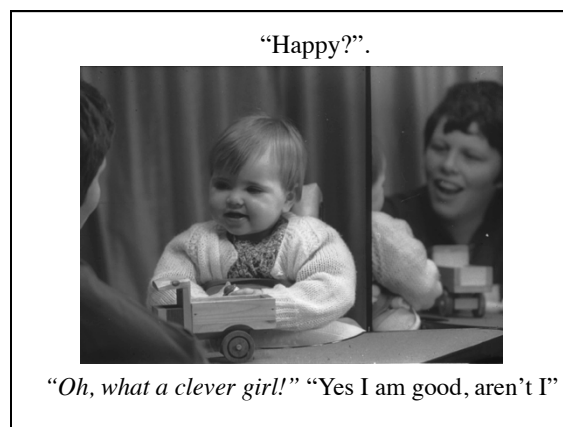
Person

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!"



**DEVELOPMENT OF
COOPERATING IN TASKS**

Beginning to share the endless game of cultural stories, meanings, tools and jobs to do. It all depends on the child’s eagerness to have the same imaginative purposes and experiences as good companions. It takes a few months to know what in the world people are interested in, besides how it feels to be alive and sharing just that. It is called ‘joint attention’ to things. I call it **‘shared experience’ with others**



Leanne
3 years.

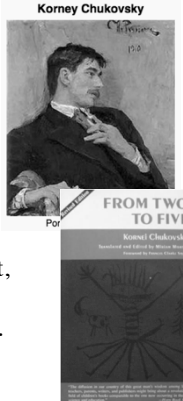
Knowing
The
Names
For
Cup
Spoon
Fork
Knife
Saucer

FROM MUSICALITY TO TALK

“Two-and three-year-old children have such a strong sensitivity to their language, to its many inflections and suffixes, that the words they construct inventively do not seem at all distorted and freakish but, on the contrary, extremely apt, beautiful, and natural.”

They are “linguistic geniuses”.

Kornei Chukovsky (1968)
From Two to Five, Page 4



THE PRESCHOOL WORLD IS ONE OF THE RICHEST TIMES OF LEARNING WITH OTHERS

Toddlers seek friendships with parents, brothers and sisters, peers, grandparents -- people of all ages -- and want to take part in the serious fun of what companions know and understand.

Learning at home and at school can be compared to follow the growth of self-confidence, interests and personality of each boy and girl – their personal story




THE CHILD'S CURRICULUM
"What is the Value of Early Childhood Education and Care?"

www.childscurriculum.org.uk
Royal College of Physicians of Edinburgh
Saturday 1st September 2010

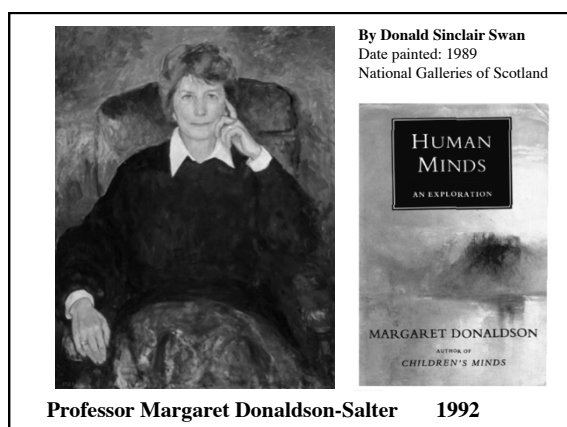
In Association With
EARLY EDUCATION

INSTITUTE FOR MUSIC IN HUMAN AND SOCIAL DEVELOPMENT (IMHSD)

University of Strathclyde Glasgow

“Human sense is understanding how to live in the human and physical worlds that children normally develop in the first few years of life. It is learned spontaneously in direct encounters with these worlds that arise unavoidably everywhere, transcending cultural differences. The learning is always informed and guided by emotion - that is, by feelings of significance, of value, of what matters. And it is highly stable and enduring, once established. It is the foundation on which all that follows must build.”

(Donaldson, *Children’s Minds*, 1978)



26th, 27th & 28th May 2016
Cosmocaixa, Barcelona

2016
2nd International Conference on Child Development

Care for the Affectionate and Creative Spirit of the Child
“What infants teach us about being human; how to share their conviviality and how to care for them”

Prof. Colwyn Trevarthen,
Department of Psychology, University of Edinburgh, Scotland

PERCEPTION, MOVEMENT & ACTION RESEARCH CENTRE (PMARC)  INSTITUTE FOR MUSIC IN HUMAN & SOCIAL DEVELOPMENT (IMHSD)

INNATE MOTOR-AFFECTIVE INTELLIGENCE

In the past 5 decades, psychology of the innate motives of the child for sharing knowledge of the world has been changed.

Attention to how infants move to explore with grace and enjoy their experience, and how they play with the actions and feelings of responsive partners from birth, has led to richer appreciation of our impulses, feelings, and ability to share the **activity of consciousness**, for any information.

This science is supported by information on how actions and affections of the growing brain promote and evaluate learning of ‘facts’.

Recognition of the ‘soul’ or spirit that motivates sympathetic communication with the pulse and story-making of ‘communicative musicality’ also helps treatment of distress caused by disorders of development like autism, or by affective illness, or neglect and abuse which weakens trust, in the Self and in relations with others.

HUMAN MOTOR INTELLIGENCE

Evolution of human bipedal locomotion and social intelligence, has set free a **new poly-rhythmia of motive processes**. We move with an Intrinsic Motive Pulse (IMP), which regulates our imagination, thinking, remembering and communicating. Gestural mimesis and narrative expression of purposes and images of awareness, regulated by dynamic emotional processes, form the foundations of human intersubjectivity, and of expressive ‘musicality’. Acquired musical skill and the conventions of musical culture are animated from this core process in the human mind.




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

Infants are much cleverer than we had thought at discriminating **musical rhythms and tones of human sounds**. They hear the musicality of mother's talk and learn simple melodies **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**.

*And movement time is amodal –
It lives between, or within, all the senses*

THE BEGINNING OF MOTOR INTELLIGENCE
 A mid-gestation foetus puts thumb in mouth, or makes gestures of conversation *with purposeful grace*.

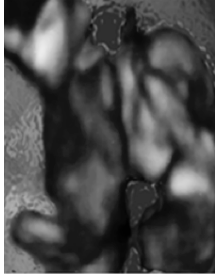
Eyes open soon – but there will be little to see. Hearing listens for the mother’s voice. Soon will come a smile, or a pout of disgust, *emotions*

The cerebral cortex is silent, but beneath is a human spirit, expecting to share stories in movement.



Dr Nadja Reissland from Durham University who has researched scans of unborn babies whose mothers smoke, and found expressions of distress. She has also observed that the foetus of a mother who is depressed shows self-touching comfort gestures by the left hand.

OTHER-AWARENESS
 A Foetus Touches a Twin With Careful Respect




Castiello U, Becchio C, Zoia S, Nelini C, Sartori L, Blason L, et al. (2010). Wired to be social: The ontogeny of human interaction. *PLoS ONE*, 5(10): e13199.

doi:10.1371/journal.pone.0013199

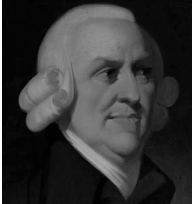
THE NATURAL PHILOSOPHY
 OF EMOTIONAL SYMPATHY
 & CULTURAL LEARNING
 IN COOPERATIVE MOVEMENT

ACTING WITH FEELING
 IN THE SHARED WORLD



In the 18th Century, **Francis Hutcheson**, Professor of Moral Philosophy at Glasgow University, scandalized many in the church with the assertion that morality should be judged by the feelings of happiness it engenders in others.. He held that sympathy and morality were innate principles in humankind, not dependent upon reason. Hutcheson’s pupils **Adam Smith** and **David Hume** were influenced by this teaching and elaborated it, though in different ways.

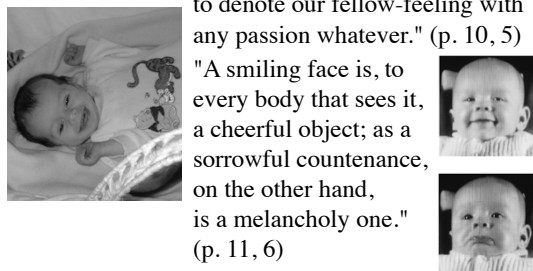
"As a disposition to imitate is natural to mankind from their infancy, so they universally receive pleasure from imitation. ... Another important determination or sense of the soul we may call the *sympathetic*, different from all the external senses; by which, when we apprehend the state of others, our hearts naturally have a fellow-feeling with them. ... We see this principle strongly working in children, where there are fewer distant views of interest. ... This sympathy seems to extend to all our affections and passions. They all seem naturally contagious."(Francis Hutcheson, 1755, *A System of Moral Philosophy*, Vol. I, Chapter 2)



When I endeavour to examine my own conduct, when I endeavour to pass sentence upon it, and either to approve or condemn it, it is evident that, in all such cases, **I divide myself, as it were, into two persons** ... The first is the spectator, whose sentiments with regard to my own conduct I endeavour to enter into, by placing myself in his situation, and by considering how it would appear to me, when seen from that particular point of view. The second is the agent, the person whom I properly call myself, and of whose conduct, under the character of a spectator, I was endeavouring to form some opinion. The first is the judge; the second the person judged of. **Adam Smith TMS**, p. 182

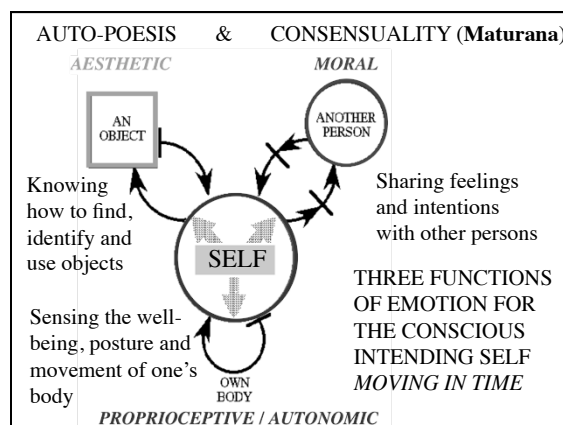
"Sympathy ... may ... , without much impropriety, be made use of to denote our fellow-feeling with any passion whatever." (p. 10, 5)

"A smiling face is, to every body that sees it, a cheerful object; as a sorrowful countenance, on the other hand, is a melancholy one." (p. 11, 6)

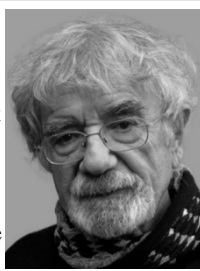


The Theory of Moral Sentiments (1759) by Adam Smith (who was much more than an economist).

Smith described morality as the principle by which relations are given emotional value in terms of **positive or negative sympathy**. This is a very different view from the belief that moral understanding can only come as a slow acquisition in the child of self-awareness. From the rational mastery of social rules, permissions and prohibitions that Freud called a super-ego, gained by processes such as 'identification' and 'social learnin';, **crude innate impulses of self-protection being coerced by training in how one should behave, and by modeling of the actions and beliefs of exemplary individuals**.



"Every human being, as an autopoietic system, stands alone. Yet let us not lament that we must exist in a subject-dependent reality. Life is more interesting like this, because the only transcendence of our individual loneliness that we can experience arises through the consensual reality that we create with others, that is, through love."



Humberto Maturana

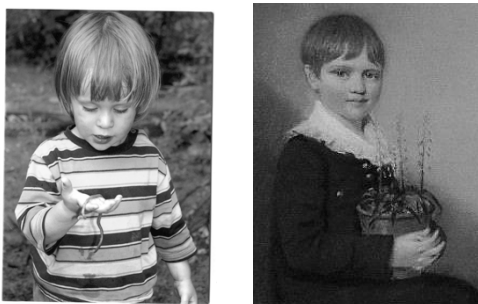
Maturana, H. R. (1978). *Biology of language: The epistemology of reality*.

"Psychobiology of Infancy: The Conative and Emotional Foundations of Human Cognition"

We need a science of the imaginative biology of CONATION, the "natural tendency, impulse, striving, or directed effort" of living things, including the human self.

(According to Wikipedia 'conation' is identified as one of "The 1,000 Most Obscure Words in the English Language")

EARTHWORMS ARE CONSCIOUS - Merker, B. (2005).
The liabilities of mobility. *Consciousness and Cognition*, **14**, 89–114.



CURIOSITY

The young Charles Darwin with plants (He too studied earthworms, and proved they are intelligent)

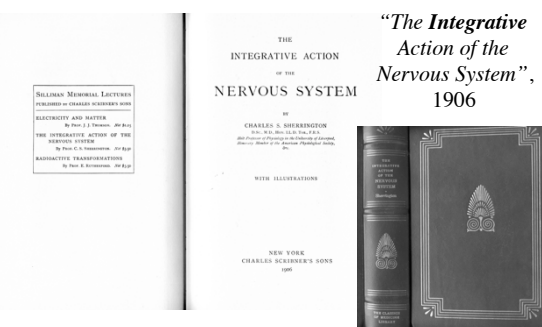
THERE IS A NOBLE HISTORY OF RESEARCH ON THE ACTIVE BIOLOGY OF THE BRAIN/MIND ON THE VITALITY OF MOVEMENTS AND FEELINGS

Charles Scott Sherrington (1857-1952)

“what is the specific contribution which nerve makes to animal integration? .. [It] is an organ of mechanical work, *executant of movements and attitudes, the animal's motor behaviour*. This behaviour falls into two divisions. One digestive, excretory .. the other .. of external relation, so called. In it motor behaviour reaches its highest speeds and precision, and nerve action attains its greatest developments.” (Sherrington, 1906)

Charles Sherrington, the creator of modern neurophysiology, developed a science of the SELF

“The Integrative Action of the Nervous System”, 1906

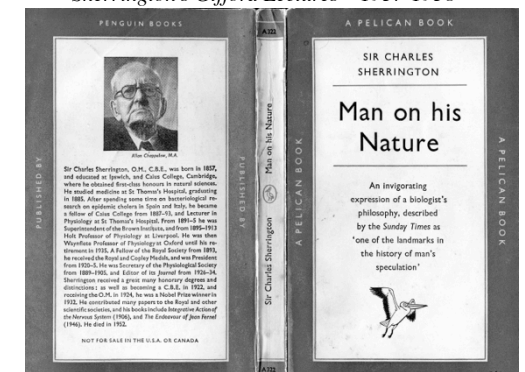


THE INTEGRATIVE ACTION OF THE NERVOUS SYSTEM

CHARLES S. SHERRINGTON

NEW YORK CHARLES SCRIBNER'S SONS 1906

Sherrington's Gifford Lectures – 1937-1938



Man on his Nature

SIR CHARLES SHERRINGTON

An invigorating expression of a biologist's philosophy, described by the *Sunday Times* as 'one of the landmarks in the history of man's speculation'

The egg cell is unlike other cells, “It is specialized for reproduction. ... The whole astonishing process achieving the making of a new individual is thus an organized adventure in specialization on the part of countless co-operating units. ... An explanation once offered for the evolutionary process traced it to 'memory' in the ancestral cell. But such an explanation rests, even as analogy, on a misapprehension of the actual circumstances. **It would be imagination rather than memory which we must assume for the ancestral cell; memory could not recall experience it never had.**” (Sherrington *Man on His Nature*, 1955)

In the closing lecture of *Man on His Nature* Sherrington advocated respect for affections of the mind that help ‘altruism’ in relationships, for cooperative life activities with sympathy for other persons’ feelings, including therapeutic care of patients and education of the young. This is a philosophical neuroscience that goes beyond examination of details, to take in the whole picture of organic, and human, mental life -- the science needed for understanding of the vitality and affections of young children, and why their love is so rewarding for parents, teachers and other companions who share their innocent life activities.

Lev Semyonovich Vygotsky (1896-1934)

Soviet psychologist, founder of a theory of human cultural and bio-social development or 'cultural-historical psychology'. He was interested how the meaning of creative activity is understood with others in daily life and in education, and how cultural knowledge in symbolic form is acquired in the child's 'zone of proximal development'. This natural philosophy of the interpersonal generation of meaning gained admiration and application after his death.



Nicholai Aleksandrovich Bernstein (1896-1966)

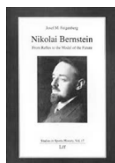
Building on Sherrington's discovery of the neural mechanisms of proprio-ception, and his theory of how actions of many body parts are integrated by the brain into of a single moving subject, the Russian physiologist Nicholai Bernstein, in the 1930s, made a brilliant analysis of *how human movements are generated in the brain, imaginatively*. His laws of 'biodynamic structures' that make movements explain how excitations of muscular activity are *controlled by motor images*.



Bernstein studied how motor images generated in the brain produce efficient rhythmic actions with a heavy body of many parts and many biomechanical 'degrees of freedom'. He applied cyclographic techniques to show actions are composed of smaller movements. In 1926, he examined forces of human walking for the engineering of pedestrian bridges.



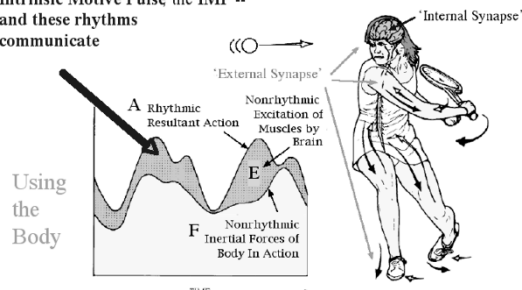
From *Reflex to the Model of Future.*



In the Moscow Central Institute of Labour in 1922, he measured manual work, e. g. cutting metal with a chisel, to optimize productivity. He studied how toddlers play with walking, and the effects of age and brain damage on its efficiency. In 1935, he gained a Doctor of Science without thesis, was one of the first members of the USSR Academy of Medical Sciences, and received the Stalin Prize for science.

Bernstein's theory of the brain's creation of movements was opposed by Pavlov, the author of conditioned reflex theory. It was known to Western scientists only in 1967, when *The Co-ordination and Regulation of Movements* was published in English.

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



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



Susanne Katherina Langer

(1895 - 1985), who played cello and piano, was one of the first women to achieve an academic career in philosophy and the first to be recognized as an American philosopher.

She is best known for her 1942 book *Philosophy in a New Key*. Alfred North Whitehead was her PhD adviser.

"There are certain aspects of the so-called 'inner life' — physical or mental — which have formal properties similar to those of music — patterns of motion and rest, of tension and release, of agreement and disagreement, preparation, fulfilment, excitation, sudden change, etc." (Langer, 1942, p. 228)

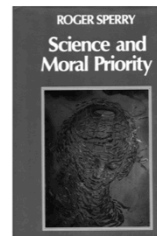
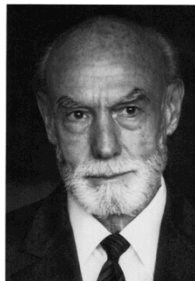
Karl Spencer Lashley (1890–1958)

Professor at the Universities of Minnesota, Chicago and Harvard, was a psychologist who made major contributions to the study of learning and memory and the functions of the cerebral cortex as part of the whole active brain.



“GENERALITY OF THE PROBLEM OF SYNTAX
Not only speech, but **all skilled acts** seem to involve the same problems of serial ordering ... Analysis of the nervous mechanisms underlying order in the more primitive acts, may contribute ultimately to the resolution even of the physiology of logic.” (Lashley, 1951, *Serial Order in Behavior*)

Roger Wolcott Sperry (1913-1994)

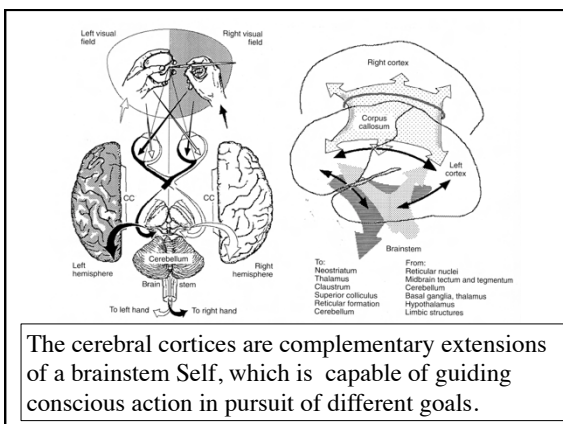
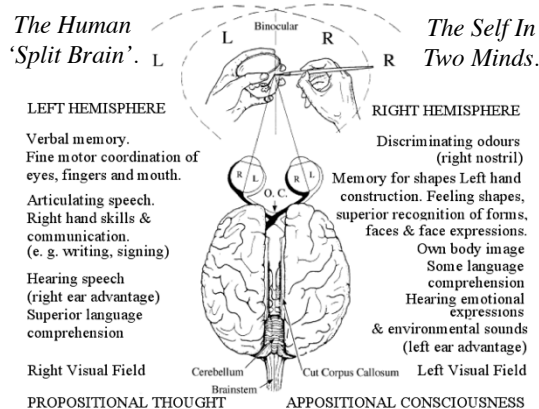


“Consciousness is causal”

Roger Sperry, Nobel Prize 1981 -- He revolutionized ideas about how the nervous system grows to map the body and its world in the brain in ways that direct learning.

“A Different Approach to the Problem

An analysis of our current thinking will show that it tends to suffer generally from a failure to view mental activities in their proper relation to motor behavior. .. In man as in the salamander the primary business of the brain continues to be the governing, directly or indirectly, of overt behavior. .. To the neurologist, .. it is readily, apparent that *the sole product of brain function is motor coordination*. .. In so far as an organism perceives a given object, it is prepared to respond with reference to it. *This preparation-to-respond is absent in an organism that has failed to perceive.*” (Sperry, 1952)



Iain McGilchrist
“The Master and his Emissary”
2009

The most comprehensive review to date of findings from study of differences in consciousness, motives and emotions in the two hemispheres of human beings, and their significance for our understanding of ourselves, and of the modern technical world.

See <http://www.iainmcgilchrist.com/>

Ray Birdwhistell (1918 – 1994)

Anthropologist and linguist.
 Founder of **'kinesics'**
 – communication by culturally patterned "facial expression, gestures, posture and gait, and visible arm and body movements".



He estimated that "no more than 30 to 35 % of the social meaning of a conversation or an interaction is carried by the words."

Birdwhistell was Senior Research Scientist at the Eastern Pennsylvania Psychiatric Institute in Philadelphia with a 16mm film studio, a resident cinematographer, and an artist who illustrated research findings, and numerous graduate students and visitors who became an informal, interdisciplinary network of scholars in anthropology, ethology, linguistics, and psychiatry. He Collaborated with Margaret Mead and Gregory Bateson, Erving Goffman and Dell Hymes. He wrote *Kinesics and Context* (1970) with support of Goffman and Hymes. His work inspired research of Mary Catherine Bateson and Dan Stern with infants.

James Jerome Gibson (1904-1979)

The Theory of Affordances.

Gibson developed a view of perception and action that focused on **the active pick-up of information that is available in the environment.**



He rejected the separating of external-physical and internal-mental processes.

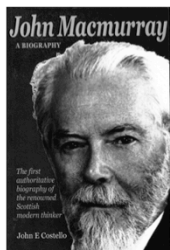
David Lee Professor Emeritus
 Director, Perception-Movement-Action Research Consortium (PMARC)
 University of Edinburgh, UK



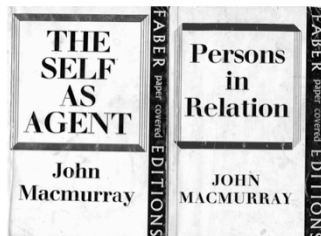
"My aim is to discover principles of purposeful movements in humans and animals.

I am developing General Tau Theory to study the development of skills in infants; musical performance; sports; flying; rehabilitation of basic skills in Parkinson's Disease and Cerebellar Ataxia; sensory guidance of movement by individual cells; the electrical energy patterns in the brain that guide movement."

A Humanist Philosophy, from Scotland



His Gifford Lectures



1959

1961

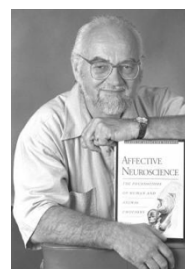
Jaak Panksepp

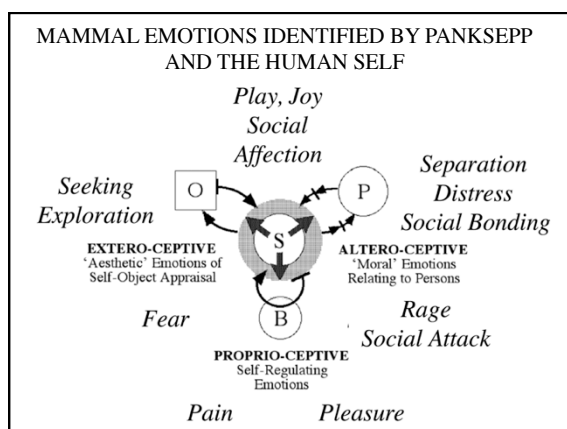

Baily Endowed Chair of Animal Well-Being Science at Washington State University Veterinary College and Emeritus Professor of Psychology at Bowling Green State.

Author of

Affective Neuroscience, 1998

"It is commonly believed that consciousness is a higher brain function. Here we consider the likelihood .. that lower brain affective phenomenal experiences provide the "energy" for the developmental construction of higher forms of cognitive consciousness."







Stephen Porges

“We present a biobehavioural model that explains the neurobiological mechanisms through which measures of vagal regulation of the heart are related to infant self-regulatory and social engagement skills.

... as cortical regulation of the brainstem improves during the first year of life, reciprocal social behaviour displaces feeding as the primary regulator of physiological state.”

Porges and Furman, 2011, p. 106).



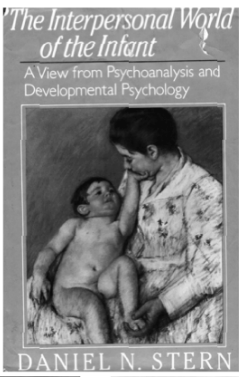
Barbara Gwenn Goodrich
University of Colorado, Denver
Veterinary Medicine, Aesthetics,
Philosophy of Science

“We Do, Therefore We Think:
Time, Motility, and Consciousness”
Reviews in the Neurosciences
21(5), 331-361 (2010)

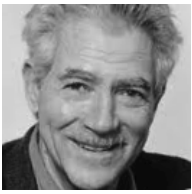
A philosopher’s expanded review of two recent books on neurophysiology: Rodolfo Llinás’s *I of the Vortex* and György Buszák’s *Rhythms of the Brain*. -- on a view of consciousness as originating in motility and as inherently temporal due to the brainwave oscillations that underlay it.

A REVOLUTIONARY INTERPRETATION OF INFANCY

“This book attempts to create a dialogue between the infant as revealed by the experimental approach and as clinically constructed, in the sense of resolving the contradiction between theory and reality”
(Stern, 1985, p. ix).



In the introduction to the 2000 edition of *The Interpersonal World* Stern says, “One consequence of the book’s application of a narrative perspective to the non-verbal has been **the discovery of a language useful to many psychotherapies that rely on the non verbal**. I am thinking particularly of dance, music, body, and movement therapies, as well as existential psychotherapies. This observation came as a pleasant surprise to me since I did not originally have such therapists in mind; my thinking has been enriched by coming to know them better.” (Stern, 2000, p. xv).



“FORMS OF VITALITY:
Exploring dynamic experience in psychology, the arts, psychotherapy, and development.”
Daniel N. Stern M. D.
Oxford University Press, 2010.

Vitality dynamics are psychological, subjective phenomena ... felt as aliveness ... designed to fit the workings of the human world.
They are. ... **shapes of expressive movement**. They concern the **How**, the manner, the style, not the What nor the Why.

Consider the following list of words.

exploding	surging	accelerating
swelling	bursting	fading
drawn out	disappearing	fleeting
forceful	powerful	weak
cresting	pulsing	tentative
rushing	pulling	pushing
relaxing	languorous	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.”

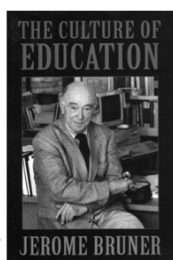
Therapy for war-traumatised youths




Nigel Osborne, **Professor of Music**, and student at a summer music camp near Sarajevo, BiH, 2009

Jerome Bruner

“Storytelling performs the dual cultural functions of making the strange familiar and ourselves private and distinctive. If pupils are encouraged to think about the different outcomes that could have resulted from a set of circumstances, they are demonstrating useability of knowledge about a subject. Rather than just retaining knowledge and facts, they use their imaginations to think about other outcomes. This helps them to think about facing the future. It stimulates the teacher too.”



It is surely the case that schooling is only one small part of how a culture inducts the young into its canonical ways. Indeed, schooling may even be at odds with a culture's other ways of inducting the young into the requirements of communal living. .. What we resolve to do in school only makes sense when considered in the broader context of what the society intends to accomplish through its educational investment in the young. How one conceives of education ... is a function of how one conceives of culture and its aims, professed and otherwise. (*The Culture of Education*, 1996: ix-x)

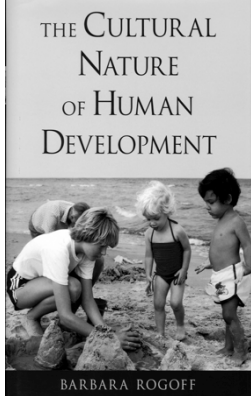


Lilian Katz, Professor Emerita of Early Childhood Education, University of Illinois at Urbana-Champaign

“We are doing earlier and earlier to children what we shouldn’t do later.”

These words of wisdom were offered by Lilian Katz – in reference to the current trend of aligning curriculum and programs in an effort to prepare children for the next step in their education.

<http://illinoisearlylearning.org/ask-dr-katz.htm>




Barbara Rogoff


“Children gain knowledge in different social worlds, by ‘collaborative learning’, helping to make imaginary and meaningful things in companionship with good teachers, those who share intentions and ideas generously.”

These are her own children

In *Developing Destinies*, Barbara Rogoff illuminates how individuals worldwide build on cultural heritage from prior generations and at the same time create new ways of living. Throughout Chona’s lifetime, her Guatemalan town has continued to use old Mayan cultural practices, such as including children in a range of community activities and encouraging them to learn by observing and contributing.




OUP




There’s hope for childhood. Despite a perfect storm of hostile forces that are robbing children of a healthy childhood, courageous parents and teachers who know what’s best for children are turning the tide.

Johann Christoph Arnold


Darcia Narvaez, Professor of Psychology and Director of the Moral Psychology Lab at the University of Notre Dame, studies moral development through the lifespan with a particular focus on early life effects on the neurobiology underpinning moral functioning.



Recent Books:
Embodied Morality: Protectionism Engagement and Imagination (2016)
Developing the Virtues: Integrative Perspectives (ed. with Annas & Snow) (2016)
Contexts for Young Child Flourishing: Evolution, Family, and Society (ed. with Braungart-Rieker, Miller-Graff, Gettler, Hastings) (2016)
Neurobiology and the Development of Human Morality: Evolution, Culture and Wisdom (2014)
Evolution, Early Experience and Human Development: From Research to Practice and Policy (ed. with Panksepp, Schore, & Gleason) (2013)



A proud, healthy family in a remote forest in Canada. Sampson and Leah Beaver with their daughter Frances Louise in 1907. As Blackfoot Indians they lived with little technical culture, not even using canoes. They were close to nature, rich in art, and very fit.

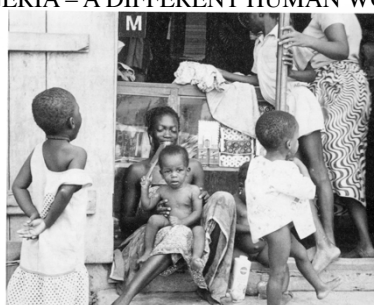


RHYTHMS OF RELATING IN CHILDREN'S THERAPIES
CONNECTING CREATIVELY WITH VULNERABLE CHILDREN
Edited by Stuart Daniel and Colwyn Trevarthen

Stuart Daniel and Colwyn Trevarthen, 2017, London: JKP

This multidisciplinary book shows how to foster meaningful relationships between therapists and vulnerable children, through exploring the concept of communicative musicality and creating rhythms of connection. It includes broad and in-depth contributions from leading therapists from diverse backgrounds - including Peter A. Levine, Daniel Hughes, Stephen Porges, Dennis McCarthy, and many more.

NIGERIA – A DIFFERENT HUMAN WORLD



Typical courtyard scene with several families. Adegbenro, 11 months takes a comb to tidy his hair

(Photos by John and Penny Hubley, from Trevarthen, 1988)



Oyabanji, 7 months enjoys his mother's sister's clapping game. Father plumber, mother trader.



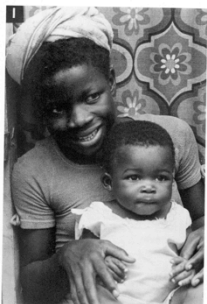
Adegwale, 1 year, shows food to his main caretaker, a neighbour.




Playing toy piano with brother.



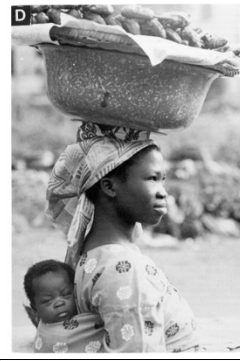
Sharing piano with mother. Adegbenro, 1 year.



Ajayi, a twin, female, 7 months, with her mother's sister.



A boy Adegwale, 11 months, in the care of a neighbour, withdraws from a stranger who performs a clapping song



Toyin, a 12 week old girl, is wrapped in a cloth against the back of her mother who is selling dried fish