Infant psychology teaches us that knowledge is shared creativity in the experience of being alive. 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.

Cultural knowledge and skills begin in how we move together, and are learned with aesthetic feeling, and moral sensibility, in ‘musicality’. Was the apple a song?

ANIMALS LIVE BY MOVING.!
This needs a consciousness that perceives what will happen, prospectively. They learn to live cleverly in sustaining ecologies, and sympathetically in cooperative communities.

And all animals move rhythmically with dynamic regulation of the effort and care of their movements. They cooperate by signaling their motives and feelings, forming emotional attachments and sharing experience by affective/affilative communication. Many sing or dance to signal their state of vitality, and synchronize.

HUMAN MOVEMENTS ARE POLYRHYTHMIC, AND HUMAN COMMUNITIES MAKE CULTURES.
We act to perform ambitious projects and communicate narratives about our motives and feelings. Our movements exhibit unique polyrhythmic musicality. They generate emotive meanings that guide the activities of individuals planned in the future, and recalled from the past across many generations, and over thousands of years. Works of art hold communities together. Human technology and rational mastery of matter can become more powerful than Nature.

The aesthetics and morality of meaning

“Culture is activity of thought, and receptiveness to beauty and humane feeling. Scraps of information have nothing to do with it.”

The Edinburgh developmental psychologist and educator Margaret Donaldson calls this ‘human sense’. She says, “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, 1978)

A proud, healthy family in a remote forest in Canada in the 19th Century.

A Theory of the Art of Cultural Learning

How the community of knowledge grows

A baby has self-other conscious emotions, of relating to other persons. The most powerful are pride in knowing and doing ‘cleverly’, and shame at not being appreciated. This ‘self-other consciousness’ IS human sociability. It leads to companionship in cultural skills, including language. Soon an infant becomes a member of a family, responding to attentive care, learning games. Toddlers seek friendships with people of all ages. They want to share the fun of what they do and know. They play with imaginative ‘unreality’ that others believe, and show, has importance! Even infants sense a stranger may not share their understanding, and this worries them. They suffer anxiety of meaninglessness.
SHARED KNOWING "MAKES PRIDE!
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)!

FAILED SHARING
MAKES SHAME"
Emma at 6 Months
Escaping
Mis-understanding
With a Stranger!
Hiding Confusion
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 and anxiety stop learning.

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 and graciously.!
Barbara Rogoff is Prof. of Child Development, at UC Santa Cruz in California.

We have a new psychology of infancy, one that proves minds are born for inventing and sharing and feeling each other’s innately conscious intentions -- in intimate vitality -- not just in language, thoughts, theories and rational beliefs, which are learned products of meaning.

Human beings are born to be sociable. All infants enter the world ready and able to chat, to share meaning. A wealth of studies has revealed how sophisticated babies’ skills are for creating meaning with us in movement.

CAN OBJECTS IN MOTION COME TO LIFE?
Here are two objects simulating movements in a 3D space. Do their motions successfully convey intimate vitality?!

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?

We appreciate better, now, the inspiring influence an infant has over the life of parents and others,!
Besides care and attachment, playful companionship in intentions, experiences and feelings is eagerly sought from others, and needed.!
Other persons’ lively interest and sharing is essential for the child’s future well-being and self-confidence in acting, understanding and remembering.!

THE MUSICAL ORIGIN OF HUMAN LEARNING
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.
Grisela and Christina Dancing in the Shetlands! to Annie Lennox Singing “Thorn In My Side”!

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

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’.

• 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’. 
‘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.

'The melodies of action feel good and are sociable, sharing joy!'

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 between the senses!

'A child is born with body & brain ready to move in company - musicality is innate - it conducts our mental drama & shares it.'
The baby’s finger, dancing to the music, sometimes moves about 0.3 seconds before the mother’s voice. At other times she synchronizes. She knows the ‘performance’.

The Rhythms and Tones of the Story! Lead to Speech

Mors lilla Olle


Musicality in human motives, the psycho-biological source of music, is described as a talent inherent in the unique way human beings move, and hence experience their world, their bodies and one another. It originates in the brain images of moving and feeling that generate and guide behaviour in time, with goal-defining purposefulness and creativity. Intelligent perception, cognition and learning, and the potentiality for immediate sympathy between humans for expressions of intrinsic motives in narrative form (linguistic and non-linguistic), depend on this spontaneous, self-regulating brain activity. !

Human bipedal locomotion, and the pressure of social intelligence, set free a new poly-rhythmia of motive processes that generate fugal complexes of the Intrinsic Motive Pulse (IMP), with radical consequences for human imagination, thinking, remembering and communicating. Gestural mimesis and rhythmic narrative expression of purposes and images of awareness, regulated by, and regulating, dynamic emotional processes, form the foundations of human intersubjectivity, and of musicality. Acquired musical skill and the conventions of musical culture are animated from this core process in the human mind.!
THE HIDDEN REALM OF!
"VITALITY DYNAMICS":
Exploring Dynamic Experience and Vitality in Psychology, Neuroscience, Development, and Art
Daniel N. Stern M.D.
Oxford University Press, 2010

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.

<table>
<thead>
<tr>
<th>Consider the following list of words!</th>
</tr>
</thead>
<tbody>
<tr>
<td>exploding!!</td>
</tr>
<tr>
<td>swelling!!</td>
</tr>
<tr>
<td>drawn out!!</td>
</tr>
<tr>
<td>forceful!!</td>
</tr>
<tr>
<td>cresting!!</td>
</tr>
<tr>
<td>rushing!!</td>
</tr>
<tr>
<td>relaxing!!</td>
</tr>
<tr>
<td>fluttering!!</td>
</tr>
<tr>
<td>tense!!</td>
</tr>
<tr>
<td>gliding!!</td>
</tr>
<tr>
<td>holding still!!</td>
</tr>
<tr>
<td>and many more.</td>
</tr>
</tbody>
</table>

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. !

• The movements of the 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.

• They are controlled by coherent, and powerfully communicative emotions. *Movements have innate Expressive Quality*.

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.!
THE RHYTHMS OF SPEECH ARE INNATE

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

Stichtinglichaamstaal (Body Language Foundation)
Secretariat: Scheyvenhofweg 12, 6093 PR Heythuysen, The Netherlands.
Internet: http://www.stichtinglichaamstaal.nl/
Email: info@stichtinglichaamstaal.nl/

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”).

HUMAN BIOCHRONOLOGY

Motive Times of human actions and experiences in consciousness of the present -- in physiological processes of the nervous systems, in experience, and on the times allocated artfully to component processes in! machine intelligence, and in spontaneous actions of newborn infants and of infants' vocalizations and vocal exchanges in communication!
Purposes and experiences longer than a few tens of seconds are sustained in thought and imagination by representations in perceptual images and language, and by the cognitive processes that give them conventional meaning and causal connections, but retaining emotional value!

**THE PRESENT MOMENT OF CONSCIOUS ACTING**

From 0.3 to 6 seconds

**SHORTEST PERCEPTIBLE & CONTROLLABLE EVENTS!**

0.05 to 0.2 seconds

ONE INNATE RHYTHM OF THE MIND, 3/Second

Close to syllables, or fastest walking.

Arm Lift
Infants, 12-30 days

Eye Saccades
Infant, 9 days

Eye Saccades
Adult

0.3 0.6 0.9 1.2 SECONDS
IMAGINED FUTURE & RECALLED PAST IN ACTION & THOUGHT
(GENERATING & REGULATING MEMORIES & EXPECTATIONS)

From verses/stanzas of songs & performances, short narratives/stories, reasoned arguments, to plans of the day & lifetimes.

UNCONSCIOUS TIME!
OF DREAMS:

THE INSIDE STORY GOES ON!
SLOWLY WHEN YOU ARE ASLEEP.
IMAGINING AND REMEMBERING!

THE RHYTHM OF ENERGY!
IN THE BODY!
CAN BE SHARED IN
WAVES OF INTIMATE VITALITY

PHYSIOLOGICAL SYNCHRONICITY!
Sharing dreams of breathing and heartbeat.
Téa is 1 year old and sleeping with her Mother.

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
Age-Related Developments!
in Body and Mind

A chart of the first 18 months after birth shows how advances in communication and self-awareness are related to developments in the body and movement, and also to changes in perception and cognitive abilities -- the growth of a creative human sociable intelligence.

INFANTS SEEK HUMAN COMPANY FROM BIRTH AND THEY GROW IN POWERS OF ACTING AND COMMUNICATING!

Step by step they find ways to make memories that can be shared in musical ‘proto-conversations’. After a few months they help imagination grow by sharing rituals of play in games.

Before they can talk they try to follow meanings with moral emotions -- feeling pride in shared meaning, and shame if others do not understand what their stories and excitements mean.

One-year-olds eagerly cooperate in tasks, with common sense, using tools -- cups, books, ‘phones and more -- accepting dolls as persons, and making fun with peers.

At birth the human brain is one third the size of an adult brain, but has all major parts in place, including unique human sensory & motor organs for communicating emotions, intentions & states of consciousness. They are waiting for company.

How we have charted Sharing Before Language.

STAGES IN DEVELOPMENT OF COMPANIONSHIP IN KNOWING

NEWBORNS

A Talk on the First Day

PROTOCONVERSATIONS

B 6 weeks to 3 months

C (GAMES & SHOWING OFF

5 & 6 months

D SHARING TASKS & KNOWLEDGE, 1 year

IN EARLY WEEKS A BABY SEEKS INTIMATE CHATS!

At 7 weeks Téa is very interested in communicating.
From birth, every human being is a purposeful, imaginative, affectionate, and musical person -- seeking meaning by moving in sympathetic and creative company.

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

A therapist can make sharing come alive,

And so can a friend, or teacher.

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

They show gestures of the hands relating to feelings in their bodies, to orientation of their interest to events in the world, and to the sympathy they have for other persons who may respond to their signs, 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.

A Musician’s Daughter, 6 Hours Old

Body movements that ‘talk’ without words

A 6 week old baby girl! -- with her mother, but amusing herself.
THE FIRST EMOTIONAL DYNAMICS OF INTIMACY!

Newborns not only imitate -- they want to have a dialogue sharing interest, effort and pleasure by many senses, engaging with many forms of expression, making an effort and paying attention. A newborn can take turns in an exchange of imitations.

A newborn in Hyderabad, 1/2 hour old, is coordinated, alert and aware!

20 minutes old, eagerly tracking a lively ball that someone is giving human movement in a ‘game’!

A newborn in Hyderabad, 1/2 hour old, is coordinated, alert and aware!

28 hours after birth.

Watches, gestures, looks away, and imitates!

Less than 1 hour old. Watches hands and imitates!
At 30 mins. old, Shamini imitates -- ! mouth opening and tongue protrusion;

NEONATAL IMITATION IS FOR TWO: Research ! of Dr. Emese Nagy in Szeged, Hungary, with Newborns!

Two fingers – experimenter

Two fingers – baby

Emese Nagy; Newborns' Imitations & Provocations; Changes of the Heart

15 seconds of communication ! with a baby less than 2 days old.!

Exploring Self-Awareness ! and demonstrating ! Intimacy of Purposes and Feelings ! with hands in dialogue.!
Testing, and admiring, my right hand.

Look! -- Up …

… to the Side

Down

Whose hand is that?

What does she want?
Oh well, …

… I better try to do that too (heart speeds up)

Is that's right?

I wonder if I can ask her to do it for me? (heart slows)

That's right. Thank you!

You are very kind!
PRIMARY INTER-SUBJECTIVITY!
AND!
COMMUNICATIVE MUSICALITY

“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)!

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

IN EARLY WEEKS A BABY SEEKS INTIMATE CHATS!

Téa at 7 weeks.!
Very Interested in!
Communicating.!

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

Laura, at 6 weeks, starts to chat with her Mother.!
Kay, at Edinburgh University. She pays attention.!
She smiles as her mother speaks!

And she coos, her lips like a trumpet.

She waives her right hand, following her mother’s talk, taking her turn.

The Body Shows Intimate Intentions!
Laura, 6 weeks old, and her mother, Edinburgh University, 1979

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 the energy in others' movements!

Communicative Musicality!
Exploring the Basis of Human Companionship

Stephen Malloch
and Colwyn Trevarthen

Oxford University Press 2009!
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 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.

**COMMUNICATIVE MUSICALITY**

(Malloch, 1999)

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**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)
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
2 Again
3 Come on then
4 That’s clever
5 *
6 ***
7 Oh yes!
8 Is that right?
9 Well tell me
10 some more then
11 *
12 * ***
13 Come on
14 Ch ch ch ch
15 Ch ch ch

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.

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Lynne Murray’s Double Television “Replay Test”
Baby Shona, 8 Weeks, in one Room, “Her Mother in Another.!
They See, and Hear, Each Other on Television!

Shona cannot find her mother’s face!
She gets a fright when the microphones squeal*
What’s that noise? Oh! That’s horrible!!

Shona’s mother is immediately ‘sympathetic’ “
Oh dear, I don’t want to see a pouty face!
The noise is corrected and she sees her mother”
There you are!!
“That’s better!”

What a funny mother!!

What’s going on in your head?!!

What I have to say:

Silly, billy girl!!

You make me laugh!!
A happy baby in contact after one minute of play”
(No comment)!

The happy minute of Shona’s mother is replayed.”
She is out of touch, withdrawn, sad!
when mother is just a recording

The same moment in the mother’s TV behaviour”
Live, in communication. Replay. Avoidant!

The happy minute of Shona’s mother is replayed!
Shona is out of touch, withdrawn, sad!
when mother is just a recording!

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

Person-Person, "with a performer’s pretence " then"
Person-Person-Object with ‘toys’.

FIVE TO EIGHT MONTHS
Crawling, Sitting,
Pulling Up to Stand
Grasp and Hold Object
Babbling, Supra-Clusal
Articulations
Looking at Mother’s Hands
GAMES & RITUALS DEVELOP, WITH PEOPLE & WITH THINGS

Infants first become attracted to Person-Person games, and show a performer’s pretence.

Then they are attracted to Person-Person-Object games with ‘toys’ that tempt their imagination and skill, inspiring companions to tease.

*And babies become increasingly ‘self-conscious’!*  

‘SELF-CONSCIOUSNESS’ AT 3 MONTHS!

Professor Reddy’s new book, on ‘second person psychology’

There are precious ideas here, well worth sharing with behavioral science, philosophy, anthropology and related disciplines – Jerome Bruner!

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Professor Reddy’s study of babies’ ‘coyness’ in front of the mirror began her interest in ‘other awareness’. !

Rhythmic body games, music, songs and dancing become part of the fun of the life of the family.”

They are sharing their special rituals and dramas with babies, feeling them intimately in their bodies and minds, and remembering them in a ‘proto-culture’ or ‘proto-habitus’.”

They negotiate the invented life of meaning in play.!

Rhythmic body games, music, songs and dancing become part of the fun of the life of the family.”

They are sharing their special rituals and dramas with babies, feeling them intimately in their bodies and minds, and remembering them in a ‘proto-culture’ or ‘proto-habitus’.”

They negotiate the invented life of meaning in play.!

Jack, 4 Months, learns to say, “AAH BOO”, and when he does it, his mother says, “You get a kiss for that”, and she kisses him on the forehead.

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Leanne, 4 months: Enjoying a song. Reaching for a ball!

Looking about. Ignoring mother” “If it’s your foot you want, here!”

Leanne, 4 months: Enjoying a song. Reaching for a ball!

Looking about. Ignoring mother” “If it’s your foot you want, here!”
Thus baby action songs and nursery rhymes begin, in every society.

The baby soon learns the rules of play, joining a poetic culture that becomes more and more practical.

The rhythms and melodies of its actions and tones will help hearing what sounds of speech mean while making sense of others’ gestures and actions, feeling the movements of meaning in all their forms.

A FAVOURITE ACTION SONG!

Round and round the garden,

Ran a ted-dy bear,

One step, two step,

Tic-kl-y un-der there.

Leanne, 5 months. “Round and round the garden”, with Interest and Pleasure!
Megan, “Round and round the garden”!

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

“-- and a tickly under there!”!

A POPULAR SCOTTISH CLAPPING STORY!

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. !

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 the endless game of "cultural practice"
Secondary Intersubjectivity & Sharing Tasks!
With Good Company = ‘Cultural Learning’!

At about 9 months a change in the infant’s motives and interests begins cooperative practical learning.
The baby’s curiosity about what other people are doing with voice and eyes, and the things they use with their hands, leads to following directives, trying to make conventional messages and trying to use objects properly -- as tools. !
This is vital preparation for learning language to name meanings. Language is built in shared action; it depends on the rhythmic musicality of moving.

BUT BABIES, LIKE SCIENTISTS, CAN BE BUSY ON THEIR OWN! (As Piaget observed)!

We and Leonardo observed infants intent on knowing and doing, while mothers watch, with a smile.

THE BENOIS MADONNA

Leonardo!
The Benois Madonna!
Jesus is intent upon the flower, and Mary has an affectionate smile!

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!”

TWO SEPARATE ATTENTIONS!
“Put the man in the truck!”


32 weeks, Mother watches Tracy play with objects

32 weeks, Tracy shakes rattle,! watching Mother

32 weeks, Tracy shakes rattle,!
TWO ATTENTIONS:
“Put the man in the truck!”

Object! or Person?!

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!”

Then, at about 9 months an important advance occurs in having experience at the same time.
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 way.
This Joint Attention, with Synchronised Evaluation of Experience is vital preparation for learning language to name, or refer to, meanings or conventions of ‘human sense’.

For Basilie, 12 months, it is easy and amusing.
“OK, If that’s what you want me to do,”

“No problem!!

“Here, put this one in the truck!”

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
Children Are Story Sharing Creatures, From Birth!
That is why a book and a telephone bill!
are very interesting for a one-year-old

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

(Author: Adegbenro, Lagos, like to play his piano with his mother.)

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.

(Photos © 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.

(Photos © John and Penelope Hubley, 1979)
Leanne!
3 years.!

Knowing!
The!
Names!
For!
Cup!
Spoon!
Fork!
Knife!
Saucer!

Emma!
27!
Months.!
Reading.!
Counting!
& "
Having!
Tea!

 Imaginary hot tea and cake. It is the ritual that matters!

Caring for doll, having sympathy, mostly.!

Weaving Generations Together
Evolving Creativity in the Mesoamerican Chiques

Patricia Verla Greenfield

How little girls in Mexico learn to weave. (They call school 'paper learning')

Three year-old Iony 'Kahabe' beats down a warp thread, leaning into her backstrap - a real loom.
THE PRESCHOOL WORLD IS ONE OF THE RICHEST TIMES OF LEARNING

Toddlers seek friendships with parents, peers -- people of all ages -- and want to show the serious fun of what companions know and understand.

A Place of Pre-School Education " in all kinds of Useful Knowledge:
Where meaning grows in companionship, making a community beyond, but with, each family! letting each child’s talents thrive!

Stories, personalities and the rituals of agency become more elaborate, and there is more understanding of the view points! and feelings of others!
Cameron House Nursery School Edinburgh (With permission of the Head Mistress)

HUMAN" PSYCHOBIOLOGY"

How Brains Are Made To Move Our Bodies " and Each Other
An infant's brain is an active part of an integrated human person, a Self, with purposes seeking experience that will make possible the development of actions that are stronger, more effective, more meaningful, more imaginative and more reflective.

AMPHOTERONOMIC (MUTUAL AUTONOMIC) REGULATION:
The foetus is in a protective world. Soon it will begin to move. The mother’s body and foetus communicate first physiologically.

HOW SELF-REGULATION BECAME COMMUNICATION
(Porges - Polyvagal Theory)

POST-NATAL BRAIN DEVELOPMENT
Jeannerod: Cortical Areas Involved in ‘Self-Other Distinction’

GROWTH OF DENDRITES IN VISUAL CORTEX OF AN INFANT

How Brains Connect in Proto-Conversation

ASYMMETRIES OF INTERSUBJECTIVITY
Inspired by an essay by Victor Turner (1983) on “Play and Drama”, the ‘liminal’ motives of playfulness mediate between the expressive and receptive functions of the left and right systems of the brain — both within the two individuals separately, and between the mother and her infant when they are creating fun in communication.

“My aim is to show, although this is not generally attended to, that the roots of all sciences and arts in every instance arise as early as in the tender age, and that on these foundations it is neither impossible nor difficult for the whole superstructure to be laid; provided always that we act reasonably as with a reasonable creature.”