





The Biological Roots of Human Companionship, and Meaningful Well-Being **Through Life's Early Years**

Developments beginning before birth show us what is innate in human nature, how it grows with the body and its powers of movement and how it learns to use clever senses. Especially important is how movements and senses these are adapted for sharing actions and experiences, creating memorable meaning in affectionate company, with grace and kindness.



THE BEGINNING OF MOTOR INTELLIGENCE A 22 week foetus sucking a thumb, moving with human face.

rhythmically coordinated intentions. The eyes will open soon - but there will be little to see. Hearing is working well, listening for the mother's voice. Soon will come a smile, or a pout of disgust, emotions with a

The cerebral cortex is very immature, but underneath is an expectant human mind.

Goodrich, B. G. (2010). We do, therefore we think: Time, motility, and consciousness. Reviews in the Neurosciences, 21, 331-361.

"This article is a philosopher's expanded review of two recent books on neurophysiology: Rodolfo Llinás's I of the Vortex and György Buszáki's Rhythms of the Brain.

Researchers such as these are converging on a view of consciousness as originating in motility and as inherently temporal due to the brainwave oscillations that underlay it."



And a newborn infant is an imaginative person, expecting to enjoy affectionate and appreciative human company, in movement with feeling ON THE FIRST DAY – EXPECTING CONNECTION



In first moments after birth, an infant may look and listen attentively for confirmation of human feelings, seeking knowledge of others' being, with an expressive body.



Story-making, from first conversations, to the fun of games, and then to cooperation in tasks and 'acts of meaning, becomes language, to name 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 Apple in Eden: How Do We Share Meaning Before Words?

Infant psychology teaches us that knowledge is shared creativity in movement, with interest and affection.

Titian – "The Fall of Adam" New Zealand 10-week-old, 'lectures' her mother, with open gaze and lively face, sharing mind time.







I THE INTER-SUBJECTIVE SELF FROM BIRTH. Neonatal Imitation Intentional and imaginative rhythmic

Intentional and imaginative rhythmic **projects** of moving seek sympathetic exchange, becoming **propositions** with value in expression, to be shared At birth the human brain is one third the size of an adult brain, but **has all parts in place for a creative human life, including unique human face, eyes, voice and hands for sharing emotions, intentions & states of consciousness.** They wait for bright company.











Naseera, born 3 months premature, with her father one month later.

He imitates her gestures and vocal expressions.





Naseera 'kangaroos' with her father. She smiles, and they have a conversation

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

The rhythms of speech are innate

Even a premature infant can share vocal ideas. 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/









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 of 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.



Just born in Hyderabad, a *person* alert to the world, seeking to share knowledge





Dr. Leboyer's newborns are expressive with body, face and hands, enjoying the feelings of life in movement.















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 <u>neonatal initiative</u> <u>capacity</u>, 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















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.

"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-fatherinfant 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.

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. Can we justify this period as a distinct stage of human development in Psychology?

... the neonate's early social preferences and responses indicate a unique, sensitive, experienceexpectant stage of development."

FREUD AND PIAGET GOT IT WRONG!

A remarkable lesson from motion-capture technology, showing us something we feel is right about the flow of **innate motives**, but is 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**.





From The Connected Baby A film conversation Dr. Suzanne Zeedyk & Jonathan Robertson, who matched the song with the baby's movements

suzanne@suzannezeedyk.com
http://suzannezeedyk.com/





Baby Ben is one month premature. He tells a story of self-awareness in movements of his body, and is accompanied by his mother's singing voice. They make dance, music and poetry together.





















STORY-TELLING AT 2 MONTHS.

Primary Inter-subjectivity Mutual regulation of 'chat' sharing emotions

Recorded in Harvard, 1968



A mother and 9-week-old boy. The infant leads the dialogue with body and voice. The 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."









Laura's conversation with her mother was analysed by musician and acoustics expert Stephen Malloch. He measured physical dimensions in the sound in spectrographs and pitch plots of their vocalizations. We correlated these exoression of emotion with expression of head, face and hands.











THE THEORY OF COMMUNICATIVE MUSICALITY Malloch, 1999

Music (e.g. of the mother's voice) communicates with an infant because it engages an **Intrinsic Motive Pulse (IMP)** (Trevarthen, 1999) 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 ABOUT INTERESTING INTENTIONS,

EXPERIENCES AND FEELINGS Pulse and Quality are combined in the forms

of emotional narrative, which allow two persons to **share a sense of purpose in passing time**.



Communicative Musicality: Exploring the Basis of Human Companionship

Stephen Malloch and Colwyn Trevarthen

Oxford University Press 2009 Paperback 2010 Jerome Bruner "Why are we so intellectually dismissive towards narrative? ... 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, and it stimulates the teacher too."

WE ARE BORN TO LEARN BY SHARING STORIES

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.... education is not just about conventional school matters like curriculum or standards or testing. 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. (Jerome S. Bruner *The Culture of Education*, 1996: ix-x)

TO LEARN MEANING IN STORIES IS OUR NATURE

Accepting and Assisting Enjoyment of Belonging

I relate this theory of organic human intelligence with innate sense of the Self in movement, which develops in infancy, to the needs and abilities of handicapped people who cannot master verbal communication, or learn complex conventional techniques for more elaborate cooperative life with other people.

I will rely on the insights about 'vitality dynamics' and 'affect attunement' of Daniel Stern, and relate them to a theory of 'communicative musicality' and the pleasure creative story-telling expressions of the impulses of the body bring to shared activities from infancy to old age.







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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







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.









BUILDING ARTFUL 'PROTO-HABITUS'

Research on **songs for infants** in many languages shows how we share **story-telling** beyond the spoken word - in body impulses.

Songs and action games, chants and poems are quickly learned and remembered.

They become favourite messages of friendship, **emblems of the infant's identity or membership of a group, a source of pride to be shared with admirers**. 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.













02/10/18





Clapping hands with shared joy; imitating, watching own tongue





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)







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 and anxiety stop learning.



MORE TEASING AND SHARING FUN



Tracy, 6 months, wants the toy, but her mother pokes it under her chin.



She watches her mother while pulling the string

to make the

puppet move





'wrinkle nose' joke with her mother.

Alex pokes his tongue out to the mirror after his mother asks him to imitate.



bravely offers clapping to an uncomprehending stranger.

sitting 'blank-faced'; he looks sadly at a stranger, then cries.





And Mother gets told off!

IV

THE SHARED VALUE OF MEANING AT ONE YEAR, AND HOW THIS COMMON SENSE GROWS.

To Share a Task Discovery of cooperative awareness and acts of meaning

Penny Hubley, Edinburgh, 1974

'Secondary Intersubjectivity' or **Sharing Tasks**

At about 9 months important advances occur in sharing experience.

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

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



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



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

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

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

"Don't chew it. Put it in there!" Leonardo The Benois Madonna

Jesus is intent upon the flower, and Mary has an affectionate smile





"Here, put this one in the truck!"











Basilie, at one year, insists that her mother must put the doll in the truck, while her mother points to the truck saying, with emphasis, "You're meant to put it in!"



As Well as a Proud Companion in Work.

After working for our video Basilie pointed and vocalised a 'protolanguage' request for a magazine on the lab. shelf.

Her mother said,

"Oh, she recognizes the *National Geographic* by its yellow cover, and likes to look at the pictures."



Sharing meaningful things with a best friend



Children Are Story Sharing Creatures, From Birth That is why mother's telephone bill is more interesting than her book for one-year-old Basilie in Edinburgh.



She Sits on the Floor and Reads the Bill – Because Her Mother Studied It So Carefully













Caring for doll, having sympathy, mostly.



Toddlers play with and explore an imaginative 'unreality' that others may believe has beauty and practical value, and want to share.

On their own, and with friends, young children make practical sense of the world creatively, sharing the pleasure of knowing and doing. In play with dancing voice and body they create what the Norwegian musicologist Jon-Roar Bjørkvold calls *Children's Musical Culture*





JON-ROAR BJØRKVOLD

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)



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

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"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." Kornei Chukovsky (1968) *From Two to Five*. Berkley and Los Angeles:University of California Press. Page 4







Sisters share the imagination of a story, enjoying learning at home

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 selfconfidence, interests and personality of each boy and girl – their personal story



Cameron House Nursery, Edinburgh



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



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.

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





laning into her backstrap - a real loom.



In the introduction to the 2000 edition of *The Interpersonal World* Daniel 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).

NEWBORNS ARE PHILOSOPHERS

THEY BELONG WITH THOSE OF THE SCOTTISH ENLIGHTENMENT



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, ... either to approve or to 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, ... from that particular point of view. The second is the agent, the person whom I properly call myself, and of whose conduct, ... 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).

John Macmurray (1891-1976) In the case the Scottish philosopher Macmurray made against individualism in the *Gifford Lectures*, he was not as sure as Smith of innate human powers. But, he did argue, in disagreement with the prevailing



view of his fellow philosophers, that a human being is both an **intentional agent** who generates experience by acting, and a **person** who lives, from birth, **in relation to other persons**. We expect to be able to communicate the actions, sensations and emotions of our lives, and to organise these lives in communities. **Elaborate cooperation of various sorts, for various purposes, is taken for granted.**

Macmurray saw this cooperation as germinating in *the intimate care with which a mother responds to her infant's helplessness and need for love.* In this way he opened his Christian perspective in moral philosophy. Macmurray, J. (1959) *The Self as Agent* (Volume I of *The Form of the Personal*) London: Faber and Faber.

Macmurray, J. (1961) *Persons in Relation* (Volume II of *The Form of the Personal*) London: Faber and Faber. Macmurray's Gifford lectures were influenced by the new understanding of human relations, and the sources of consciousness of these relations, of the 'Object Relations' school of psychoanalysts. In the preceding two decades, **Klein** and **Fairbairn** had broken away from Freud's conception of the original state of the mind in infancy. The knowing infant subject was seen by the Objects Relations Theory as a more motivated being with greater internal complexity of feelings and images.

Fairbairn claimed that the baby had a separate ego from birth, ready to engage with an external 'reality'.

Jerome Bruner "Why are we so intellectually dismissive towards narrative? ... 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



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(Jerome S. Bruner The Culture of Education, 1996: ix-x)

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