



What young children give to their learning, ...

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What young children give to their learning, making education work to sustain a community and its culture

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ABSTRACT: The policies and administration of early education and support for social development constantly need re-defining, or re-inspiring, by taking into account the perspective of a young child. They must acknowledge the intuitive abilities and values, and growing initiatives that are present in the child from birth and that motivate learning. Innate impulses of human imagination, with strong aesthetic and moral feelings, make sharing of experience and building of meaningful memories possible for a young person. They also determine the suffering that follows if they are not respected. Economists advise that this creativity of early childhood as a resource in itself – government and business, policymakers and managers need to understand what healthy and confident young human beings, if they are treated fairly, will contribute to future industry, prosperity and well-being in society (Heymann et al. 2006; Sinclair 2007; RAND Corporation 2008). Well-trained and experienced teachers of young children are also major contributors to social and cultural health of the community. They know, in practice, what inventive and helpful intelligence children have to offer. Unfortunately this creativity of young children is often outside the imagination of those who are preoccupied with managing the complex artefacts and routine structures of the adult world, and who deal with the problems of adult society and its employments.

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RÉSUMÉ: Les politiques et l'administration de l'éducation de la petite enfance et de l'action sociale ont constamment besoin de redéfinition et d'inspiration renouvelées, en prenant en compte la perspective du jeune enfant. Elles doivent reconnaître les capacités intuitives, valeurs et initiatives grandissantes de l'enfant, dès la naissance, et motivant ses apprentissages. Les impulsions innées de l'imagination humaine, avec ses forts sentiments esthétiques et moraux, rendent possibles le partage des expériences et la construction de souvenirs significatifs pour cette toute jeune personne. Elles déterminent également les souffrances qui surviennent si elles ne sont pas respectées. Les économistes pensent cette créativité de la petite enfance comme une ressource en soi - le gouvernement, les entreprises, les décideurs et les gestionnaires doivent comprendre en quoi de jeunes êtres humains, sains et sûrs d'eux, s'ils sont traités comme il se doit, contribueront à l'industrie, la prospérité et au bien-être futurs, dans la société (Heymann et al, 2006; Sinclair, 2007; RAND Corporation, 2008). Des professionnels de la petite enfance, bien formés et expérimentés, contribuent également de façon décisive à la santé sociale et culturelle de la communauté. Ils savent, dans la pratique, combien d'intelligence inventive et utile les enfants ont à offrir. Malheureusement, cette créativité des jeunes enfants dépasse souvent l'imagination de ceux, préoccupés par la gestion des artefacts complexes et des structures de routine du monde des adultes, qui traitent les problèmes de la société des adultes et de ses emplois.

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ZUSAMMENFASSUNG: Die Politik und die Verwaltung der frühen Bildung und Förderung der sozialen Entwicklung müssen ständig neu definiert, oder wieder inspiriert werden, unter Berücksichtigung der Perspektive eines jungen Kindes. Sie müssen die intuitiven Fähigkeiten und Werte, und wachsenden Initiativen erkennen, die von der Geburt an in dem Kind sind und das Lernen motivieren. Angeborene Impulse der menschlichen Phantasie, zusammen mit starken ästhetischen und moralischen Gefühlen, ermöglichen es einer jungen Person Erfahrungen zu teilen und bedeutungsvolle Erinnerungen aufzubauen. Sie bestimmen auch das Leid, das folgt, wenn sie nicht respektiert werden. Ökonomen weisen darauf hin, dass diese Kreativität in der frühen Kindheit als Ressource in sich selbst ist - Politik und Wirtschaft, politische Entscheidungsträger und Führungskräfte müssen verstehen, welchen Beitrag gesunde und selbstbewusste junge Menschen, wenn sie fair behandelt werden, für künftigen gesellschaftliche Wohlstand und Wohlbefinden leisten werden (Heymann et al, 2006; Sinclair, 2007; RAND Corporation, 2008). Gut ausgebildete und erfahrene Erzieherinnen von jungen Kindern sind daher ebenfalls wichtige Beiträge zur sozialen und kulturellen Gesundheit der Allgemeinheit. Sie wissen in der Praxis, welche erfinderische und hilfreiche Intelligenz Kinder zu bieten haben. Leider ist diese Kreativität von kleinen Kindern häufig außerhalb der Phantasie derer, die mit der Verwaltung der komplexen Artefakte und Routinen der Welt der Erwachsenen befasst sind, und die sich mit den Problemen der Gesellschaft der Erwachsenen beschäftigen.

RESUMEN: La administración y las políticas para la educación temprana, además del apoyo para el desarrollo social, necesitan constantemente re-definir o renovarse teniendo en cuenta la perspectiva del niño pequeño. Se debe reconocer su capacidad intuitiva y los valores, así como las iniciativas de crecimiento, presentes en el niño desde su nacimiento, y lo que motiva su aprendizaje. Los impulsos innatos de la imaginación humana, con fuertes sentimientos estéticos y morales, hacen posible compartir el intercambio de experiencias y la posible creación de recuerdos significativos de una persona joven. Asimismo, si no se respetan, determinarán su consecuente sufrimiento. Los economistas aconsejan que se considere la creatividad de la primera infancia como un recurso en sí mismo – el gobierno y los empresarios, los responsables políticos y los gerentes deben entender que la salud y la confianza de los seres humanos jóvenes, si son tratados con justicia, contribuirá a la prosperidad futura de la industria, y así el bienestar de la sociedad (Heymann et al, 2006; Sinclair, 2007; RAND Corporation, 2008). Los maestros, altamente capacitados y experimentados, de los niños pequeños son los responsables principales de la salud social y cultural de la comunidad. Ellos saben, en la práctica, lo que los niños con inventiva e inteligencia pueden ofrecer. Desafortunadamente, esta creatividad de los niños pequeños está, a menudo, fuera de la imaginación de aquellos que están preocupados con la gestión de los artefactos y las estructuras habituales del mundo de los adultos, de quienes afrontan los problemas de la sociedad adulta y sus empleos.

Keywords: early learning; children's motivation; support; value; policies

Introduction: what needs fixing in early education

My aim is to review evidence from research on communication with children in their first three years, to clarify what has been learned about children's motives for sharing intentions, experiences and feelings, and to explain the significance of this for early educational practice and provision.

Advances in infant psychology give scientific foundation to a theory of human motivation for learning cultural rituals and conventions, including language. Children are 'story-seeking' from the start, wanting to learn new ways of expressing and sharing

experience. Each child's Self actively grows by sharing meaning in relationships, in the family and in a familiar community.

Children too young to benefit from classroom schooling are eager participants in peer communities with their own meanings, arts and techniques. Toddlers want to discover how to use a human body and mind as richly and confidently as possible, and they take pleasure and pride in learning by imitating, cooperating to build shared beliefs and understandings. This early peer culture is creative, richly responsive to the environment and instructive to receptive adults who wish to share as companions in the child world.

Educational reformers since ancient times, and especially those living at times of high cultural achievement in large and powerful civilisations, have reacted to the imposition of the formal practice of schooling to urge that children should be respected for their intuitive abilities, not just trained in skills. They should be given more encouragement for their own creative learning than the regulatory authorities, who concentrate on the goals of educational instruction and the making of rational beings and good citizens, wish to grant them (Quick 1894; Bjørkvold 1992; Bruner 1996). Giannis Kugiumutzakis (1998) reports that Plato and Aristotle conceived infants as incapable of self-awareness and therefore unable to conceive or relate to other persons. They both advised instruction to make disciplined and sophisticated citizens. Later, in the second century, the Stoic Hierocles claimed that newborn humans and animals are aware of their own bodies and that they 'know' other persons and animals instinctively, that they have dynamic curiosity that learns with others spontaneously. Dewey and Whitehead are two modern philosophers of education who have taken the same view, arguing for recognition of the creative and cooperative intelligence of the learner, and their willingness to cooperate in mastery of knowledge.

It appears that the more elaborately structured and technically proficient a society is, the more regulated by artificial rules of procedure and laws, the less it credits the innate endowment of all children for positive contribution to society. Large societies are more concerned with imparting classical/literary or technical/scientific knowledge, as well as religiously and legally prescribed social manners or 'moral norms,' and with diagnosing failings in some children and discovering treatments or special regimes for those whose behaviour and learning is irregular. They 'teach' or 'treat' in standard or special ways, but do not 'educate' with respect for the child's will to live and 'zest for learning' (Whitehead 1978).

Children under three have many competencies that appear paradoxical to a rational, individualistic and logocentric cultural world and that are remarkably neglected in standard educational theory, and especially in the administrative practices and policies by which nurseries and childcare centres are regulated by governments in modern cities and states. The natural creativity and cooperation of infants and toddlers, their self-produced motives for acting and knowing with other people, are given less attention than their needs for care and protection. They are perceived to require instruction in skills of moving, speaking, reasoning and behaving well socially. Child-care institutions to replace traditional care in families and communities must be more than protective. Preschool nurseries should encourage children to learn from adventurous play in a rich environment. They must include lively companionship in making, doing and learning, as the more than 500-year tradition of new principles for nursery schooling insists (Quick 1894). Educational philosophers and psychologists John Amos Comenius, Jean Jacques Rousseau, Friedrich Froebel, Lev Vygotsky, John Dewey, Alfred North Whitehead, Jerome Bruner, Barbara Rogoff and Loris Malaguzzi have all argued that the art of sympathetic and creative two-

way communication is essential for ‘intent participation learning’ at every stage of teaching, from kindergarten to university.

Infants under one year, who have no language, communicate much more powerfully and constructively with receptive adults than psychological science of rational processes has expected (Trevarthen 2008). They engage their interests and emotions with the purposes and feelings of other persons from birth, and they rapidly develop skilful capacities for regulating intimate encounters with humour, teasing, and moral evaluations of different persons. They show emotional appraisals that reflect how the sensitivity and familiarity of these people are perceived by the infant, and how the infant perceives him or her own Self in an ‘interpersonal world’ (Stern 2000). Most remarkable, although infants have had no instruction in any conventions of visual art or music, they show aesthetic preferences for colours, forms and sounds, especially to those that are connected with what other human beings do and feel, and with special creations of human artfulness (Dissanayake 1988, 2000; Trevarthen 1995). Young infants make discriminations of the rhythms, pitches, harmonies, timbre, phrasing and melodies of vocal and instrumental sounds like a musician, without schooling in singing or music (Trehub 2006). They can share the ‘communicative musicality’ of a mother’s affectionate conversation or action song with the same basic level of precision in timing and affective expression as the adult (Papoušek and Papoušek 1981; Malloch and Trevarthen 2009).

More important than the fact that these abilities and sensibilities are attained so early is the finding of detailed and unprejudiced observational research that there is a *self-directed programme of development* – a natural sequence of age-related stages in the growth of the child’s body and brain, and in consciousness and activity, especially in communication (Trevarthen and Aitken 2003). The child’s motives for engaging in play with other persons are the core of a specific human adaptation for *the collaborative creation of meaning* or ‘cultural learning’ (Trevarthen 2001; Frank and Trevarthen 2010). This making common sense in responsive companionship is growing in every child from prenatal stages. It is strong, and can be recruited by a consciously receptive and supportive human environment to improve the abilities and awareness of a child with severe disabilities, or one who has earlier suffered abusive, neglectful or unresponsive parenting and is emotionally damaged (Hughes 2006; Juffer, Bakermans-Kranenburg, and van IJzendoorn 2008). The motives and feelings that arise *inside* children and adults, including spiritual feelings in their ‘relational consciousness’ (Hay and Nye 1998), are adapted to generate self-confidence and a desire to find experience in community.

The obvious conclusion from the new infant psychology is that educational practices that intend to bring all children to the best possible level of competence and well-being, a level that will contribute through life to success in intimate family relationships as well as more formal and specifically trained roles in the wider society, must be ones that welcome and support the *motives of the child* (Vygotsky 1962, 1967; Trevarthen 1982, 1988; Bruner 1996; Rogoff 2003; Siraj-Blatchford et al. 2002). They should not only assess progress to attainment of a priori criteria that assume a list of intellectual and social skills which are to be acquired by the young to satisfy adult concerns and to solve, in the future, adult economic or political problems. They should not simply administer corrective procedures of instruction in an attempt to ‘leave no child behind.’

Human social worlds in all their artificial complexity depend on forms of communication that are intimate, intuitive and spontaneously negotiated. That is how personal

narrative histories are composed and how the status of each individual in any community is defined and regulated (Frank and Trevarthen 2010). Formal languages and other instruments of understanding that depend on semantic constructs or arbitrary ‘grammars’ are helpful in refining communication, as long as intuitive purposes and values that are expressed non-verbally and informally are honest and respected. These principles are demonstrated very clearly in the passage of a child through the stages from totally preverbal communication to ‘protolanguage’ with familiar people in a shared world, and then on to fully fluent language that may be understood by all members of a culture, and across generations (Bruner 1983; Halliday 1975, 1978). The development from birth to three is a most remarkable and prophetic one. Study of it has alerted linguists to the universal social processes that are retained in the syntax of linguistic thought and the ‘phatic’ use of words to perform social functions of any particular culture (Malinowski 1923).

Born to learn expressions in dialogue

After decades of controversy, it is now established that newborn infants can be alert, coordinated in their movements, self-aware and capable of imitating other persons’ expressions. More significant than the conclusive demonstrations that imitation is possible within minutes of birth is clear evidence that the infant is motivated not just to acquire a skill for them selves, but to *exchange an action* that has been given meaning by the other’s presentation, and to participate in emotions of shared action and response (Kugiumutzakis 1998). A baby only hours old may attempt to ‘provoke’ a ‘confirmation’ from an attentive person who has just been imitated, and to participate in a dialogue or interchange of approved signs or ritual actions (Nagy and Molnár 2004). Face expressions, eye movements, vocalisations and hand gestures can become part of a mutually pleasing transaction, simply because they are made up in the communication and ‘recognised.’ This is proof of an innate capacity in a child for learning new signs and for using them cooperatively, a ‘nascent consciousness’ for human meaning with human feelings of relatedness (Trevarthen and Reddy 2007). By listening, looking and touching a newborn infant can show selective awareness of outside things and events (Trevarthen 2004, 2009a). With this self-expressing intentionality comes a special delight in meeting the forms of expressions and the rhythms of movement that signal that another human being is there and paying attention helpfully (Malloch 1999; Trevarthen 1999). Communicative engagement by mutual sympathy is innate. The power and ‘grace’ of a newborn’s movements express regulation of the risks and benefits of moving by a system of emotional behaviours (Trevarthen 1986) the baby manifests ‘emotional consciousness’ (Panksepp 2005).

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Partners in proto-conversations with narrative musicality

Thirty years ago Mary Catherine Bateson, an anthropologist and linguist, studied the timing and sequencing of behaviours in a film of a nine-week-old baby communicating with the mother. Bateson noted that the engagement was mutually motivated and she described it as conducted with, ‘a sort of delighted, ritualized courtesy and more or less sustained attention and mutual gaze’ (Bateson 1979, 65). She called the interaction a ‘protoconversation’ and was convinced that it was the developmental source of language learning, and of ‘ritual healing practices.’ This motivated engagement of human bodies and minds is the foundation for all education in whatever cultures

think is important. It takes the reciprocal imitations with the newborn to a new level, one that seeks to share a conversational narrative of moving and feeling with close attention to the flow of thinking, expressed in looking, gesturing and vocalising. A mother ‘chatting’ playfully with a two-month-old, in the musico-poetic way that Ellen Dissanayake (2009) calls ‘proto-aesthetic,’ becomes caught in the expectant gaze of the baby, sensitive to the expressions of the hands, the face, and above all the voice, and she ‘attunes’ her responses to the infant’s emotions (Stern et al. 1985). Protoconversational cycles of excitement, curiosity or energy of effort, with expressions of affectionate pleasure that are generated between them display ‘socio-dramatic episodes,’ or ‘emotional narrative envelopes’ extending the shared vitality dynamics beyond the few vividly active seconds of the ‘psychological present’ (Stern 2004, 2010).

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Recently, a protoconversational chat recorded between a six-week-old girl and her mother in Edinburgh was analysed by Stephen Malloch, who is a trained musician, and also an expert in acoustic physics applied to analyse how the sounds of song and musical instruments are contrived and modulated for artistic effect. With the aid of computer technology to picture the sounds, he showed that 27-seconds of this conversation has definite musical/poetic features (Malloch 1999). He defined a set of criteria for identifying ‘communicative musicality,’ the communication of human mutual interest in gestures of sound. This description has inspired experts from many fields to search for and apply the same principles – and to discover even more general laws of musicality of movement in human communal activities of a wide range of intimacies and energies (Malloch and Trevarthen 2009). The theory finds application, for example, in the study of classroom conversation and the creation of ‘an environment for learning’ (Erickson 2009).

The expertise and sensibility of the six-week-old in this dialogue proved she felt the shared *rhythm* or *pulse* and recognised the affective intensity or *quality* of the sounds she shared with her mother. It confirms research proving that infants from early months are receptive to musical sounds and able to discriminate subtle differences in rhythm, pitch, timbre and melody (Trehub 2000, 2006; Ilari 2002). Perhaps the most important finding of Malloch’s analysis, however, is that the selected piece forms a *narrative* with clear poetic or dramatic form created by the changing feelings expressed in synchrony between the two persons. Mother and infant, he concluded, were ‘sharing a sense of purpose through time.’

The rhythm of these longer episodes of expressive engagement (with periods of a few tens of seconds) may relate to known periodicities in regulations inside the body, suggesting that for the infant, as for the adult, the changes of attention and activity are coupled to inside regulation of vital states, taking care for the economy of energy resources (Trevarthen 2008; Trevarthen et al. 2006). The sympathy of expressive modes between a parent and a baby sets up a shared flow of vitality, and when the infant is distressed, the parent can compensate as an ‘external regulator’ (Feldman 2009). We have named this form of coupled physiological control *amphoteronomic*, or ‘regulation together’ (Trevarthen et al. 2006). Physical comforting and helpful support for human bodies of all ages is based on it.

Stories of human sense, and their loss in rational analysis of the mind

A protoconversational narrative between a parent and child can be compared to the form of a literary work or story that holds attention as a piece or drama, with purposeful

295 'introduction,' 'development,' 'climax' and 'resolution' or 'conclusion' (Trevvarthen
2008). It is not just made up of semantic, referential elements or 'facts' and rational
synthesis according to some syntactic formula or grammar. It comes from humanly
motivated process that transmits information about how the intentions of the engage-
ment are progressing. Infant and mother make a story of simple form manifesting
300 what the Scottish educator Margaret Donaldson (1978, 1992) calls 'human sense,'
which does not have to be spelled out in language.

Human sense is the understanding of 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 the
course of the direct encounters with these worlds that arise daily and unavoidably every-
where, transcending cultural differences. Thus it is universal except for children with very
severe disabilities or extreme forms of deprivation that limit normal opportunities for
interaction.... The learning is continually 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,
310 *personal communication*, 2009).

Q5

The communicative musicality of infancy demonstrates, first, that the dynamic
emotions of human movement are expressed vocally and perceived by the same
principles of motivation in infant and parent. Mothers speak in musical ways that
interest and engage with infants and seek to amuse or calm them with the 'affect
attunement' of highly intoned speech or song (Stern 2000; Stern et al. 1985), as
well as with rhythmic head movements, face expressions, touching, stroking, or
bouncing (Powers and Trevvarthen 2009), and infants react to the rhythms of
music by 'dancing' or 'singing' (Mazokopaki and Kugiumutzakis 2009). These
shared feelings of musicality enable the building of joyful and affectionate compa-
nionship, leading in future years to intimate sharing of knowledge and skills and
lasting memories and friendships.

But as Eckerdal and Merker (2009) point out there is a paradoxical gap between
appreciating and making music. Months pass before an infant can be said to *perform*
musically, and when they begin to do so it is by playing their part in a conventional
or ritualistic 'action song.' Their expression of sounds or gestures 'in time' and accord-
ing to the 'score' is assisted by the expressive guidance of the parent's performance. As
Merker (2009) argues, there is a rich repertoire of vocal, postural and gestural
communication that is independent of and more basic than music or language, and it
is neglected in comparison to the special learned elaborations of these two special
human skills. It is not until the second year, at the same time as the child begins to
talk, that an infant can perform for him or her self a piece of musical culture. This is
when a teacher who shares the meaning of cultural rituals and conventions generously
and playfully becomes more important.

Q6

We described a theory of 'innate intersubjectivity' to explain the communicative
abilities of infants a few months old, and identified it as the first stage of the creative
companionship in experience that establishes cultural learning before language
(Trevvarthen 1979a, b, 1998). Infant intersubjectivity theory proposed new more
natural or 'ethological' prospects for anthropology, psychology, social science,
therapy and education – and linguistics. The demonstration of infant communication
assisted the recognition that the human mind is not only social, but fundamentally
and inseparably 'embodied,' the 'spirit' and servant of a moving and highly expressive
human creature with emotions for sociability (Trevvarthen 2005a).

Q7

But, in the 1980s yet another rational explanation of interpersonal awareness, ‘Theory of Mind’ theory, became fashionable (Bretherton, McNew, and Beeghly-Smith 1981). Attempting to explain why children under three cannot talk about other person’s ‘false beliefs,’ and why children with autism do not communicate normally, it failed to acknowledge that human beings far too young to speak can participate in intimate sharing of purposes, interests and feelings. It ignored the evidence that infants accept, in playful teasing and imaginative games, the vitality of other individuals who have their own ideas (Reddy 2008). And it did not recognize that linguistic cleverness and ‘explanation’ of others’ actions depend on the shared art evident in the talented performance of very young infants (Dissanayake 2000); that language and rational thought grow naturally out of playful communication (Vygotsky 1962, 1967). Rhythm and sympathy in expressions of eyes, hands and voice provide the first and essential elements for making meanings that describe a conventional world, and they remain essential for a healthy mental life that respects the different ideas and feelings of other persons. No abstract, language-based, theory of mind is needed, but some three- or four-year-old children have gained experience in speaking about what other people are conscious of, so they can pass the Theory of Mind test.

Playing in rituals and testing the ‘morality’ and ‘fun’ of engagement, to prove the meaning is shared

As they play and make sense together, a baby and parent learn to act their part in a set of performances and mannerisms that grow as the beginnings of a cultural way of life or ‘habitus’ (Trevarthen 1992). The baby experiments with asserting attitudes, and responses to the moves of the playmate. Their relationship becomes rich in ‘rituals’ that assist them to think about, imagine and remember what they have come to know together. Ways of being together build a story of living in a relationship that can be repeated to confirm companionship beyond any needs the infant may have for emotional ‘regulation’ and for having felt needs for care and comfort satisfied (Gratier 2007; Gratier and Apter-Danon 2009; Gratier and Trevarthen 2008). The interest that both mother and infant have for the ‘humour’ of such stories, for self-appraisal and self-other-appraisal in the flow of expressive action and ‘jokes’ is concerned with how they affirm one another’s motives for thinking, discovering, imagining and remembering – the motives that regulate the intimacy and emotional ‘fun’ of the game with looks, scowls, smiles, complaints, coos, squeals and laughter (Reddy 2003, 2008). Maya Gratier compares mother–infant games with improvisation of jazz – in both the dynamic qualities of expression are negotiated in exchange. They ‘tease’ one another to test mutual confirmation. Thus companionship in the improvisation of active experience complements attachment for care and protection within the living relationship (Trevarthen 2005a; Reddy 2008).

The cycles of activity between 25- and 30-seconds, of which the protoconversation described above is a prototype, apparently have a physiological basis in all human beings that is shared between adult and infant – an inner tide of vital energy and expectation inside their bodies and brains that waxes and wanes as different enterprises are undertaken in attention to and engagement with the outside world. In contrast with the ‘amphoteronomic’ regulation of shared *physiological* states, we have labelled this mutual control of *psychological* interest, by coordination of visual attention, vocalisations and gestures, ‘synrhythmic’ regulation (Trevarthen et al. 2006). Games are produced collaboratively and organized in time to create predictable ‘episodes’ of

experience; for example the *stanzas* of poems of nursery songs, and repeated ‘mini-dramas’ in action and teasing routines (Bruner and Sherwood 1975; Trevarthen 1999, 2008). Thus both imaginative thinking and autobiographical memory are synchronised in playful partnerships.

Being somebody with pride; fearing misunderstanding and cultural ignorance or ‘stupidity’

As a baby becomes stronger in body and the senses sharpen, the mind becomes more curious about objects that can be seen and heard and handled. Often the baby concentrates hard on new discoveries with hands, eyes, ears and mouth, and does not want to communicate. But a parent can attract interest in a shared game by moving the object the baby is focusing on, making sights, sounds and touches in playful surprising ways, because the infant is open to having interest shared. Clearly what attracts attention is the rhythm and expression of the parent’s actions. And the baby laughs at surprises (Wolff 1963; Watson 1972). The infant’s growing confidence in ‘person-person-object games’ is accompanied by a ‘theatrical’ sense of performance or ‘showing off.’ Movements and expressions seek approval by other people who are well-known. For example a six-month-old baby will show the learned movements of an action song, such as clapping hands, to receive praise, with an intent expression of *pride*, looking at the other person with a big smile (Trevarthen 2002). The same infant will show confusion and lack of self-confidence in front of a stranger, withdrawing gaze and apparently feeling *shame* at the loss of understanding. These powerful ‘moral’ emotions, pride and shame, evaluate the degree with which rituals of performance are understood with others (Trevarthen 2004, 2005a, b, 2009). All our endeavours and ambitions in society are regulated by them (Scheff 1988).

Psychologists know that around the middle of the first year infants become playful and emotionally demonstrative, and that they attend to the emotions others display to events and objects, showing *social referencing* about safe and unsafe actions (Klinnert et al. 1983). At the same time infants demonstrate an increasing social ‘self-awareness’ (Trevarthen 1990; Sroufe 1996; Reddy 2003, 2008). They laugh, show off, respond to playful teasing with laughter, and may act silly or ‘naughty,’ all demonstrations of awareness of the presence and appreciation of other persons, and their intentions. Step by step the inherent sociability of infants is seeking experience that makes sense with others’ approval and advice. In the middle months of the first year unfamiliar persons are regarded with a new suspicion as *strangers*, and an awkwardness is expressed that may take on an appearance of ‘embarrassment’ or ‘shame’ (Sroufe 1996). Much younger babies display awareness of the regard of others by watchful caution, or by ‘coy’ withdrawal with a smile (Reddy 2000, 2003). They are intensely alert to the identity of others by a seeking for features of voice and appearance.

Clearly the young human learner is ready for companionship and collaboration with known companions, friends who can be trusted to show approval, or give helpful guidance, as well as share discoveries. All these signs of sociable exuberance and play with signs and skills disappear if a child is severely frightened, neglected or abused. Recovery from neglect and displays of fear and anger can be supported by careful incitement to play, reactivating shared joy (Jernberg and Booth 2001), and by positive parenting (Juffer et al. 2008). These are the skills that workers in orphanages or hostels for children that need special education, or those that help parents of adopted children, must master.

Q8

Q9

445 Their curiosity at 3–4-months makes infants good subjects for laboratory tests of
 ‘stimulus preference,’ and these tests have proved that by this age they possess a
 great range of abilities for perceiving different colours, pitches, harmonies, rhythms
 and textures. They distinguish numbers, and they memorise categories of objects and
 persons. As Donaldson (1992) puts it, these studies of the cognitive abilities of
 young infants prove they have active ‘concerns’ or intentions to understand the ‘here
 and now.’ They want to *make* experiences for themselves by their own movements,
 450 as Piaget demonstrated (Piaget and Inhelder 1969). Their knowledge and understanding
 of the world is part of the activity and curiosity that brings it about, with all the satis-
 factions and surprises.

The baby especially enjoys experiencing understanding of the world in play with
 people and their peculiar voluntary properties and feelings (Donaldson 1978, 1992).
 Affectionate parents respond with games that invite and encourage the infant’s
 455 attentions and delights. Together they elaborate from simple cultural models, such as
 traditional action games and songs, an art of completely new notions, rituals and
 stories that tempt, inform and create memories. Even for an infant, reality is an imagin-
 ary world to which parents, teachers and child playmates add meaning. The stories of
 this world are changed as the infant’s powers of action, awareness and memory grow.

460 **Sharing in tasks: learning ‘how to mean’**

Films of the development of play between a Scottish mother and her daughter, Tracy,
 showed an important change when the baby was nine-months-old (Trevarthen and
 465 Hubley 1978). Up until this time they shared interest in objects that the infant found
 interesting. Tracy had the initiative. But then the mother suggested a game requiring
 the infant to follow her directions for new things to do. She tore up pieces of paper
 and indicated that the baby should put them in a box. The baby watched her
 mother’s gestures and responded, taking the mother’s intention as her own, imitating
 470 for the first time action with an object, and accepting an invitation to complete a pur-
 poseful sequence of actions to perform a ‘task.’ A further study with five female infants
 confirmed this change – all became willing to share a task, suggested by the mother, at
 around 40 weeks (Hubley and Trevarthen 1979). Up until this age the mother followed
 initiatives of the infant, but the infant, who had imitated expressive actions months
 475 before, was indifferent to any interest proposed by the mother to share or imitate
 actions on a new object.

Penelope Hubley’s meticulous analysis of the initiatives of mothers and infants, the
 occurrence of imitations and the balance of ‘instruction,’ proved that the infants were
 becoming willing imitators of *intentions implicit in actions*, not just of the whole form
 480 of behaviours. Mothers could readily influence what the infant would do, not by giving
 full demonstrations of a desired action, but by *indicating* or *suggesting* with gesture and
 request, and this led the infant to ‘complete’ the intention, and gain competence by what
 Bruner (1996) has called ‘collaborative learning.’ The infants were also beginning
 spontaneous imitation of the use of objects as ‘tools’ to do things, including eating
 485 with a spoon, drinking with a cup, and rhythmic hitting to make ‘music,’ or performing
 pretentious ‘showing off’ displays of provocative or amusing behaviour using the
 voice, face or hands, or all their body. These behaviours attract others’ attention and
 invite shared learning about actions, objects and about one’s Self, who ‘I’ am.

This development of a new way of being sociable and cooperative, which we called
 490 the start of *Secondary Intersubjectivity* or ‘person-person-object awareness,’ changed

the way mothers and daughters played together, making the mothers helpful teachers and not just playmates seeking the child's pleasure. It has become known as the 'beginning' of Cultural Learning (Tomasello, Kruger, and Ratner 1993; Tomasello 1999), and attributed to a cognitive mastery of 'joint attention' or shared looking (Scaife and Bruner 1975). But it is more than that. It is a change in the quality of companionship between two close friends, one of whom has gained a new imagination for the other's intentions and become a willing learner of meanings and experiences, learning what can be created together for mastery of objects and for making new combinations of them. The key element is a new more confident and confiding kind of *mutual attention* and sharing of experience that discovers meanings and experiments with the aid of others' guidance. This new eagerness of the infant to learn what others are interested in is accompanied by a new cleverness in teasing and joking, which strengthens both the infant's sense of self-presentation, and the affection of parental and sibling playmates (Reddy 2008).

The difficulties autistic children have in negotiating the same transition into easy sharing of purposes and experiences has brought new understanding of the underlying developmental disturbance, which begins earlier than expected. The child has a confusion of inner regulations of thinking, and fails to take on the direction of others' interests, or the 'perspective' of a partner (Hobson 2002), and this indicates how development of communication and imaginative play with young children with autism might be facilitated by supporting shared actions and interests (Trevvarthen et al. 1998; Zeedyk 2008; Christie et al. 2009).

Keeping track of events and relationships with growing memory

Tests with controlled displays of sights or sounds appear to show that a child's memory increases gradually, making the recognisable past progressively longer (Donaldson 1992; Rovee-Collier and Gerhardstein 1997). In contrast to the steady development of memory, the motives, interests and personality of an infant show quite sudden transformations at particular ages, indicative of internal 'epigenetic' events or reorganizing growth processes in the child's brain making 'periods of rapid change' in will and curiosity (Trevvarthen and Aitken 2003). Perhaps these events, which make different demands on parental response (Trevvarthen et al., 2006), reflect equilibrations between what physiologists recognize as complementary emotional states: adventurous and energetic or *ergotropic*, environment-challenging emotion processes, and more self-protective, nurturing or *trophotropic* emotions (Hess 1954). These transform what the baby is prepared to remember.

The evidence from how an infant over nine months of age in a strange place reacts with distress and a 'searching worry' after the departure of the person they know best (Ainsworth et al. 1978) has been taken to show they have a memory of the departed person. 'Object Permanence tests' of how babies this age react when an object they have been interested in disappears also indicate they remember that what was there should still be in that place (Bower 1982). Babies soon get better at recalling how things that have disappeared may have been moved about by a partner acting as 'intelligence tester.' A memory of that episode seems to have been kept. This seems to be a time when the child's mind is beginning to form fears and regrets, as well as a sense of play with meanings, for sharable fun. Margaret Donaldson (1992) interprets the change at about nine months as the beginning of the 'line mode' of consciousness, in which a past, present and future begin to be imagined and distinguished. It is

the start of a 'story time' that will be filled by known places, activities, objects and people.

But the growth in mind functions is not only a change in time sense. The child is making comparisons and can therefore appreciate resemblances (Carey and Xu 2001), and can also begin to get pleasure from absurdities, including, as Vasu Reddy shows, strange behaviours of other people that can be imitated to make a joke (Reddy 2003; Reddy and Trevarthen 2004). A lot is transforming in the mind of a one-year-old.

Giving words to things to build understanding

At six months the sounds of speech in the 'mother tongue' may influence a baby's hearing and imitating in vocal games (Best 1999; Powers and Trevarthen 2009). After one year the child begins to name people and things, while making deliberate actions to attract other person's attention and influence their behaviour, uttering recognisable words and noticing when other persons respond and confirm them. Gestural expressions also become 'codified' and, for a deaf child in a signing family 'manual babbling' can become a language (Petitto and Marentette 1991). This kind of mimicry stimulates adults to 'teach' and 'examine' the two-year-old child's rudimentary vocabulary of symbols. The game of language is strongly motivated by the child's intentions to make 'acts of meaning,' to be sociable about what is useful and interesting, and to promote and regulate cooperation in expressive ways. It is a new development of intersubjectivity, or awareness of being a person with persons, and of a sense of self. It rests on trust and enjoyment of shared living in the family (Stern 2000).

A toddler who is just beginning to speak is a well-practiced expert in sharing experiences, commenting on events, taking poses, making jokes, imitating new ideas, sensing the style of performances. He or she can make up imaginary events and experiences, metaphorically, using body expressions of emotion in intentional sequences that are memorable. As Turner (1996) puts it, the telling of a story, the making of a literary work, is not dependent on language, it is the other way round. An autobiographical story that can be talked about depends on having and using a sociable self you are born with, that coordinates movements of the body in rhythmic time, that combines ranges of time in hierarchical compositions, and that requires interested company.

The linguist Michael Halliday (1975) used a socio-linguistic approach sensitive to the expressiveness of non-verbal vocalizations and gestures to chart the progress of his son through the first two years to fluent use of words. He wrote down in phonetic script the sounds his son made in interaction with his mother, or while 'talking' to himself, and Halliday identified these developmental phases:

Birth to 9-months: 'protoconversation,' changing to 'conversation';

10- to 15-months: 'proto-language,' changing to 'language';

15- to 20-months: 'proto-narrative and dialogue' changing to 'narrative and dialogue',

and, **after 20 months:** 'proto-discourse,' describing imagined and remembered events.

Similar transitions in representations leading to language, with varied interpretations, usually based on cognitive or linguistic theory, have been charted by, for example,

Elizabeth Bates (1979) and Katherine Nelson (1996). Others, such as Bruner (1990) and Rogoff (2003), who are interested in the social context of story-making, note that the purposes and procedures in narrating with young children may vary greatly. Gestures add metaphorical richness to conversational speech at all ages (Goldin-Meadow and McNeill 1999), and a deaf baby may substitute learning of contrived hand movements for spoken words, mastering hand sign language through comparable ages to the development of speech by a hearing child (Volterra 1981; Petitto and Mar-entette 1991). Children born both deaf and blind, if given sensitive intimate support and patient encouragement, can also develop an ability to tell and remember stories, and share spaces and different environments, using symbolic ways of moving, touching and sensing vibrations (Janssen and Rødbroe 2007). This is a powerful demonstration of the need of the young child to experience the world with the body and to communicate about it, by any and all senses.

Margaret Donaldson (1992) interprets the evidence for an evolving sense of narrative and explanation as another stretching of the imagination and purposefulness in late infancy and preschool years, reflected in the utterances of children before they develop what she calls the ‘construct mode’ of mind around three- or four-years. Hobson (2002) gives a similar account of how the foundations of thought are built in infancy through communication in intimacy, and how they progress to language.

Natural sociability and joining the imaginative world of peer culture: stretching the boundaries of meaning in fantasy with good company

Infants can communicate with a peer at least as early as five-months, showing remarkable precocity in social expression and sensibility, and there are differences between individuals, including sex differences (Selby and Bradley 2003). Bradley explains that, ‘babies less than one year old can, without any adult intervention, get involved quickly in a recognizable group dynamics of like and dislike, demand and reparation, empathy and jealousy’ (Bradley 2005, 105). Infants in a group of three, with no adults present, engage in a sociable creation of roles and personalities, making a ‘collective story,’ which each can add to their personal ‘biography,’ learning from the experience. Bradley claims that ‘societal synchronisation’ and ‘symbolic sharing’ are ‘interdependent,’ and this is how the human ‘collective psyche’ comes about (2005, 76). And evidently expression of a male or female personality is possible without parental shaping – in subtle ways the boy acts like a boy and the girl like a girl, and they adjust their behaviour differently with a same-age partner of the same or opposite sex (Trevvarthen, Kokkinaki, and Fiamenghi Jr 1999).

In the second year the awareness of others intentions that toddlers have gained leads to cooperation that uses completely arbitrary or conventional actions, ideas and tasks. In a pre-industrial community a child who is just beginning to talk can start to learn useful, valued tasks (Greenfield 2004). Toddlers are so interested in sharing invented behaviours that a group of 15-month-olds left to themselves with a few props can organize themselves, without adult help and without language, into a ‘working team’ (Stambak et al. 1985). In another study (Nadel and Pezé 1993), a trio of two-year-old friends were left together in a room with toys, clothes, dolls and stuffed animals, all in threes. The children took up the objects, imitating which one was chosen and communicating with one another, spontaneously creating a masquerade of actions, ways of dressing, prancing about, using toys and chanting strange sounds, all trying to do the same thing with the same objects and laughing about the game. At this age children are normally agile

and skilful in manipulation, as well as vocally, so there are few imitations of action they cannot perform, and language is not essential.

It is clear that the children are interested in the *ritual* of their play – it is the *invented*, often absurdly comical, way of acting that is important, not the *real* or *sensible* nature of the objects chosen, although their ‘proper’ or customary uses may be known. That inventiveness is what is human about it. And it shows artistry too. The musicologist Jon-Roar Bjørkvold (1992) has studied the behaviour of preschool children in different countries playing with their dancing bodies and singing with their clever voices. He calls their inventive cries ‘children’s musical culture,’ and wonders at their freedom and diversity. In New York, Lori Custodero (2009) compares the inventive musicality of toddlers to the improvisations of mature singers who are seeking to perfect their art.

Part of this new learning of ‘artefacts’ of communication leads to language via ‘learning how to mean’ by combining gesture and vocalization to *request, command, refuse, complain*, and many more ‘acts of meaning,’ (Halliday 1975, 1978, 1979), all of which are dependent on the whole person’s use of dramatic or performatory actions with controlled expressive form and intonation, and which lead to performance of entertaining ways of showing off with expressive artistry. The making of meaning in the second year, and the practicing of ‘schemas’ for use of objects and situations (Athey 1990) constitutes a momentous transformation in the child’s motives for practicing skills and inventive experiences, and for communication of shared ideas. It is a new way of being a self, and of making friends.

Two-year-olds are starting to show symptoms of autobiographical memories that can travel through time and space to make stories that connect imaginary events with known people and the self (Donaldson 1992; Nelson 1993). These self-related memories need affectionate attachments, good companions in creative play and work and rich connections with the habits and beliefs of a coherent community to grow strong, and this is how enlightened pre-school nurseries can benefit both the young child and their family, by expanding the range of inventive experience (Athey 1990; Malaguzzi 1993; Nelson 1993; Bruce 2004; Greenfield 2004; Te Whariki 1996). As the seventeenth century teacher Comenius (1633 2003), wrote, ‘the roots of all sciences and arts in every instance arise as early as in the tender age, and. . .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.’

Being a person with personality means being with others

Each of us starts to write our autobiography with a chorus of ghost writers, some present, some ancestors, ready to edit and manipulate what we think and recall, and they may confuse us with their opinions and judgments through the years of our education. If we are lucky the adventurous courage of the human spirit, supported by affectionate attachment figures who respect what we invent, keeps us afloat, free to navigate where we want to go and to choose who we like as congenial companions, and who help us resist feelings of vulnerability, or of restlessness or envy and aggression (Panksepp 2007; Juffer et al. 2008). In the rapids of high tech communication and a hyper-mobile society, it gets more difficult for a child and its family to plot a calm course, but they can be assisted to keep on top of what Csikszentmihaly calls the ‘flow’ of actions and associated feelings (Csikszentmihaly and Csikszentmihaly 1988) by a supportive community, and by institutions with experience in the practice

of pedagogy that respects every child's impulses for creativity in cooperation with companions, and their untutored spiritual inspirations in relation to other persons (Hay and Nye 1998).

Cultivation of child-responsive 'childcare' and 'education' are both important for the well-being and development of a young mind, and neither should be promoted at the expense of the other. Relations with parents and family must be kept alive when the child is in any institutional setting for care or for learning, and experiences at home should be related to and exchanged with those at nursery or playgroup, or with a child minder (Athey 1990; Dunkin and Hanna 2001; Te Whariki 1996). The big decisions that administrators of education make have to be concerned, not with 'nature vs nurture,' but with 'nature vs institutional structure' and 'nurture vs instruction.'

Conclusion: attending to the wisdom of Comenius, Dewey, Whitehead and Bruner – fostering participation in community, from infancy to preschool, and beyond. Giving value to the motives of early childhood

Educational reformers like Comenius are right – one has to accept the child not just as a pupil requiring instruction in the matters of a prescribed curriculum, but as a 'reasonable person,' eager to be a partner in the making and remembering of meaning. Babies are born to find value in intent participation with the imaginings and ambitions of older minds. They have a musical sense of time, and a language of emotions that matches that of the wisest adult, including sensitive feelings about the contingent appropriateness of other persons' behaviours. And they soon build a 'personal narrative history' that connects moments of the present to an imagined future as well as a remembered past, all constructed in companionship with known persons.

A new brain science of human sympathy, overcoming limitations of the technology to image brain activities, is beginning to give a neurobiological account of the mimetic abilities that intrigued Aristotle, and the moral sentiments described so richly by Adam Smith (1759). One remarkable study using electroencephalography has proved that the cerebral hemispheres of a two-month-old baby already possess neocortical organs adapted for the appreciation of a person's face, for accepting the message should they speak, and for being in readiness to move in reply with face and voice, and these rudimentary neocortical 'processors' of human expression are located where they will be elaborated in the adult for conversation with language (Tzourio-Mazoyer et al. 2002).

We begin to learn how the child's brain is designed for travel in time in good company, that it imagines whole plans for moving in ways the phenomenologists appreciated, and that it shares these with a sympathy of emotions (Damasio 2003; Gallese 2001; Gallese and Lakoff 2005; Panksepp 2005). No longer do we have to conceive the cerebral circuits as some great calculator or tape machine competent only to process and retain sensory information and to learn new algorithms for driving motor action in more intelligent ways. The *neurobiology of sympathy* appears to be the primary regulator of development for moving purposes, for perception of forms and values, and for conscious appraisal of the likely consequences of action.

As every parent, grandparent or experienced nursery school teacher knows, infants and toddlers, constantly communicating their intentions and discoveries, become practitioners and inventors of the rituals of a transmissible culture of constructions, dance, song and theatrical performances before language. They make a human sense of all sorts of lively experiences and acts of expression – from joyful to tragic, and wish

to be proud of what they know and remember. There is growing concern, in all the countries of Europe, about the withdrawal of resources from social services for early childhood, including established nursery schools that have implemented the consistent advice of educational reformers with good effects on the lives of children, their families and communities. I believe we must focus on the needs of the children first, before the nation's needs.

Whatever complex large-scale statistical studies and dynamic models economists and political organisations such as the OECD may develop to chart the activities of societies and nations – even though these prove remarkable social and economic benefit from respecting and supporting the needs of children and their carers in the very early years (Heymann et al. 2006; Sinclair 2007; RAND Corporation 2008) – there are some human concerns that cannot be estimated or provided for in this way. The benefits and needs of early childhood, like those of health, transcend nations and administrative policies. They also transcend commerce and investment, socio-economic status, historical changes in national power and security, and human migrations, though they are greatly affected by all these. As Adam Smith knew, building the 'Wealth of Nations' depends not just on scientific technology and divided responsibility, or on competitive industry and profitable marketing. It requires the feelings and trust built of 'sympathy' or 'Moral Sentiments,' principles that are clearly responded to by a young child, and that are expressed as a basic need in all human relationships, communities and institutions.

The talents children possess before any formal schooling, for making discoveries and generating shared meaning, indicate natural human rights before life is ruled by requirements of an artificial technical world. These are: a secure family with affectionate parents who have time free from other duties to grow in creativity and cooperation with their infant; a richly varied and challenging natural environment; and a responsive community of companions of all ages who will share adventures in the world and invention of new ways of knowing, doing and being sociable. The message for politicians, administrators and managers of services for early childhood is that efforts should be made to sustain practices on the local scale that serve these rights well, *regardless of cost*. The money required will be well spent and recuperated in abundance, and the precious development of human ingenuity will be respected and nourished.

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