

What About The Children?

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'Raising awareness of the never-changing emotional needs of the under-threes in our ever-changing society'

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Children at peace with themselves: The importance of nurturing an emotionally secure generation

A frustrated colleague recently caught me off guard by asking me the following question: “Do you really, really think that if more care and nurture were shown to children, that the world would be a more peaceful place? I know it’s a loaded question, but do you really believe this?” I had to pause for a moment, because it did indeed seem like a very big question. But in the midst of my pause, I realised that I firmly believed the answer to be ‘Yes’. My experience as a developmental scientist and as a human being leaves me in no doubt that the way we relate to our children underpins the kind of society we are able to create for ourselves.

Reassuringly, I am not the only one who thinks this. Robin Grille, author of *Parenting for a Peaceful World* (2008), also thinks so. On the opening page of his fabulous book, he states that “the key to world peace and sustainability lies in the way we collectively relate to our children.” And the internationally celebrated neuroscientist Bruce Perry (1998) maintains that “early childhood is the most crucial time in the life of an individual — and, thereby, in the life of a society.”

It was within this context that I prepared my comments for What About The Children?’s Inaugural Goodman Lecture in May 2009. My aim was to encourage us all to think about the importance of listening, because it is the confidence that we will be listened to – by our parents, our partners, our peers, our neighbours – that brings emotional security. Science has been helping us to realise just how crucial it is that infants and children have this experience of being reliably listened to, for it shapes not only their psychological development, but also their biological development.

A fundamental insight that empirical research has provided us with, over the last 30 years or so, is an understanding that babies come into the world with innate social sensitivities. They arrive already tuned into and able to communicate with other people. This has been vividly demonstrated by paradigms such as the ‘still face’ procedure, developed in the 1970s by developmental psychologists in the UK (Trevarthen, 1977) and the USA (Tronick et al., 1979). In this procedure, parents are asked to stop responding to their baby, by holding their face still for a brief time. Babies are very aware of this disturbance, and rapidly turn away from the mother’s unresponsive face. They are likely to try making some further bids for engagement, for instance giving the mum a quick smile, but when she doesn’t return the smile, the baby tends to withdraw even further from interaction. The deep discomfort of this situation can lead infants to literally curl up in ball, in a protective, hopeless posture in the

corner of their baby seat. Mothers too find it uncomfortable, although also deeply meaningful, as captured in the comments of one mum: "It must have lasted all of 30 seconds but felt much longer. I couldn't stand not responding anymore and broke into a smile, spoke to her, and leaned forward to hug her in apology. At this her face crumpled and she began to cry. I was shocked, dismayed, and immensely touched! She actually cared! It was a turning point in my understanding of her" (Reddy, 2008, pg. 74). And even audience members, who are merely shown video footage of this procedure, typically experience disquiet, frequently uttering a soft, sympathetic 'oh' as they watch a baby struggle to cope with his mother's apparent rejection.

This paradigm, which was originally developed to investigate the effect of postnatal depression on mother-infant relations, has been used repeatedly to demonstrate that infants between about 2 and 6 months of age are tuned in to mothers' communicative interactions (Adamson & Frick, 2003). It is notable, therefore, that the researcher Emese Nagy (2008) has recently demonstrated that newborns show the same sensitivity to a still face. Infants less than 96 hours old (and some as young as 3 hours old!) notice when the person they have been 'talking to' unexpectedly stops engaging with them – and they are unsettled and upset by it, just as 2-month-old babies are, and just as we adults would be if someone suddenly stopped speaking with us. Evidence such as this helps to strengthen the scientific case that infants are indeed born with social sensitivities. They arrive in the world as social beings, with brains already reaching out to and soaking up other people. This, then, is a major reason that we might want to ensure that babies feel they are 'heard': the degree and style of listening that they experience from other people will influence the way that their brain develops.

What other insights has science been generating about brain development? We now know that brains are developing more rapidly between birth and age 3 than they ever will again. Indeed, by the time a child is 3 years old, 90% of their full brain mass is in place. Brains develop not by gaining new cells (neurons), but by forming connections between cells (synapses). When lots of synapses join up, they effectively form a transport system – a set of 'roads' (neural pathways) along which messages can be sent. Messages like: "I am about to be held." "I am about to be hit." "Get ready, because any second now, I think I'm about to receive a delicious raspberry blown on my tummy." "Get ready, because any second now, I'm think someone's going to start shouting again." Along with such expectations will come a release of hormones, distributed throughout the body, that support the baby in coping with the expectation they have formed, hormones such as cortisol (useful in times of stress) and oxytocin (useful in times of calm).

The amazing nature of the human brain is that it develops a transport system suited to the particular world in which the infant finds itself. This is possible because synapses form as a consequence not only of genetic factors but also, we now know, as a consequence of the experiences that babies have of their social and physical environment – e.g., their parents, wider family members, home, cot, buggy, day care, and day care staff. And the number of synapses that are generated during the earliest months of infancy — ready to be pruned off during later stages of childhood, depending on whether or not those connections get repeatedly used — is hard to conceive: roughly 500 trillion. Ronald Kotaluk, author of the *Inside the Brain* (1996, pg. 16), remarks drolly that this neural profusion happens so fast that "it would be easier to count the drops of water in a rainstorm."

Why are infant brains able to be so flexible? One part of the story is that humans have come to be born at an earlier stage of maturation than other mammals. Over aeons of time, the brains of hominids became so large (especially as the frontal lobe expanded) that babies risked becoming lodged in a mother's vaginal canal when she gave birth, endangering the lives of both. So the evolutionary solution was to have babies be born at an earlier

developmental stage (the official term for which is 'neoteny'). This resulted in brains that were not only smaller at birth, but also less mature and less fixed in form, which enabled them to develop more flexibly. In particular, it allowed their brains to take shape in relation to the particular world and culture they found themselves inhabiting. By analogy, their brain could 'say' to itself: Is this world I am now living in one that tends to be predictable and safe, or is it often unpredictable and a bit threatening? Is this a world where I tend to get spoken to a lot from across the room, or, instead, held closely so that my family members and I don't need to talk much in words? Is this a world where I usually get help with my frustrations and fears, or one where I'll need to find a way to manage them myself? Is this a world where I have quite a lot of control over my experiences and am allowed to withdraw if I start to get overwhelmed, or is it a world where people want me to engage all the time? Is this a world where I'll need to learn to speak English, Japanese, or Telugu?

In my view, there are two key insights that come out of all this work. Firstly, the transport system that is being laid down in early childhood is the one that a child will take into adulthood. So it is important that, as a society, we make sure that infants are developing the kind of brains – the kind of experiences, skills, abilities, and neural and physiological base – that we would like them to have long term. For example, if children develop neural transport systems that get good at sending messages about threats, as is inevitably the case in families where there is domestic violence, then those are still the kinds of messages that their brain will be primed to look out for, even if adult life is nowhere near so alarming. And when adults end up spending energy (even unconsciously) guarding against possible threat, it makes it harder for them to do other important things with their attention, like tune easily into their own children's emotional states. I personally would like to live in a society where we are not asking large numbers of our children to build brains designed to help them cope with high levels of stress. However, the recent publication of a report by UNICEF (2007), which found that British youngsters had the lowest level of well-being, out of 21 industrialised countries, is but one piece of evidence suggesting we may be doing exactly that.

The second important insight that I consider this work to have yielded relates to the implications of having social sensitivities that are innate — as opposed to being acquired at some later point in infancy or childhood. The human brain is organised so that it actually "needs imaginative company and seeks collaborative invention." This is the view of Colwyn Trevarthen (2002, pg. 18, italics added), one of the UK scientists who has led the 30-year revolution in our understanding of infants. Part of his key message has been for some time is that babies' brains are organs designed to seek out and create emotional exchanges. Growing brains need interesting companions.

On what basis can such claims be made? Imitation is a phenomenon that, like the still-face procedure, has proven helpful in this regard. Numerous research studies have now demonstrated that newborn infants, as young as 10 minutes old, can match adult facial expressions, for example by sticking out tongues, opening mouths, and pursing lips (for a summary of this literature, see Zeedyk, 2006). Newborns can also match finger movements, having 'conversations' with adults based on each extending a forefinger, in a rhythmic turn-taking sequence.

Emese Nagy has even been able to show (Nagy & Molnar, 2004) that when adults fail to take their turn in such a conversation, neonates go on to try to provoke a response, by repeating their turn, as if to say, "Excuse me? Where did you go? I thought we were interacting with each other." Certainly the work on imitation has led to vociferous debate amongst developmental psychologists, for not everyone is agreed on the precise interpretation we should make of these early imitative abilities. Such debates are important, for they speak to the very nature of what it means to be a human being. And they help us to understand in yet new ways why we might want to listen more closely to babies: because

they enter the world with a biological expectation that the adults around them will be doing just that.

So do adults have to be perfect listeners? Does a parent or carer have to respond to every need an infant has and every bid they make for attention? Certainly not. Indeed, observational studies have shown us that a large proportion of the bids that a baby makes will go unanswered by an adult. Infants only need to feel confident that they are heard 'enough' of the time. They don't need perfect parenting, but they do need 'good-enough' parenting. Cross-cultural research, such as that conducted by Heidi Keller (2007) comparing German and Cameroonian societies, or by Barbara Rogoff's (2003) team working in Central America, have helped us to understand that the types of responsiveness I have been describing are not inherently good or bad in themselves. Rather, different 'cultural practices' produce different behaviours and, by implication, different brain structures. What we need to be asking ourselves, as a society, is what kind of behaviours and brain structures we want for our children? Do we want children who are highly verbal or very independent or able to cope with long absences from family members or curious about others' emotions or able to sit still at an early age or who can cope with high stimulation or low stimulation or

These are the decisions we need to be taking as a society. What emotional and cognitive abilities do we want our children to acquire and take forward with them into adulthood? And what consequences are we willing to bear, in opting for one set of abilities over another? For once the brain's transport system has become embedded; it becomes more difficult to alter brain structures. Yes, it is possible to make some changes later, even in adulthood, through techniques such as meditation, mindfulness, yoga, and psychotherapy, but it takes considerable time and effort and money. It would have been easier, with greater likelihood of success, if we'd put the preferred structures in place at the outset.

This means that investing in the early years makes good sense at both the emotional and financial levels. The well-known 'Dunedin Study', carried out in New Zealand, has now followed a group of 1000 children since they were born in 1972 (Silva & Stanton, 1996). Amongst the hundreds of scientific papers that this team has produced have been analyses showing that those children who were classed as 'at-risk' at age 3 years were more than twice as likely, by the age of 21, to have become involved in criminally violent and abusive behaviour, compared to those who had not been considered at-risk. This is a sobering finding: by the age of 3, the likely direction of one's adult life is already beginning to slot into place. And economic analyses, such as those conducted by the Nobel prize-winning economist James Heckman (2008), have now estimated that investment in the early years yields a savings ratio of approximately 1–10. That is, for every £1 that is invested in the early years, society saves £10 later on, in costs associated with criminal justice, mental health, physical health, and academic achievement. So when we don't invest in the early years, we not only cheat our children, we cheat ourselves.

What About The Children? established this lecture in memory of Doreen Goodman, who founded the charity in 1993 in part because she wanted society to understand how violent children – children so violent that they could murder another child — might more appropriately be seen as traumatised victims than as evil thugs. She was demonstrating not only compassion, but also wisdom. The insights that are now being produced by the neurological and psychological sciences have served to strengthen her message. They help us to realise that if we cannot create emotional security for our children, we cannot create emotional security for our society.

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