Is misused neuroscience defining early years and child protection policy? [1]

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EXCERPTS:

"Neuroscience can now explain why early conditions are so crucial," wrote Graham Allen and Iain Duncan Smith in their 2010 collaboration, Early Intervention: Good Parents, Great Kids, Better Citizens. "The more positive stimuli a baby is given, the more brain cells and synapses it will be able to develop."

Neuroscience is huge in early years policy. This week, in what's been characterised as the largest shake-up of family law in a generation, the 26-week time limit for adoption proceedings has come into force, much of it justified by the now-or-never urgency of this set of beliefs, that the first three years (or sometimes first 18 months) hardwire a baby's brain, either give it or deny it the capacity for a full life. This is the engine of what is known as the First Three Years movement, which has transfixed politicians from across the spectrum. Allen and Duncan Smith's report opened with an illustration of the "normal child's" large brain and the shrivelled, walnut brain of the neglected child. With conferences such as Two Is Too Late (organised by Conservative MP Andrea Leadsom) and papers such as The 1,001 Critical Days, a set of claims are made that echo and reinforce those bold claims made by Allen: first, that we now have a set of scientific findings about the infant brain that can teach us new things about parenting. Second, that concrete events occur - from the production of synapses to the lighting up of areas of the brain on an MRI scanner - that can be interpreted in a straightforward way upon which all science is agreed. Third, with terms such as "critical periods" and "hardwiring", the thesis is put forward that brains have a finite time window for learning certain things. Fourth, that we can distil the treatment of infants into a set of behaviours that will determine the networks in their brains, either equipping them to empathise, learn, engage and produce, or irreparably failing to equip them. The connections made are endless: babies who fail to make the right neural connections will do badly at school, lack empathy, succumb to criminality, have mental health problems, and end up in a cycle of deprivation themselves.

For instance: "Very early experiences need to be rich in touch, face-to-face contact and stimulation through conversation (or reciprocating baby babble). These stimuli encourage a more richly networked brain, particularly the regions that govern social aspects of life," wrote Rebecca Brown and Harriet Ward in Decision Making Within a Child's Timeframe, devised as the definitive document for use in family courts, as the calling of expert witnesses declines and this 26-week deadline is enforced. "Science is helping us to understand how love and nurture by caring adults is hardwired into the brains of children," notes Sally Davies, Chief Medical Officer, in the foreword to The 1001 Critical Days.

The child protection changes are the most extreme end of the policy shaped by neurosciences, but it's visible across all early-years policy; it can justify the removal of children who have been exposed to domestic violence or even children who may be hypothetically exposed, the mother having been abused before. It's the foundation of the Family Nurse Partnership scheme, the state intervention at week 16 into a pregnancy that has been deemed "vulnerable". It's one of the reasons given for the CanParent pilot, free parenting classes offered as a trial in five boroughs (though likely to be abandoned after only 4% of new parents took them up). A major proponent of parenting "training" is the Sutton Trust, which recently produced its own estimate that 40% of children lack "secure attachments".

Here's the thing: what if it's over-baked? What if the claims made for neuroscience are so extreme that most neuroscientists would disown them? What if the constant references to "brain scans of neglected children" actually just meant one brain scan, from one highly contested study? What if synaptic development were a bit more complicated than "the more synapses the better", and what if MRI scans tell us much less than we think? Jan Macvarish, author of Biologising Parenting: Neuroscience Discourse, says: "There's a wow factor to the images that the substance of the research doesn't merit. We're not actually seeing inside brains. We're certainly not seeing emotions written on to the brain that we can then draw conclusions from into how parents should love their children."

Val Gillies, a researcher in social policy at South Bank University, takes the scans head-on. "That illustration of the walnut brain is from a paper by Bruce Perry. There are no details given of the case histories of those kids. We don't know what 'normal' was. We don't know what 'extreme neglect' was. We don't even have a scale on that image. It's had the most powerful impact, but I've never seen another image like that. When people say, 'I've seen a brain scan showing what neglect does to the brain', that's the image they're talking about." Immediately,

there are a few things wrong with this: with no details on the case study, except for the fact that "extreme neglect" meant life in a Romanian orphanage, we could be dealing with anything, from the effects of malnutrition to a disability. But even without the drama of the image, the use of these extreme populations is misleading. Sue White, professor of social work at the University of Birmingham, explains: "If you have clinicians, working with symptomatic children, obviously traumatised, looking at their neurobiological markers to see what's going on, that's a legitimate area of study. They're trying to develop treatments. But there isn't a population of ordinary people upon whom these tests can be done. You can't just pluck out a load of primary school children and stick them in a brain scanner. So there is a group of child welfare campaigners who, I think, for very well-intentioned reasons, have seized upon the findings from these extreme cases, saying, 'We need a lot of investment in the early years because look what happens in children's brains if they're raised in deprivation'. The fact is that most children are not comparable."

Evidence that doesn't come from extreme populations usually comes from animals - the often-quoted idea that early experiences can affect the brain-wiring process, altering the final number of synapses by as much as 25%, comes from a rat study and has never been reproduced in humans. Despite the similarities in our brains, rats and humans often show diametrically opposite results (for instance, in pregnancy, rats become better at mazes and memory, but women become worse at vocabulary and memory; maybe humans are already using more brainpower than we need for survival, and have to scale it back and concentrate on wipes. Maybe rats could apply themselves more. Who knows? Long may the investigation continue; but you wouldn't make a maternity-leave policy on the basis of a rat study, or at least, I hope you wouldn't).

John Bruer is an American academic (his PhD is in philosophy, in which he holds a number of chairs) who published The Myth of the First Three Years in 1999, in response to the identical movement that hit the US a decade before us, and which arguably (very arguably; more of this later) has been imported brick by brick. Mellow and unruffled, he came to London last month to appear in a conference called The Uses and Abuses of Neuroscience, organised by the Centre for Parenting Culture Studies - for brevity, I'd characterise the CPCS as a left-leaning gathering of academics who have long been asking questions about neuroscience, along with many other parenting orthodoxies that seem to pass from pressure group into official advice without even rudimentary interrogation. I admire them, but I also worry, if only from a personal point of view, about being one of those lefties who disbelieves everything that seems authoritarian. But Bruer points out mildly that there is nothing inherently left- or rightwing about questioning the strength of the evidence. "In the US, when I critique this stuff, they assume I'm coming from the right." The brain-science movement began there when they found that the results for the Head Start program - a model for Sure Start, which started in the 60s - weren't that impressive. People started using the "hard science" of brain development to justify spending that they couldn't otherwise show was effective.

Bruer says his interest is apolitical, and is in how much we can actually tell from the evidence we're given. "The first three years of life is a period of rapid synaptic development. But what this implies for brain function and behaviour is only asserted by early-years advocates: cue the erroneous conclusion that human brain development is effectively solidified by the end of the first three years." It is true, he points out later, that the brain is 80% of its full size by the end your third year; "what this tells us about brain function is precisely nothing". MRI scans have been singularly effective at capturing the public imagination, but the claims made - this part of the brain is lighting up, ergo, this baby or mother is experiencing love - are egregious. (Sue White writes, in a critique of neuroscience and social policy, that "Functional brain imaging is like trying to understand how a complex organisation works by measuring the electricity usage in different rooms". Professor of engineering and psychology in the US, William Uttal, calls these trends in neuroscience "neo-phrenology".

But if it's not convincing, how has it been possible to swing policy so firmly? Partly because it builds on the assertions of attachment theory, which have been in the public domain for decades, ever since the publication of John Bowlby's seminal 1973 book Separation: Anxiety and Anger - fundamentally, the ideas are the same. That first bond between child and care-giver determines everything that comes after; if it's disrupted or inadequate, nothing can really repair that. The only difference is that these hypotheses were made psychologically rather than shown scientifically, and so have fallen in and out of fashion. The Tavistock clinic, (spiritual) home to some of the country's most achieved, admirable psychotherapists, was a driving force behind the Family Nurse Partnership, and still sees the dovetailed aims of the First Three Years movement and their own as a welcome consensus. Dr Sebastian Kraemer, consultant child and adolescent psychiatrist, remarks: "If John Bowlby were alive today, he would say, this [neuroscience] does not add anything. People are just more persuaded by it, by the facts and the pictures. Somehow the emotional and cognitive effects of parenting aren't interesting enough."

But it comes at a cost of, at best, misinformation: Gillies has interviewed family nurses in this scheme, and reports: "On the visits, they get a glass of water and put an Alka-Seltzer in it, and say, if you do what you're supposed to do, 'That will be your baby's brain synapses firing.' Or they'll do a dot-to-dot picture, and get them to fill it in at random, and say, 'That'll be what your baby's brain will look like if the connections aren't made correctly.' They're really nice people, the family nurse partners. They are, and they can't conceive of how this could be critiqued. They just think it's objective science. There's one who talks about seeing the bus coming for the special needs children, and thinks, 'If only we'd got to the mothers beforehand.'" Some documents talk about the main carer, but the onus is overwhelmingly on the mother. And while some politicians say this takes the conversation beyond class - that class is fixed, whereas cycles of deprivation caused by neglect are alterable - it is unarguable that this scrutiny would never extend to the middle class.

She continues: "The slippage is there. 'Badly parented' slips into 'deprived'. They claim that people who aren't parented optimally have holes in the cortex. There's no evidence for that at all. But that's what they're saying, that these deprived children have to use their limbic system [characterised as a more basic, less evolved part of the brain], because their cortex hasn't developed. A lot of it goes completely unreferenced. They use words like 'primitive'. People governed by the 'primitive' parts of their brain. It's a biological othering of deprived children - they're sub-human because they've got part of their brain missing. I don't want to sound screechy, and crying eugenics. It's not eugenics, but there are a number of intriguing parallels. Aside from the dodgy science, if you look at who's pushing this stuff, it's wealthy philanthropists, Heinz, Carnegie Foundation, with the same notion, that the ills of society are located in the lower orders."

As Dr Kraemer points out, "It's like the Pope versus Jesus. Jesus had a good idea, but papal politics were not good ideas. I wish you could have met John Bowlby! He was an aristocrat, for goodness' sake, born in Manchester Square [in central London], brought up by nannies." Bowlby drew failures of attachment from examples in his own life, and categorically did not see poor attachment as a problem associated with poverty. "Of course, everything about attachment is very difficult because it's so emotional. We're talking about ourselves, we're talking about ourselves as babies, we're talking about ourselves as parents. It's debased and stupefied, really, but that's daily politics."

Attachment is fascinating as an idea; when it hardens into science, which is inchoate but treated as fact, its consequences can be devastating. White concludes: "There is an argument for removing children, a precautionary principle argument. You can say, 'Right, let's remove all children who are in suboptimal parenting situations.' You can do it. Regimes have done that, over the years. But we're not having those debates. What we're having is this misuse of the neuroscientific evidence, to suggest that it's very dangerous for children to be left in certain situations. I'm not talking about leaving them in situations where they're at risk of injury or sexual abuse, more: 'Your mum's in a bit of a mess, she's drinking a bit and not interacting with you optimally and she's also poor, which is why she's not been able to keep the state out of it.' It's only when the children who've been removed grow up, and ask, 'But did anybody try to help my mum?' That's what you would ask, isn't it?"

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