

SOME THOUGHTS ON COMBATING “DISADVANTAGE” BY PROFESSOR FRANCIS DOUGLAS----TRUSTEE OF “SEA CHANGE”.

Professor James Heckman, the Nobel Prize winning economist from the University of Chicago, has long been interested in why some children do well in our society and others do not. For a number of years he has been asking academics and expert practitioners to attend ‘invitation only’ conferences to try and answer this question. The thoughts of some of these notable North Americans are contained in this article and their implications for the work of “Sea Change” are examined.

One of the invitees, Professor Meaney of McGill University--- who specialises in neurology, neurosurgery and biological psychiatry and is primarily known for his research on stress, maternal care and gene expression--- has greatly increased our understanding of the affects of good parenting. In his experiments with rats, he found that it was not the grooming of the baby rat by the biological mother that mattered but the licking and grooming of the *rearing* mother that made the difference. When the baby received the comforting experience of being licked as an infant it grew up to be braver and bolder than a baby rat who hadn’t had this experience (Meaney (2002)).

Meaney’s work is closely linked to the psychological theory of attachment. Meaney and his team found that licking and grooming doesn’t just affect the baby rat’s hormones and brain chemicals, which it does, but goes much deeper than that, even to the genes that they pass on to subsequent generations of rats. Licking and grooming in rats from the earliest days of infancy affects the way certain chemicals are affixed to certain sequences in the baby rat’s DNA, a process known as methylation.

Using gene sequencing technology, Meaney’s team has been able to establish which part of the baby rat’s genome got “switched off” by the licking and grooming experience and this turned out to be the precise segment that controlled the way that the rat’s hippocampus would process stress hormones in adulthood (Meaney (2002)).

Rats are not people but if the same process applies to humans then high quality mothering can act as a powerful antidote to the damage that adversity inflicts on a child's stress response system.

Some evidence that the above applies to humans can be seen from the work of Blair and Evans. Blair is Professor of Applied Psychology at New York University and Evans is Professor of Human Ecology at Cornell University.

Blair (2011) measured the way that infant's cortisol levels spiked in reaction to stressful situations which gave a simple measure of how each of them handled stress.

Evans (2007, 2009) carried out similar research. He found that the higher the environmental risk score the more the cortisol levels spiked unless the child's mother was particularly responsive to her child's concerns.

These findings support Meaney's results from the rats.

Both Blair and Evans found that parents who were attuned to their child's mood and who were responsive to his or her cues produced securely attached children; parenting that was detached or conflicting or hostile produced anxiously attached children. Thus Blair, Evans and Meaney support Ainsworth's (1965) contention that early attachment creates psychological affects that can last a lifetime.

Sroufe and Egeland (2005), both Professor Emeritus at the University of Minnesota, conducted a longitudinal study concerning mothers and their children on low incomes. From the local public health clinic in Minneapolis, they recruited 267 pregnant women in 1972/1973. They were all expecting their first child and they all had incomes below the poverty line. Eighty percent of these women were white, two thirds were unmarried and half were teenagers. Sroufe and Egeland began tracking this group of children from birth and they have been tracking them ever since [The babies born in 1972/1973 are now in their late 30's]. The evidence that the study produced, stands as the fullest evaluation to date, of the long lasting effects of early parental relationships on a child's development in the United States.

Egeland and Sroufe provide us all with hope! Attachment classification is not absolute destiny. Sometimes attachment relationships changed in the course of

childhood and some children with anxious attachment went on to thrive. But for most children attachment status at one year of age, as measured by the specific tests used, was highly predictive of a wide range of outcomes later in life. Children with secure attachment early on were more socially competent throughout their lives; better able to engage with pre-school peers, better able to form close friendships in middle childhood, better able to negotiate the complex dynamics of adolescent social networks.

It is easy to see parallels between Meaney's findings with baby rats and Sroufe and Egeland's findings with infant children. In both cases mothers carried out certain specific behaviours in the earliest days of their offspring's lives. And these behaviours---licking and grooming in rats, responding sensitively to infant's cues in humans---seem to have had a powerful and long lasting effect on the children's outcomes in a variety of similar ways; the human and rat babies who received the extra dose of early care were, later on, more curious, more self-reliant, calmer and better able to deal with obstacles. The early nurturing attention from mothers had fostered in them a resilience that acted as a positive attribute against stress.

Lieberman studied with Ainsworth in the mid 1970's. She is now Professor in Residence at the Department of Psychiatry in the University of California, San Francisco School of Medicine and was formerly head of the Child Trauma Research Program there. In recent years she has become a close collaborator with Dr. Burke, the founder and CEO of the Center for Youth Wellness, California, who will be mentioned later.

Lieberman (2011) says that there are two things missing from the analysis of Sroufe and Egeland (2005). The first is an explicit recognition of how plainly difficult it is for many parents in deprived areas to form secure attachments to their children. The second is the under emphasis that they put on the fact that parents can overcome their history of trauma and poor attachment. She says that they can change their approach to their children from one that produces anxious attachment to one that promotes secure attachment and healthy functioning. In other words, "It is never too late!"

Lieberman developed a treatment called child-parent psychotherapy, that combines Ainsworth's theories on attachment with more recent research on traumatic stress.

The principle behind it---improving children's outcomes by promoting stronger relationships between children and their parents---is increasingly in use across the United States in a wide variety of interventions. She is in effect saying that even if you cannot take away bad housing or bad schooling, you can build in the parent an inner strength and resilience so that they can realise the fullest potential of their parenting skills with all that that means for their offspring in combating disadvantage. That does not of course excuse those that caused, or failed to deal with, the disadvantage in the first place.

Lieberman thus holds out the hope that the cycle of poor attachment can be broken forever.

Changing tack we also have to realise that children born into affluence can also suffer disadvantage. Levine (2006), a practicing psychologist in California, cites a variety of studies and surveys to back up her contention that children from affluent families now exhibit, "unexpectedly high rates of emotional problems beginning in junior high school." She goes on to say that this is no accident of demographics, "It is a direct result of the child rearing practices that prevail in well-off American homes." Wealthy parents today, she argues, are more likely than others to be emotionally distant from their children while at the same time insisting on high levels of achievement. These combine to form a potentially toxic blend of influences that can create "intense feelings of shame and hopelessness."

Levine draws on research by Luthar and Sexton (2004) [Luthar is Professor of Psychology and Education at Columbia University's Teacher's College and Adjunct Professor at Yale University's Child Study Center]. Luthar and Sexton asked students about their relationships with their parents. They found that parenting mattered at both socioeconomic extremes. For both rich and poor teenagers, certain family characteristics predicted children's maladjustment; including low levels of maternal attachment, high levels of parental criticism, and minimal afterschool adult supervision. Among the affluent children, Luthar and Sexton found that the main cause of distress was "excessive achievement pressures and isolation from parents---both physical and emotional." They highlight the fact that we know, on some level at least, that what children need more than anything else is a little hardship: some challenge, some deprivation that they can overcome, even if it is just to prove to themselves that they can.

The experience on the sailing barges that “Sea Change” provides can do little about poor parenting but can make a major contribution to challenging young people.

An interesting piece of research to surface from Heckman’s invited academics and professionals was the result of a question asked by a medical doctor called Burke [mentioned above] and her team (2011) who asked the simple question, “What affect does poverty have on children?” As a Doctor, and not an educator, she approached this question from the perspective of her patient’s physical health. She found that many of the children from poor backgrounds that she saw seemed depressed or anxious and some of them were obviously traumatised and this aggregated stress in their lives manifested itself in a variety of symptoms, from panic attacks to eating disorders to suicidal behaviour.

Burke’s findings were further reinforced in what commonly became known as the “ACE study” directed by Professor Felitti. Felitti was the founder of the Californian Institute of Preventive Medicine and Professor of Medicine at the University of California, San Diego. The ACE study proposed ten different categories of “adverse childhood experiences” each of which could be scored. These categories included: physical and sexual abuse, physical and emotional neglect, and various measures of household dysfunction, such as having divorced or separated parents or family members who were incarcerated or mentally ill or addicted [Anda and Felitti (2006)].

One of the more striking results from this survey was that Anda and Felitti were amazed at the sheer level of childhood trauma among those from relatively wealthy homes. And, secondly, that the correlations between adverse childhood experiences and negative adult outcomes were so powerful that they “stunned us”. They found that the higher the ACE score, the worse the outcome on almost every measure from addictive behaviour to chronic disease.

When they looked at patients with high ACE scores [seven or more] who didn’t smoke, didn’t drink to excess, and weren’t overweight, they found that the risk of ischemic heart disease (the single most common cause of death in the USA) was still 360% higher than with those with an ACE score of zero. The adversity these patients had experienced in childhood was making them sick through a pathway that had nothing to do with behaviour. It was entirely to do with *stress*.

Among Heckman's invitees were further medics who had researched neuroendocrinology (the study of how hormones interact with the brain) and stress physiology (the study of how stress affects the body). These scientists have reached a consensus in the past decade that the key channel through which early adversity causes damage to developing bodies and brains is *stress*. What is known as overloading the HPA axis, especially in infancy and childhood, produces all kinds of serious and long lasting negative effects---physical, psychological and neurological. However, one of the problems of the HPA axis is that it cannot distinguish between different forms of threat. So when a perceived threat (which may be harmless to the individual) activates the HPA axis every defence for all eventualities is "switched on" thus causing a huge increase in overall stress.

Seeman (2010), Professor of Geriatrics at the school of Medicine, University of California, Los Angeles, has shown that a complex index including all those values which overload the HPA axis would be a much more reliable indicator of future medical risk than blood pressure or any other single factor measure in use today. In a sense both ACE scores and the HPA axis measure the same thing---*stress*---but the former relies on your own report of your childhood whereas the latter when perfected, would depend on cold scientific analysis of your physiology.

When Burke used a modified version of the ACE questionnaire with more than 700 of her patients she found a disturbingly high correlation between ACE scores and problems in school. Among her patients with an ACE score of zero just 3% had been identified as having learning or behavioural problems. Among patients with an ACE score of four or higher, the figure was 51% (Burke (2011)).

In school and the workplace working memory [defined as the system that actively holds multiple pieces of transitory information in the mind where they can be manipulated by the execution of verbal and non-verbal activity such as reasoning and comprehension] is crucial to success and it has long been known that poverty is correlated with a poor working memory. What is now known is that it is not the poverty that is causing this but the *stress* caused by poverty. But there is hope!

Steinberg (2010), Professor of Psychology at Temple University, Philadelphia, says that the prefrontal cortex is more responsive to intervention than other parts of the brain and it stays flexible well into adolescence and early adulthood. So if we

can improve the environment in the specific ways that lead to better functioning, we can increase a young person's prospects for success. What is more, he says, researchers have found that there is something uniquely out of balance about the adolescent brain that makes it especially susceptible to bad and impulse decisions and if this period in a young person's life can be successfully negotiated by giving them constructive things to do their overall future as adults and also their behaviour as the mothers and fathers of future generations can be greatly enhanced.

Steinberg says that as a teenager you are more sensation seeking, more emotionally reactive and more attentive to social information than the general population. He says that these traits are at a maximum during adolescence. However, there is a cognitive control system that regulates all these urges that doesn't mature until you are in your early twenties. And of course if you combine this adolescent neurochemistry with an overloaded HPA axis, resulting in high ACE scores, you have a particularly toxic mix.

As I have already indicated, one of the most promising facts about programmes that target emotional and psychological and neurological pathways is that they can be quite effective later on in childhood----much more so than cognitive interventions. Pure IQ, whatever that is, is stubbornly resistant to improvement after about age eight. But executive functions and the ability to handle stress and manage strong emotions can be improved, sometimes dramatically, well into adolescence and even adulthood. And living in an enclosed community on a sailing barge can contribute a great deal to this.

Seligman, a Professor of Psychology and Director of the Positive Psychology Center at the University of Pennsylvania, teamed up with Professor Peterson who is now an Emeritus from the University of Michigan to write "Character Strengths and Virtues: A Handbook and Classification (2004)". In writing this book they read widely and eventually settled on a list of twenty four character strengths that they believed to be universally respected.

The list includes some qualities we think of as traditional noble traits, like bravery, citizenship, fairness, wisdom, and integrity; others that veer from the emotional realm, like love, humour, zest and appreciation of beauty; and still others that are more concerned with day to day human interactions, like social intelligence, the

ability to recognise interpersonal dynamics and adapt quickly to different social situations, together with kindness and gratitude.

Cultivating these strengths represents, they say, a reliable path to “the good life”, a life that is not just happy but meaningful and fulfilling and it is these qualities that “Sea Change” concentrates on in the training of young people.

“Sea Change” is able to do so by virtue of the fact that Seligman and Peterson defined character by listing different attributes. These are a set of abilities or strengths that are very much changeable---entirely malleable in fact. They are skills you can learn; they are skills you can practice; and they are skills you can teach.

Another way of perceiving “character” is to view it as a substitute for the social safety net that more affluent students often enjoy---the support from their families and schools and culture that protects them from the consequences of occasional detours and mistakes and bad decisions. If you don’t have that kind of safety net---and children in low income families almost by definition do not---you need to compensate in another way. To succeed, you need more strength of character, more social intelligence, more self control than wealthier kids. But they need it too.

So how do you help children acquire the focus and persistence they will need for longer term more abstract goals? Duckworth has paid particular attention to this question. Duckworth is a neurobiologist and Associate Professor in the Department of Psychology at the University of Pennsylvania with a specific interest in what she calls ‘Grit’ and ‘Self Control’. Duckworth and Quinn (2009) divide the answer to the above question into two parts. Firstly, motivation and secondly, what they call volition. Volition they define as will power and/or self-control [This is complicated because different personality types respond to different motivations].

According to Kessler (2009), formerly Dean of the Yale School of Medicine who is interested in the habit of overeating, it is necessary in order to promote motivation and volition to set rules for yourself. When you are making rules for yourself you are enlisting the prefrontal cortex as your partner against the more reflexive appetite driven part of your brain. Rules, Kessler explains, “provide

‘structure’ preparing us for encounters with tempting stimuli and redirecting our attention elsewhere”. Before long the rules have become as automatic as the appetites they are deflecting. This is what “Sea Change” hopes will result from the barge experience.

William James (1898), the American philosopher and psychologist, wrote that the traits that we call virtues are no more or less than simple habits, “Habit and character are essentially the same thing”. Duckworth and Quinn (2009) explain this by saying that, “ It is not like some kids are good and some are bad. Some kids have good habits and some have bad habits. Kids understand it when you put it that way because they know that habits might be hard to change, but they are not impossible to change”. William James (1898) says that our nervous systems are like sheets of paper. You fold the sheet of paper over and over and over again, and pretty soon you have a crease!

The contribution that “Sea Change” can make to young people is based on the notion of “freedom within limits” [Montessori (1949)]. On the barge there are rules for the benefit and safety of all but these rules which provide ‘structure’ do not mean that the individual is stultified. These rules promote self discipline whereby the individual is encouraged to make rules for themselves.

The economists, educators, psychologists, neuroscientists, other academics and professionals that have been attending Professor Heckman’s seminars in the past five years have arrived at a consensus that children do not just succeed because they have a high IQ. There are other factors which are equally or more important, some of which have been outlined above. Unfortunately, many in a position of influence have failed to grasp this fact. They have been focussing on the wrong skills and abilities in our children and in many cases have reduced them to what is easily and economically measured while ignoring the underlying development of the child.

It is true that every unhappy family may be unhappy in its own way, but in families that stay trapped in poverty for generations, the patterns can become depressingly familiar. It manifests itself, amongst other things, as a cycle of absent or neglectful parents, malfunctioning schools and bad decisions. Something must be done about this.

The key to children succeeding is to reduce the levels of *stress* that they suffer from. This applies whether they are wealthy or poor.

This is accomplished by firstly, and most importantly, good parenting where the parent is empathic to the child and the child feels securely attached to that parent or caregiver and secondly, by young people being trained in non cognitive skills such as perseverance, optimism, curiosity, conscientiousness, self control and being inspired, above all, to have a belief in them self which translates into self confidence and self esteem, this second trait being achieved by the first. It is in the training of these non cognitive skills that “Sea Change”, through its sailing barge experience for young people, excels.

The overwhelming research evidence is that young people can be changed, their habits can be altered and their futures [and those of subsequent generations] made much brighter.

What “Sea Change” attempts is the creation of a social role shift so that a young person will suddenly switch into a totally different “mindset”.

As Professor Heckman and his team (2010) showed , with high quality early years education, the costs of such experiences are low compared with the long term benefits for society.

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