It might not greatly affect the well-being of a sheep, for example, to be denied opportunities for self-direction, but an adult human is the kind of creature that cannot be said to be fully flourishing if denied such opportunities. To flourish we need to accept responsibility for important personal decisions, irrespective of whether we obtain a sense of achievement from making good choices.

Since he bases his new theory of well-being on un-coerced choice, Seligman could easily respond to suggestions that PERMA does not include all the elements we choose for their own sake by telling critics to make our own lists. In my view, a theory of well-being based on un-coerced choice should recognise that because different individuals may have different values, they choose different things for different reasons and may give different weights to the elements they choose.

Seligman seems to have anticipated the argument that PERMA doesn't include everything that we choose for its own sake by suggesting in the final chapter that he 'would not remotely advocate that well-being should be the only influence on public policy.' Other factors he mentions are justice, democracy, peace and tolerance. He also suggests that he expects to see vigorous debate about how to combine wealth with well-being measures. Those comments suggest that his concept of well-being encompasses only psychological well-being, rather than all the goods that free people choose for their own sake.

By developing experimental programs to teach aspects of psychological well-being, Seligman has posed a challenge to conventional thinking that happiness and well-being are solely the product of inherited personality characteristics and social environment. In his discussion of post-traumatic stress disorder (PTSD), Seligman suggests that since it was officially recognised as a disorder 30 years ago and people have become more aware of it, there has been an increasing tendency for those who suffer trauma to spiral downwards into PTSD. They tend to interpret symptoms of anxiety and depression as PTSD, making it a self-fulfilling prophesy. Seligman suggests that this can be avoided by promoting an understanding that 'far and away the usual response to high adversity is resilience—a relatively brief episode of depression plus anxiety, followed by a return to the previous level of functioning.' This discussion also raises the difficult question of how to provide appropriate monetary compensation via disability payments, etc. without exaggerating or prolonging symptoms of PTSD.

In his discussion of the treatment of depression, Seligman reports some encouraging results from simple exercises such as encouraging people to make more frequent use of their character strengths. He suggests, however, that the US National Institute of Mental Health has been reluctant to fund research to pursue such findings. This leads him to suspect bias in favour of more expensive therapies offered by the drug companies and the Psychotherapy Guild.

Seligman argues that teaching well-being in schools will reduce the incidence of depression among young people and enhance learning abilities. At Geelong Grammar, Seligman and his colleagues gave teachers a nine-day course in using and teaching the necessary skills to ensure that they were appropriately qualified to teach well-being. A similar approach has been adopted in resilience training in the US Army. Sergeants are trained first and then train the soldiers under their command.

Unfortunately, the programs for teaching well-being that Seligman describes have not been conducted for long enough for the results to be reported in this book. I look forward to his next book to see how successful those experiments have been and for further refinement of his theory of well-being.

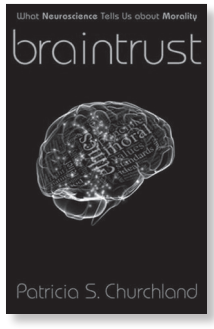
Reviewed by Winton Bates

Brain Trust: What Neuroscience Tells Us about Morality
By Patricia S. Churchland
Princeton University Press, 2011
US$24.95, 273 pages
ISBN 97806911377032

Patricia S. Churchland places a lot of trust in the evolution of the brain to determine how we ought to live. Her new book, *Brain Trust*, argues that morality is about empathy. The book is a fascinating walk through the evolution of the human brain: what circuitry has developed, when it developed, and Churchland's thesis on why.

Churchland aims to demonstrate that morality is not innate, universal or a matter of appealing to a higher authority, be it God or Reason. She claims converging data from neuroscience, evolutionary biology, genetics, and experimental

psychology demonstrate that the brain has evolved to 'value' attachment, bonding and trust; these values cement social ties because that is the best way for the species to survive. The science may not tell the complete story of human morality, but morality emerges within the mammalian social structure. This claim is bold and her project is ambitious. Deftly guiding the reader through the complex science and its interface with moral philosophy. Churchland concludes that



> Morality seems to me to be a natural phenomenon constrained by the forces of natural selection, rooted in neurobiology, shaped by the local ecology and modified by cultural developments.

Churchland opens with a swift and sharp account of Medieval Europe, where guilt and innocence were determined through 'trial by ordeal,' which dictated that God would intervene for the falsely accused. If innocent, God would save you; if not, you would drown in the pond into which you had been thrown. (Churchland wryly notes that the process was not so neat for women accused of witchcraft. A woman was considered innocent if she drowned; if she bobbed to the surface, she was pronounced guilty and hauled off to be burnt at the stake.) We would be appalled at such measures to decide between good and evil, but Churchland believes that much of moral philosophy is in equal danger of 'floating on a sea of mere, albeit confident, opinion' without an understanding and account of the evolution of the human brain.

Throughout the book, she takes on modern philosophical giants such as John Rawls and Peter Singer, claiming that their appeal to a universal rule(s) accepted by all rational beings results in moral codes that are 'more demanding and meddlesome' than she finds reasonable. However, there is acidity in her writing which jars the reader 'the urgings of the ardent utilitarian sometimes alarm me in the way intrusive do-gooders can be alarming, not least because of infringements on liberty and the conflict with paradigmatically good sense.' Unexamined in the book is Churchland's own privileging of liberty over equality. Singer encourages human altruism, and while Churchland finds Singer's ethical standards onerous, he and many others practise what they preach. Even if Churchland's scientific analysis can tell us what is common for human beings, it does not address what the limits of capacity for empathy are or whether we should strive towards them.

Churchland positions herself in the lineage of Aristotle, Hume and Darwin and their core biological approach to human morality. She disposes of the naturalistic fallacy (concerns about moving from what is to what ought to be) in such a precise way that the book is worth reading for this aspect alone. She argues that Hume acknowledged the partially selfish and partially sympathetic natures of human beings and their consequent capacity to expand their circle of regard to create social institutions benefiting all.

Churchland's key questions are 'Where do values come from?' and 'How and why do brains care about others?.' Neurons are designed for self-preservation, and the brain is the organising system that preserves us through decision-making. Pain and fear are survival signals that indicate the need for corrective behaviour by the sympathetic nervous system, which adjusts the body for fight or flight. For Churchland, the science shows that, individually and collectively, we try to solve problems that can cause misery and instability and threaten survival. However, she acknowledges that cultural relativism is highly influential in determining the values people live by.

The hormone oxytocin, which influences our capacity to empathise (and solidifies the bond between mother and baby), has many spill-over effects, including the capacity to extend care beyond our kin circle to broader social groups, argues Churchland. Her thesis is that morality originates in the neurobiology of attachment and bonding. Attachment underwritten by the painfulness of separation is managed by intricate neural circuits and neurochemicals. Humans are social animals, motivated to be with group members and share their practices. Attachment and bonding are good for survival, and the extension of our empathy to others (beyond immediate kin) is the foundation of morality. Further, reward and punishment shape our social interactions and ability to determine between right and wrong. Our moral behaviour is underpinned by the drive to enjoy the pleasure of being part of the group and our aversion to being rejected or shunned.

This claim depends on the idea that oxytocins-vasopressin network in mammals can be modified to allow care to be extended to others. Churchland cites a number of experiments which demonstrate that raised oxytocin levels increase empathy, which in turn increases trust between group members. Trust influences and improves social cohesion and provides a better chance at group survival. Churchland suggests that the power of oxytocins could be Hume's underpinning 'moral sentiment.'

> It is sufficient for our present purpose, if it be allowed, what surely, without the greatest absurdity, cannot be disputed, that there is some benevolence, however small, infused into our bosom; some spark of friendship for human kind; some particle of the dove, kneaded into our frame, along with the elements of the wolf and serpent.
>
> — David Hume, *An Enquiry Concerning the Principles of Morals*

However, while the cited experiments may demonstrate what we value (attachment and bonding) and why we value it (survival), Churchland still has difficulty presenting a coherent analysis of what we should do. For example, neuroscience tells us the brains of psychopaths are different. Their paralimbic region, which regulates emotional responses, is anatomically smaller and has lower functionality, affecting emotional learning and decision-making. The obvious ethical concern, and which Churchland ignores, is do we hold psychopaths accountable for their actions? Is it a disability, and if so, what rights should they be accorded? Are we to judge people on their potential to develop into psychopaths based on a scientific standard of brains and functionality?

Churchland argues that 'morality is grounded in our biology, our capacity for compassion and our ability to learn to figure things out.' Therefore, we learn, as a matter of fact, what social practices serve human well-being. She claims the abolition of slavery is just such an example of learning, and that as a matter of fact is better than slavery. However, this is a very American-centric view. She does not acknowledge the depth and breadth of the current slave trade in the world (enslavement of child soldiers in the Congo to prolific sexual slavery across Asia), and that perhaps we have not evolved as a species to know that abolishing slave trade is better than propagating it.

Churchland weaves advancements in neuroscience to create a larger narrative about the evolution and biological mechanisms of morality. The story co-opts the best of our human traits in an evolutionary trajectory of the good rather than to account for evil. *Brain Trust* challenges us and philosophy to reconsider the origins of what we value and why. Although it is steeped in science, the book achieves what all good philosophy aims to do—raise profound and intriguing questions about who we are and how we ought to live. The possibility that science can tell us how brains care about anything, and the intersection of this science with millennium old philosophical arguments, is breathtaking.

Reviewed by Michelle Irving

Exceptional People: How Migration Shaped Our World and Will Define Our Future
By Ian Goldin, Geoffrey Cameron, and Meera Balarajan
Princeton University Press
US$35, 352 pages
ISBN 9780691145723

Exceptional People considers the past, present and future of international migration. It argues that migration is fundamental to the human condition and of benefit not only to migrants but also sending and host countries.

The book begins with a review of the role of migration throughout human history and its role in shaping the modern world. The most interesting is the 'free migration' period during the first wave of globalisation between 1840 and 1914. As the authors note, this free movement of people was inseparable from the growing trade in goods, services and capital that characterised the second half of the nineteenth century. The scale of the migration from the old to the new world (including Australia) during this period was staggering. Migration accounted for around 30% of the increase in population in countries like the United States and Australia, while European countries such as Sweden experienced population declines of as much as 44%. The scale of this mass movement of people puts current migration debates into proper perspective.