

**Book Review**

## Blinded by Science. The social implications of epigenetics and neuroscience

Wastell D. and White S. (2017). Bristol: Policy Press. ISBN 978-14473-2234-4 paperback. pp 291. GBP 21.59. Aust \$37.35 as at 25/5/2017, plus postage.

Reviewed by Dr Frank Ainsworth, Senior Principal Research Fellow (Adjunct), School of Social Work and Community Welfare, James Cook University, Townsville campus, Queensland 4811, Australia

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In the preface to this book the authors state:

The biological sciences, particularly neuroscience and genetics are currently in the cultural ascent. Aided by advances in informatics and digital imaging, these ‘techno-sciences’ increasingly promise to provide a theory of everything in the natural and social worlds. Social policy has not been slow to conscript biology into its legitimizing stories. Beginning in the United States with the decade of the brain in 1990s, neuroscience was first on the stage, but developments in genetics, known as epigenetics . . . also have potentially profound implications for society and culture, and the response of the State to intimate family life and personal choices (p. viii).

This perfectly sums up the focus of this book. It is an amazing book written by a Professor of Information Science (Wastell) and a Professor of Social Work (White), a rare and telling combination.

Part one of the book consists of three chapters and is titled ‘Getting to grips with the thought styles’. The first chapter ‘Biology and the drive for human improvement’ reviews recent developments in the biological sciences, and how these are now being linked, somewhat problematically, to earlier efforts to improve the human condition.

‘How knowledge gets made in neuroscience and molecular biology’ is the next chapter. Here, the authors lay out what they say are particular forms of reasoning and thought that are used by physical scientists. Their conclusion is that these thought forms lead to questionable conclusions about efforts to improve the human condition and invite the pursuit of ‘a utopia free from misery, disorder and disease’ (p. 3). These conclusions are not value free.

Chapter three is ‘Blaming the brain’, a chapter that looks at how the brain works and the thinking style and research programs of neuroscientists and epigeneticists. These researchers are identified as seeking to reinterpret deviant behaviour as a disorder of the brain.

All together strong stuff.

A second part of the book that is made up of a further six chapters is ‘Fixing real people’.

Chapter 4 is ‘The precarious infant brain’. In this chapter, the authors re-examine the science that underlies claims about brain development in young children. They do this by rereading what they term ‘journal science’ that is the original scientific papers by key authors who are then cited by leading exponents of brain development theories in support of their views.

Chapter 5 is called ‘The cat is out of the bag: from early intervention to child protection’. This is a full frontal assault on recent English government and non-government reports that are supportive of early intervention services for children that cite journal sources, but strip them of their limitations and cite them without due caution. Additional sharp criticism is focused on the Harvard Center for the Developing Child, an organisation that specialises in synthesising the research output of others, that these authors think bastardises these results. In fact, they show that the original science is much less settled than some promoters of early intervention policies and services prefer to think.

The title of chapter 6 is ‘Perfecting people: The inexorable rise in prevention science’. This chapter raises questions about the transformation of ‘risk aversion’ strategies that are very evident, for example, in child protection services, and the way this stance has morphed into the up and coming prevention science. Prevention science applauds the targeting and surveillance of particular population groups in the interest of social or health problem prevention. Not surprisingly, this appeals to governments and advocates for particular causes in so far as it holds out the hope for fixing people so that they cease to be problem individuals or families and instead become model citizens that are a lesser financial burden on the state.

Chapters 7 and 8 examine the science of epigenetics. That is the science that suggests that gene expression can be modified by cumulative experiences in development, childhood or adulthood, and that this can then influence life outcomes such as health, well-being and vulnerability to disease.

Chapter 7 ‘Epigenetics: rat mum to my Mum?’ reviews many animal laboratory studies that form the core of this

science. The authors argue that the transference of findings from studies of animal behaviour to humans should be subject to more rigorous challenge.

'Human genetics prematurely (born(e))?' is the title of chapter 8. In chapter 8, the authors say that:

we interrogate the nature of the claims made in the literature and examine the thought style and presuppositions, particularly in those studies which seek to translate findings from laboratory to clinic and public health policy (p. 177).

As might be expected, the authors again challenge both the scientific claims and the value of the study of human epigenetics as a discipline and the likely social interventions epigenetics may encourage. For the authors what is required is debate as to the best course of government intervention in order to facilitate human improvement, rather than authorising scientists to administer an injection or give a pill.

The final chapter, chapter 9, is 'Are we broken? Fixing people (or society) in the 21st century' and is more philosophical in tone. It repeats some of the arguments put forward earlier in the book and speculates as to how this less than perfect knowledge may become a way for governments to monitor, target and put under surveillance disadvantaged individuals and groups in society prior to a proper consideration of ethical and moral issues that such actions should

invoke. Just because you can does not always mean you should!

Already, we are seeing child protection caseworkers, and their managers make statements in materials that are presented to NSW Children's Court about brain development and the damage done to young children by neglectful and abusive parents. This actually should be seen as 'fake' evidence as the science to support such claims is far from settled, as this book shows. This science about brain development and genetics is in its infancy and certainly should not form the basis for judicial decisions in child protection cases. It is also not ready for immediate use for policy development purposes in the children and family services sector.

This is not an easy book for anyone who lacks a physical science background to read. A passing understanding of inferential statistics is a useful asset for anyone as this helps with some understanding of the studies cited throughout this book and their results. But there is enough important information in this book to make what may be a struggle worthwhile for everyone.

Finally, the information and challenges this book presents should be viewed as a timely warning to those who wish to rush to judgement about findings from science that few have examined as carefully and critically as these authors. We are all in debt to them.