GSP online Genomics, Society and Policy
2006, Vol.2, No.1, pp.132–133.

Book Review

Wrestling with Behavioral Genetics. Science Ethics and Public Conversation.
Erik Parens, Audrey R. Chapman and Nancy Press (eds).
John Hopkins: Maryland, 2006

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This book is one outcome of a project undertaken by the Hastings Center and the American Association for the Advancement of Science with an interdisciplinary group including social scientists, geneticists, lawyers and journalists. A project report is available at www.thehastingscenter.org. As indicated in the title there are three sections: the science; ethical and social concepts and problems; and public conversation, in the media and with 'lay' publics. With the first five articles covering the science, there is scope for greater complexity than the usual first chapter in ELSI books. The first two articles by Schaffner use a question and answer format with an imaginary judge for part of the discussion and this proves useful rather than irritating. Among the points addressed are why we are told humans are 99.9 percent identical in their DNA but fraternal twins 'have only about 50 percent of their genes alike' (p.17), reasons for inconsistent results in association studies (of genes and behaviour) (p.42), and the lack of correlation between behaviours that are identified as having high heritability in twin studies and the susceptibility genes that have actually been identified (p.49). Having been told that 1000s of genes each with small effects (QLTs) may be interacting to produce traits or disorders (p.49), Beckwith, in the next article, argues that we need to explore the assumptions underlying this research, including the assumption that identical and fraternal twins share equal environments and separated twins experience different environments. He looks at the complexities of quantifying and comparing aspects of home and outside environments (p.82). Turheimer points out (chapter 4) that twin studies have been used to measure the effects of genes and environment without measuring anything about either of these, but simply making assumptions about twins (p.102). The last paper in the section is by Hyman, a former director of the National Institute for Mental Health which had been previously criticised for involvement in studies of genes and violence and under his leadership gave priority to research concerned with illness rather than non-disease phenotypes. With this new focus 'the political problems of NIMH literally melted away'! (p.123).

In looking at ethical and social issues Nancy Press discusses social constructionism, as a critique and a method. Behavioural genetics focuses on socially constructed (and so inconstant) phenomena from leadership to attention deficit and shyness. These have to be reified as bounded entities in order to be investigated by geneticists. She argues that variations in these behaviours then become seen as problematic or pathological through the process of medicalization. The reason this matters is the harmful social effects. Duster's chapter develops these arguments by looking at the way links between crime, violence and race are explained. He looks at the socially specific nature of definitions of 'race'and 'anti-social behaviour' and concerns about the bias of forensic DNA databases towards particular ethnic and social groups. The result is that 'erroneous inferences' may be made, by geneticists using these databases, about the link between

Genomics, Society and Policy, Vol.2 No.1 (2006) ISSN: 1746-5354

criminal behaviours and particular ethnic groups. Edgar discusses the thorny issue of the implications of behavioural genetics for legal responsibility, focussing on impulsivity. Early on he concludes that there will be no impact on responsibility in criminal law but that there might be some influence on sentencing. He then moves on to consider the question, what if all or nearly all behaviour was 'compelled' by the interaction of genetic make-up and environment? He points out that the debate about free will 'exaggerates the law's interest in punishing offenders [only when it is just] as against shaping broader behaviour' (p.183). Among other arguments he points out that 'the law should be toughest precisely when the impulse to violate it is strong', giving the example of the execution of wartime deserters (p.190). Dan Brock considers the potential effects of genetic advances on equality and argues that the moral objection is to selective access to enhancement technologies rather than to the technologies themselves. The danger is that the gap between the enhanced and un-enhanced might become so wide that they would no longer identify with each other. In the last chapter of this section, Kaebnick returns to the question of free will and argues that philosophical theories do not need to be rethought because of behavioural genetics, since empirical data cannot refute philosophical argument. Like the environment, genetics will usually predispose a person to act in a particular way but not determine action. Kaebrick goes on to consider different philosophical positions on free will and ends by setting out a neo-Kantian position, with a touch of Wittgenstein, in which we consider that determinist talk of behavioural genetics belongs to a different language game from talk of free will

The final section considers why we need a public conversation about behavioural genetics and how to create it. Flick suggests addressing the public policy issues raised by the methods of public reason derived from Rawls. This involves developing public reasons 'to justify value-laden public policies' that are independent of particular religions or philosophies and acceptable to all 'liberal citizens' (p.267). As an example he identifies six relevant public interests in mandatory genetic testing; privacy, liberty, justice/protection of fair equality of opportunity, social harm, invidious discrimination and personal responsibility. Of course, the devil would be in the detail of how these are defined and balanced. Condit and Harris use empirical research with laypeople to explore how they incorporate ideas of genetics into their thinking on human behaviour. The results are not new but worth reiterating in the light of assumptions made in previous papers about the lack of public understanding and media hype. They conclude that the public do not simply absorb messages from the media and 'lay accounts are in some ways more comprehensive and complex ' than those of scientific experts in the area (p.306). In the final paper Weiss comes up with some rules for journalists reporting in the field of behavioural genetics, while acknowledging that scientists themselves can engage in hyping of their research in the name of accessibility. He cites the 'cute names' given to genes and gene-altered animals.

Although there is some overlap between chapters this is not a run-of-the-mill edited collection with no overall coherence. Rather, the book reads as the product of a fruitful multidisciplinary project in which each author addresses the issues from within their own discipline but with evidence of the conversations that took place between project participants. The whole makes a thought provoking contribution to the area.

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