

**Social Determinants of Health, 2nd Edition.** *M Marmot and R Wilkinson (eds).* Oxford: Oxford University Press, 2006, pp. 376, \$57.50. ISBN: 9780198565895.

In 1999 the US National Institutes of Health, the Wellcome Trust, and Celera Genomics, a private company, jointly announced that their collaborative effort to decode the human genome was to be completed within a year or so. With great enthusiasm, Harold Varmus, a Nobel prize winner and then Director of the NIH, testified to the US Congress that based on the discoveries to come from decoding the genome, 'victory over disease and disability has become an understandably popular and realistic goal'. As for the announcement of many scientific advances, this dramatically visible announcement followed a long period of scientific discovery, new insights, and in this case new technology.

Less dramatically trumpeted has been the steady accumulation of knowledge and insights concerning the ways in which the health of individuals and populations is fundamentally determined by aspects of their social environment. Following hundreds of years of discovery and insight, and rapidly accelerating since the 1960s or so, this literature has shown that there is hardly any aspect of human health not touched by social determinants. Michael Marmot and Richard Wilkinson's publication in 1999 of their edited volume entitled *Social Determinants of Health* was an early attempt to bring together much of the information on the broad footprint of the social environment on health. Now we have a second edition of their book, with chapters added on racial/ethnic inequalities in health, aging, the impact of neighbourhood features on health, housing, and sexual behaviour/sexual health.

These additional chapters add to previous contributions covering links with stress biology, early life and life course approaches, labour market effects on health, poverty and unemployment, the organization of work, transportation as a determinant of health, social support and social cohesion, food supply as a social determinant, and smoking. The introductory and concluding chapters, respectively, written by Marmot and Wilkinson, have been extensively revised, and many of the other chapters have been revised as well. Because the chapters have in many cases been authored by prominent experts in their field and the book has been edited by two of the most visible contributors in this area of inquiry, the reader expects much. Indeed, most readers will not be disappointed. Those new to the area will be excited by the scope of inquiry, more experienced readers will find that the new chapters add considerably and that much of the previous material has been updated, reflecting new findings.

This book is worth reading and having on your shelf. However it is an edited volume and, therefore, each chapter reflects not just new topics, but also considerable variations in perspectives and approaches. Thus, it is a bit of a collage of assertions, language, and conclusions and lacks the coherence and integration that is suggested in the introductory chapter by Marmot and in the admittedly speculative concluding chapter by Wilkinson. Perhaps this is to be expected given that there are 30 authors and it would be premature to expect unanimity of approach and conclusions given the state of the evidence. Of course this is also often a feature of other edited

volumes, however one example indicates to what extent this is problematic. Consider the role of 'material' conditions in health—we are told by Mary Shaw, Danny Dorling, and George Davey Smith in Chapter 10 that 'The majority of the evidence suggests that material conditions are the underlying root of ill health...,' whereas Michael Marmot and Eric Brunner in Chapter 2 argue that it is '...position in the hierarchy that is important...[suggesting the importance of] ...relative versus absolute deprivation,' and Richard Wilkinson in Chapter 10 says that social status effects on health are '...not simply through the direct physical effects of exposure to better or worse material conditions.' As the comparative importance of relative vs absolute effects of social position is central to the stress and social comparison-related explanations of Marmot and Wilkinson, respectively, one would have hoped for some coordinated discussion of this issue.

Indeed, this brings up the whole issue of language. I, myself, have contributed to the list of poorly defined terms by introducing the term 'neo-material'. But just what defines a 'social' determinant, a 'psychosocial' factor, or a 'material' or 'neo-material' determinant? What is a 'socio-economic' determinant vs an 'economic' one? And what is the relationship between psychological and psychosocial, often used as if they are the same. It is perhaps too much to ask of this volume to set these matters straight, but the imprecision in the use of these terms in the book, and elsewhere, can certainly obscure the difference between real and false dichotomies, as well as confusing the reader.

A related issue has to do with the role of micro and macro analyses. There is a nice complementarity between the more micro-approach to the study of connection between work and health taken by Michael Marmot, Johannes Siegrist, and Tores Theorell in Chapter 6 and the more macro-approach taken by Mel Bartley, Jane Ferrie, and Scott Montgomery in Chapter 5. In the first case, the emphasis is more on the evidence linking aspects of the psychosocial work environment with adverse health outcomes, and in the latter the emphasis is more on changes in labour market conditions, their impact on job security and unemployment, and the connections with health. However, the links between the micro and the macro are seen as problematic in economics, sociology, and other areas of enquiry, and Geoffrey Rose reminded us of the differences between the causes of disease within individuals in a population and between populations. With that in mind, the portions of the book that attempt to seamlessly integrate evidence from studies of individuals with evidence from studies of societies seem underdeveloped and less convincing. A good example of the difficulties involved in such attempts is Richard Wilkinson's concluding chapter in which he attempts to link the health effects of income inequality within countries, between countries, and studies of psychological processes in individuals. Absent new strengths that may come from the formal modelling attempts to link macro-approaches and micro-approaches being developed in the study of complex systems, such linkages are little more than metaphorical.

One of the nice additions to the second edition of the volume is an explicit attempt to link the information presented in each chapter to policy. While many of us suspect that 'social and economic policies *are* health policies,' there are far too few

attempts to make such a connection salient. Given the state of the evidence and the relative lack of experimental or quasi-experimental data, there is considerable variation between chapters in making these links. Perhaps one of the better examples is in Chapter 3 where Michael Wadsworth and Suzie Butterworth explicitly discuss some of the policy interventions that have been undertaken to improve health in early life, although the bulk of these come from studies of low-income countries. This is a difficult area and given the lack of evidence, most of the authors cannot really be faulted for the rather thin section on policy implications. A chapter on the difficulties of translating the work on social determinants of health into the policy context, and on evaluating the health effects of such policies, would have been a nice addition to this second edition.

One final comment is that this volume is rather short on the use of information that comes from international comparative studies or historical data. This is a generally underdeveloped approach in the 'social determinants' field, and yet one would expect that given the wide range in the nature and exposure to social determinants that is seen internationally and over time, this would be a fertile area of discussion. Such comparisons

could be particularly helpful given that the health consequences of various aspects of social stratification, early life exposures, and the many other topics discussed in this volume are likely to be different across time and place.

None of these concerns should detract from the fact that this is a useful and informative book that belongs in your library. While those who contributed to this book and those of us studying the social determinants of health have not made the wild promissory notes echoed in Harold Varmus' quote above, knowledge and intervention on the social determinants of health may, in the final accounting, hold the greatest prospects for improving the health of populations and reducing health inequalities.

GEORGE A KAPLAN  
E-mail: gkaplan@umich.edu

doi:10.1093/ije/dyl121

Advance Access publication 17 July 2006

**Dr Golem: How to think about medicine.** *Harry Collins and Trevor Pinch. University of Chicago Press, 2005, pp. 241, \$25.*

'Dr Golem' forms part of a series of 'Golem' books dealing with different aspects of science and technology, all subtitled 'what you should know about...'. The subtitle clearly signals the intention of Collins and Pinch to produce accessible texts that will be relevant to a wide audience, not only specialists in their own area of the sociology of science and technology. Accordingly, 'Dr Golem' is organized as a set of interesting and sometimes humorous or even alarming stories from the recent history of medicine, including accounts of the debates around whether vitamin C prevents cancer, what kind of illness is Chronic Fatigue Syndrome, and whether MMR vaccine causes autism.

The present reviewer experienced a degree of disappointment in that the radical analysis of science in society pushed forward by Collins, Pinch, and others in the 1980s is not very much reflected in this book. However, my own feelings about the decline of a critical sociology of science will be of little relevance to most readers. From the point of view of potential readers from epidemiology and public health, what are its strengths and weaknesses? Perhaps one of the main problems will be that some of what is covered is already familiar. For example, whereas the explanation may be very useful for lay readers, the great majority of readers of the *IJE* will already know why it is necessary to carry out double blind control trials.

The discussion of the 'experimenter's regress' is of great interest to the sociology of science and to public health alike. This translation of the work of the philosophers Duhem and Quine into modern studies of science was one of Collins' many major contributions in the 1980s. The Duhem-Quine Paradox pointed out that it is in fact impossible to know whether an

unexpected or undesired result of any experiment is due to nature telling you your hypothesis is wrong, or to some kind of problem with the equipment or conduct of the experiment. My favourite example is of Madame Curie repeating her pitchblende experiments over and over until she attained a result that was compatible with her theories. Nowadays we might say, her theories were correct. But at the time, there could have been no logical reason, no reason coming from scientific method alone, which would have justified what she did. In the 1980s, the conclusion that was drawn from this paradox was that the 'closure' of a scientific debate, the arrival at a 'right answer', was a socially organized event, an event that cannot be regarded as constrained by nature and logic alone. The task of sociology of science and technology was to understand the ways in which those social forces construct the picture of nature that we work with at any particular historical moment. However this is not the main thrust of the rest of the text and would perhaps have been inappropriate for the kind of work the authors were trying to do.

The chapter on bogus doctors may also be interesting to those engaged professionally in public health and epidemiology. As will the chapter on tonsillectomy. The latter is based largely on the brilliant work, many years ago, of the medical sociologist Mick Bloor, who showed that highly experienced doctors gave very different verdicts when shown identical case histories of tonsillitis, as to whether or not surgery would be necessary. Both of these chapters give a fascinating picture of the craft element in medicine, and the importance to everyday practice of medicine's role as an agent of social control. As Collins and Pinch point out, several of the case studies of bogus doctors concerned people with very high levels of competence, in which 'professional boundary maintenance...[was]... confounded with medical incompetence'. The great majority