

In this book, the authors have succinctly outlined the key concepts in modern epidemiology. Readers new to this growing field are taken through a thorough introduction of epidemiology, complete with its promises and pitfalls. Drawing on the myriad examples of past and present research, the authors illustrate the valuable contribution of epidemiology to improving public health while also highlighting limitations requiring more rigorous attention and improvements for the future. According to the authors, the way forward is to 'think smarter'—this book provides the ideal starting point for those wanting to do just that.

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Epidemiology and Culture. James A Trostle. Cambridge: Cambridge University Press, pp. 208, £15.99. ISBN 0-521-79389-0.

Those of us working in the field of health sciences are only too aware of the possible tensions that can emerge when researchers from different disciplinary backgrounds attempt to converge. In circumstances where individuals can struggle to speak the same language in terms of research aims, methods, and potential conclusions, this narrative by Trostle is a welcome addition. The book primarily aims, through the use of many examples—both historical and contemporary, to highlight the potential for 'complementarity between textual and statistical portrayals of disease'. This text is one of a series that attempts to introduce the main themes of the sub-discipline of medical anthropology.

This accessible text is structured into eight easy-to-read chapters. Following a general introduction, in which the author presents a description of cultural epidemiology—as concerned with how diseases are defined and measured as well as patterned, chapter two examines the origins of an integrated approach to anthropology and epidemiology. Here the author draws on the historical work of John Snow and Rudolf Virchow, but also does comment on predictions for the 21st century. Chapter three sets about deconstructing variables commonly used in epidemiology, through consideration of the assumptions that are behind this method of sub-dividing populations. The author uses examples, including mortality data from the sinking of the Titanic and the measurement of 'race' to highlight important issues. The fourth chapter examines cultural issues in measurement and bias—this together with chapter three largely serves as a general 'critique' of epidemiology. While this provides a useful summary of some of these issues key to the interpretation of epidemiological data, the input from anthropology *per se* is sometimes lost in this process. It is not always clear what added value anthropology has provided over and above what could be discussed by a good critical epidemiologist. The following two chapters are dedicated to more specific examples in which epidemiology and anthropology have come together, the first considers the anthropological contributions to the study of cholera and the second the impact of this collaboration to help communities become healthier. Before drawing his conclusions, Trostle considers the theme of perceiving and representing risk (chapter seven), which highlights some of

the interesting distinctions between 'professional' and 'lay' epidemiology. Each chapter ends with suggested readings, providing a useful guide to further resources, this helps to address one of the more general shortfalls of the text, that is, the slight lack of depth in which many issues are covered.

Parallels can be drawn between some of the issues raised in this text and that of the potential for combining qualitative and quantitative techniques in the context of health sciences. In this sense Trostle appears to side-step some of the possible theoretical incongruity between the disciplines of anthropology and epidemiology. This on the one hand is slightly disappointing, however, in a field that sets out to answer largely pragmatic questions relating to health and health services, perhaps this taken-for-granted approach is more fruitful. Trostle concludes by likening disciplinary boundaries to 'semi-permeable membranes rather than defended borders', which is both a feasible and optimistic view. However, in the climate of publish or perish, usually divided by disciplinary boundaries, this may not be so straightforward.

There is no doubt this book is an interesting read and presents very nicely an overview of many of the key issues relating to culture and epidemiology. However, the audience for the book remains a little difficult to specify. The text is written in a very social science style, which may be off-putting to those with a more medical persuasion. Unfortunately the epidemiologists who are likely to be drawn to this text are probably those who are most aware of the benefits of this interdisciplinary collaboration at the outset. The author does allude to the fact that core teaching in epidemiology should be integral to the curriculum of graduate medical anthropology programmes, and for this purpose the book would be an essential core text. The book would also serve as a useful source of teaching material for modules in social medicine, epidemiology, and medical anthropology alike.

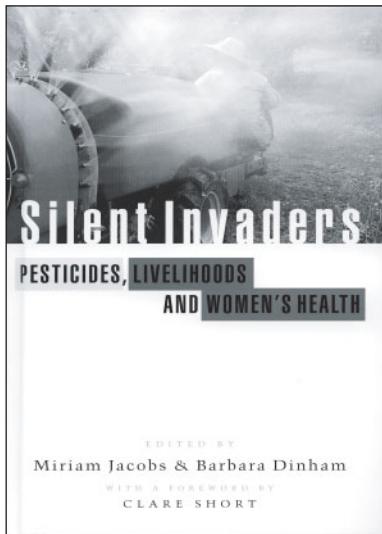
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Silent Invaders: Pesticides, Livelihoods and Women's Health. London: ZED Books, 2002, (£45 Hard Cover) (£14.95 Paperback), ISBN 185649 995 2.

This well-researched reference book brings together 27 case studies of pesticide exposure, scientific papers on exposure and health, policy and regulation examples, voices of women themselves, and the demands of activists for change. The editors, Miriam Jacobs and Barbara Dinhorn, of Pesticides Action Network have made an effort to put together all the stories along with their introductions.

Pesticide exposures occur in occupational and non-occupational settings, in developing and developed countries. Most human pesticide exposures are unintentional, unknowing, and unwilling. Rural agricultural populations are usually at higher risks but underestimated because of the difficulty of tracking migrant, temporal, and poor farm work populations. The situation in developing countries is even worse because of excessive and inappropriate applications, inadequate conditions such as lack of protective equipment, and the difficulty for a farmer in knowing what active ingredients are being applied. As



Silent Invaders describes in its stories, the content of a package often does not correspond with the label, and the unlabelled packages sold as 'pesticide' contain a wide variety of active ingredients. The conditions of storage, the lack of suitable washing facilities for humans and clothes, the farmers' demand for reusing poorly cleaned containers, the poor house storage and the use of pesticides for other and improper purposes are some of the examples detailed in the stories.

Pesticide exposure has recognized impacts on human health and the environment. Over 700 active ingredients are in use worldwide as pesticides, each with distinct chemical and toxicological properties. A wide range of chronic effects have been associated to pesticide exposure such as genotoxic effects, cancer, reproductive effects ranging from sterility to abortion and birth defects, respiratory effects, developmental effects, and endocrine disrupting effects. However, the links from a specific pesticide to precise chronic effects on human health are nearly impossible to trace, given the amount of active ingredients, pesticide formulations, multiple routes of exposure, and product changes over time. *Silent Invaders* calls for the need of using sensitive biomarkers for the assessment of subtle changes, facing the difficulties in evaluating long-term effects at low-level exposures.

Regulators and policy makers often believe that women are less exposed to pesticides. *Silent Invaders* shows how this assumption underestimates the reality of rural lives. A feminization of agriculture is occurring and women are more involved in agriculture than statistics show. In some parts of the world women make up 85% or more of pesticide applicators on commercial farms and plantations and do not stop while pregnant or breastfeeding. However, access to information on women is more difficult owing to illiteracy or for cultural reasons. This book gives detailed examples on the different occupational and non-occupational pathways women are exposed. The book also covers the scientific efforts to increase understanding of the different ways women and men may be affected and stresses the importance of studying impacts on both men and women separately. Women generally have proportionately more body fat than men and increased levels of hormonally sensitive tissues, increasing their potential to accumulate more endocrine-disrupting chemicals and/or face greater exposures related to changes in body-fat levels.

Silent Invaders finishes with a look at the gap between regulation and reality and the achievement and strategies for change. It is well known that in order to ban, restrict, or regulate a pesticide, the chemical must be shown to pose an unacceptable risk. Since it is almost impossible to determine the true risk of illness among humans from exposure to a single chemical, scientists often estimate risk by extrapolation from animal studies. Consequently, scientific data often remain limited, fragmented, contradictory, or inconclusive. *Silent Invaders* denounces that focusing on specific pesticides might not be the best way to achieve more sustainable policies and calls for a replacement of the current system with a precautionary principle approach in which pesticides are assumed dangerous until proven safe.

If you are a researcher or work for a government, a clinician or work on public health, you will find this book of great interest. In the words of Barbara Dinham 'the chapters in this book help to establish a basis for moving towards gender-sensitive, equitable and sustainable agricultural systems, and take account of the health, environmental and economic benefits of promoting sustainable strategies for agriculture'.

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