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Journal of Biosocial Science / Volume 38 / Issue 01 / January 2006, pp 133 - 144  
DOI: 10.1017/S0021932005001070, Published online: 14 November 2005

**Link to this article:** [http://journals.cambridge.org/abstract\\_S0021932005001070](http://journals.cambridge.org/abstract_S0021932005001070)

### How to cite this article:

JOHN D. H. PORTER (2006). EPIDEMIOLOGICAL REFLECTIONS OF THE CONTRIBUTION OF ANTHROPOLOGY TO PUBLIC HEALTH POLICY AND PRACTICE. *Journal of Biosocial Science*, 38, pp 133-144 doi:10.1017/S0021932005001070

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# EPIDEMIOLOGICAL REFLECTIONS OF THE CONTRIBUTION OF ANTHROPOLOGY TO PUBLIC HEALTH POLICY AND PRACTICE

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The rise of science propelled man into tunnels of specialized knowledge. With every step forward in scientific knowledge, the less clearly he could see the world as a whole or his own self. (Milan Kundera, 1984, quoted in Lock & Scheper-Hughes, 1990, chapter 3, p. 53.)

**Summary.** Academic disciplines like anthropology and epidemiology provide a niche for researchers to speak the same language, and to interrogate the assumptions that they use to investigate problems. How anthropological and epidemiological methods communicate and relate to each other affects the way public health policy is created but the philosophical underpinnings of each discipline makes this difficult. Anthropology is reflective, subjective and investigates complexity and the individual; epidemiology, in contrast, is objective and studies populations. Within epidemiological methods there is the utilitarian concept of potentially sacrificing the interests of the individual for the benefits of maximizing population welfare, whereas in anthropology the individual is always included. Other strengths of anthropology in the creation of public health policy include: its attention to complexity, questioning the familiar; helping with language and translation; reconfiguring boundaries to create novel frameworks; and being reflective. Public health requires research that is multi-, inter- and trans-disciplinary. To do this, there is a need for each discipline to respect the ‘dignity of difference’ between disciplines in order to help create appropriate and effective public health policy.

## **Background**

The quote from Milan Kundera summarizes an important point in science today and in disciplinary research in particular. As we work in our ‘... tunnels of specialized knowledge’ and ‘... less clearly see the world as a whole or our own selves’ so we become increasingly isolated in our disciplines and less able to see the whole public health picture. As a public health epidemiologist, and one that specializes in the control of infectious diseases, I have come to understand and value the importance of working with colleagues from other disciplines. Working with anthropologists in particular, I have developed a broader perception of the world of public health, and have come to value the tensions inherent in the ways in which the very nature of

'public health' is defined and approached through the different disciplinary lenses that shape its field. Because it is so vast and multidisciplinary, public health offers an opportunity to interrogate the different disciplines that make up its core as well as an opportunity to look at the links, language and communication between disciplines that help to provide us with the way forward in the creation of appropriate and effective public health policy and interventions. As these 'lenses' are brought together in individual research projects, I have had to reach out to broader perspectives to understand and to link the words and language of the different disciplines in order to provide meaning to what I am doing and studying.

### **Disciplinary separation: subjective and objective perspectives**

Epidemiology is 'the study of the distribution and determinants of health related states or events in specified populations,' (Last, 1988). Disciplines like epidemiology and anthropology can be defined as 'departments of learning or knowledge, a community of scholars sharing common assumptions about training, modes of enquiry, the kind of knowledge that is sought and the boundaries of the subject matter proper to the disciplines,' (Sugarman & Sulmasy, 2001). They provide a niche for people to speak the same language, and to interrogate the assumptions that they use to investigate problems (Raphael, 1981). However, their boundaries pose a potential problem in communication with different disciplines (whether it is inter-disciplinary, multi-disciplinary or trans-disciplinary; Rosenfield, 1992) and potentially with study subjects who may 'speak a different language'.

Both epidemiology and anthropology are scientific in that they 'systematically study natural or physical phenomena' (Collins Dictionary) but as Parker and Harper point out in their introduction to this series, it is important to realize that science itself is cultural and therefore embedded in a particular historical and social milieu (Parker & Harper, this volume). Hence, both disciplines are part of this milieu and they are currently being linked together within the domain of public health. Public health is 'fulfilling society's interest in assuring the conditions in which people are healthy' and its aim is 'to generate organized community effort to address the public interest in health by applying scientific and technical knowledge to prevent disease and promote health' (Institute of Medicine, 1988). Both disciplines are needed to assure the health of the public through the creation of appropriate public health policy; however, there are often disagreements on when and how the different disciplines are used to achieve this task. Some of the disagreements relate to the philosophical foundations of the disciplines and the strengths and weaknesses of particular subjective and objective approaches.

Epidemiology introduces a potential separation between researcher and research subject – between me and the person I am talking to – during the process of a public health investigation or research study. For me, there is an important human link that needs to be maintained between 'a person' and 'data' about that person. 'Data' need to be kept 'alive' and connected to that human being otherwise there is a danger that I will not 'respect the dignity of that person' within the analysis that I am planning. Anthropology is important in helping me to maintain that link. By the very nature of how anthropologists work and study, they are connected to their research subjects

and committed, in a sense, to acknowledging the subjectivity of their work. They are part of their study and it forces them to be reflective. In contrast, epidemiology is 'objective'; the researcher stands back from the individual research subject and is asked to separate him/herself from the investigation and to determine what benefits the majority of the population. A danger is that the constraints of methodological structures themselves prevent researchers from being able to see other perspectives and to accept that they are living and working within a certain disciplinary and philosophical perspective.

This point is highlighted in the paper from Fairhead *et al.* (2006) who illustrate that local reasoning for participation in a Gambian vaccine trial diverged markedly from the reasons assumed by the medical researchers and trial planners. Could this difference be to do with epidemiological methods themselves preventing the researchers from understanding local perspectives? Another example comes from Parker in her paper on the transmission of HIV among male sex workers. She demonstrates how the creation of a structure, in this case the identification of a 'risk group' an epidemiological method used to target public health attention and resources, has the potential to create 'otherness' and stigma around that group.

Anthropologists question the frameworks and perspectives through which we see things and therefore may provide a different view of a situation when compared with epidemiologists. In this volume for example, several of the papers provide a different perspective on a current issue in health policy. MacGregor demonstrates the link between the social security system in South Africa and how the interventions themselves are associated with illness behaviour, and Outram and Ellison show how the public's health has been undermined by the use of race/ethnicity as an analytical variable. In relation to the HIV pandemic, Parker questions the epidemiological perspective on core groups in HIV prevention and control; Allen interrogates some Ugandan myths around HIV; and Heald questions the specific model of HIV prevention that has been exported by the West and which, up to now, has dominated programmes in Africa.

So, empirical, positivist science uses separation (objectivity) as a means to view events and works within a 'rational framework' whereas anthropologists, and particularly medical anthropologists, are interested in the whole human being and therefore also in other aspects of what it means to be human, like 'intuition' for example. Both are valid perspectives, but how do these two different approaches *relate* to each other and how do they *communicate* to help create appropriate public health policy? The stronger and 'healthier' the link, the better the public health policy created.

### **Public health and philosophy in the 21st century**

Philosophy underlies all our public health disciplines. It is a discipline in itself but it could be argued that philosophy, by the very nature of what it is studying, contains all the other disciplines and has an important contribution to make to the foundations of all disciplines. David Raphael advertises part of philosophy's dowry as being 'the critical examination of assumptions and arguments, which is worthwhile as a procedure for avoiding error, false reasoning or the building of a view upon untenable foundations,' and he suggests that, 'any discipline might adopt this aspect of philosophy for its own more reflective or theoretical aspects,' (Raphael, 1981). The

foundations on which disciplines are based will affect the way in which a researcher perceives and relates to their study subjects.

Within philosophy, the domain of ethics has become an increasingly important guide to help me through the challenges of cross-disciplinary work. Public health ethics, although in many ways still in its infancy, is important in bringing words like 'tolerance', 'respect' and 'dignity' into the forum of public health practice and in helping me to recognize and respect the differences in perspectives that occur within a team of people responsible for the creation of public health policy.

At the beginning of the 21st century, although there is a strong movement and recognition of the importance of individual autonomy (Beauchamp & Childress, 1989) and human rights (Mann, 1997) this is situated within a Western world perspective and public health domain of consequentialism/utilitarianism (looking for the maximum happiness for the majority), of democracy and of the overriding wishes of the majority. As the philosopher Bernard Williams states, 'utilitarianism ignores the separateness of persons, and is prepared illegitimately *to sacrifice the interests of any given person* with the aim, not just of protecting, but even of increasing the aggregate welfare,' (Williams, 1995).

This interesting tension between being separated from the whole and being a part of the whole, is one that I see manifested in public health practice in the tensions between the individual and the population and between qualitative and quantitative perspectives, in particular between anthropological and epidemiological methods. For me, anthropology will try to prevent me from separating an individual from the population. The nature of the discipline encourages me to engage, to try to ensure that the picture is whole and that everyone is included and so it helps me to maintain my link with, in Kundera's words, 'the world as a whole and my own self'.

In research studies, epidemiologists may need to separate individuals from populations. For example, in large epidemiological databases, so-called 'outliers' are defined as the points in a dataset that do not conform to, i.e. they lie outside, the distribution of interest. Who are these individuals and is it appropriate to remove them from the dataset in order to standardize the distribution? As the statistician Altman says: 'Outliers are particularly important because they can have a considerable influence on the results of a statistical analysis. Because by definition they are extreme values, their inclusion or exclusion can have a marked effect on the results of an analysis,' (Altman, 1991). It is not that these individuals are ignored in epidemiological analysis; it is rather that, in order to delve as far as possible within the domain of the population, to move deeper into the analysis, it is necessary to use methods that restrict the use of the whole database. It is important to realize, however, that behind and therefore within the methodology of all disciplines are philosophical underpinnings that need to be understood and contemplated upon.

### **My story and link with anthropology**

As a medical practitioner who later trained in epidemiology and public health, my link with anthropology, and social science methodology in general, has come through my work on the investigation of outbreaks of infectious diseases. When called to an outbreak of infectious disease for example, the first part of the investigation always

involved collecting information through talking to people and trying to understand the context in which the outbreak had occurred (Porter *et al.*, 1988). By spending time with those affected, by talking, discussing and questioning them, impressions were made about the cause of the outbreak. A hypothesis was then created and epidemiological methods used to interrogate the hypothesis to determine whether it was true or false.

In the early 1990s I began to focus on TB control and its link with HIV. Through this work an interdisciplinary group of researchers was formed at the London School of Hygiene and Tropical Medicine, under the title of the 'Infectious Disease Policy Group'. The group addressed the control of infectious diseases, and TB in particular, and brought different themes and disciplines to the discussion: human rights, gender, political philosophy, health policy, epidemiology, anthropology and public health ethics. In 1999, we published a book entitled *Tuberculosis – An Interdisciplinary Perspective* as a record of these different ways of viewing TB control (Porter & Grange, 1999). In addition, a paper in *Health Policy and Planning* in 1999 argued for the concept of 'infectious disease policy' as a way of helping to bridge the gaps between the disciplines that tackle the control of infectious diseases (Porter *et al.*, 1999). We argued that each of the various academic disciplines involved in public health research had a unique and important contribution to make to public health policy. In addition we felt that it was becoming increasingly unproductive, if not infeasible, for us to continue to work in isolation from each other. The aim of 'infectious disease policy' was to draw attention to the social, cultural, economic and political dimensions of health within infectious disease control; to form effective multidisciplinary teams; and to develop interventions that might work across social sectors.

Between 1997 and 2000, the ideas formed through the infectious disease policy lens were used in the creation of a study entitled 'The Intervention with Microfinance for AIDS and Gender Equity' (IMAGE). The study, centred in the Limpopo province of South Africa, entails structural interventions for HIV prevention, addressing poverty and violence against women, and uses both qualitative and quantitative methods to interrogate the issues. The qualitative methods provide the stories from the communities and inform the quantitative data (Hargreaves *et al.*, 2002, 2004; Kim *et al.*, 2002). Anthropology helps to ensure that the work is connected to the roots of the community that we are serving in our work, the root from which the research story can grow and the results be discovered. A key challenge of this work is to find ways of linking the qualitative and quantitative methods within the analysis (see Das & Das in this volume) and then how to translate the information into effective structural interventions around individuals with HIV infection.

### **Public health policy**

Policy can be described as 'bundles of decisions and how they are put into practice' (Hogwood & Gunn, 1984). 'It specifies deliberate intentions, it sets goals, it limits and defines choices . . . and it implies accountability,' (Leeder, 1997). Through policy, governments and communities direct their approaches to providing health to the community, for providing 'the conditions in which people can be healthy'. Health

policy is yet another language and another discipline, but in order for it to function effectively, for it to take account of the 'whole' context, it requires contact with, and to be fed by, other disciplines. Broadly, epidemiology provides policy with information on quantities related to populations, and anthropology on qualities related to individuals and populations; both are an essential source of information for health policy creation. However, policymakers tend to give more attention to quantitative 'data' when compared with 'anecdotes' of qualitative information, which are often seen as 'largely irrelevant when it comes to policymaking (Allen – in this volume). But I believe that qualitative information, whether it is seen as 'anecdote' or not, is essential to the creation of health policy. Health policy creation needs to be *more than* rational in the sense that it requires all perspectives to be included. If this is accepted there is a need to shift from a rational policymaking model towards a more pragmatic, intuitive approach to policymaking that can bring about a greater recognition of the importance of individual actors or stakeholders and their 'political will' in policy formulation and decision-making (Walt, 1994; Varvasovszky & Brugha, 2000; Porter & Kielmann, 2003). Anthropology has an essential role to play in this process.

Also, anthropology can help to include and develop the link between the individual and the population in policy creation. In public health policy decision-making, the dichotomy created between the individual and the population often becomes polarized into support of the population over the individual rather than support of the individual within the population, a trend supported through a utilitarian perspective (Williams, 1972, 1995). Examples of this 'sacrificing of the individual's interests' can be seen in the work of Singh *et al.* who show how vulnerable TB patients in Delhi are excluded from TB control activities because of the complexity of their lives; and by Harper who records how individual TB patients are removed from the management system in Nepal. He says '... all the junior staff could do was to deny the medically complex patients further management in the system' (Harper – in this volume). It forces me to reflect on what it means to live in a healthy society/community and the idea that the health of a society is reflected in the manner in which it treats its most vulnerable members.

### **The strengths of anthropology in public health policy**

#### *Pays attention to complexity*

Anthropology expresses and investigates the complexity of public health issues. Rather than reducing the complexity, it often emphasizes it, sometimes to the annoyance of public health policymakers who may be looking for rapid, short-term solutions (Porter *et al.*, 1999). As Coast (1999) summarizes, 'the strength of qualitative research is its ability to aid understanding, provide explanations and explore issues, particularly those of a complex nature. Its weakness, in comparison to quantitative research, (although this has never been its aim!) is that it does not provide empirical data which are statistically generalisable to whole populations,' (Coast, 1999).

*Questions the familiar*

Anthropology also questions the apparently familiar ‘so that health issues may be better understood and health outcomes improved’ (Lambert & McKeivitt, 2002). The danger within public health policy, however, is that anthropological findings may be dismissed as ‘obvious’ when that is exactly the point that needs to be understood; for example, that overworked TB health workers will find ways of removing difficult patients from their daily work (e.g. Singh *et al.*, 2002; Harper, in this volume). Pahil says ‘The findings of sociologists however initially counter-intuitive they may be, are sometimes dismissed as ‘obvious’, once the connections have been explored and explained,’ (Pahil, 2001).

*Pays attention to and respects the individual*

Anthropology directs its attention to the individual and how that person links to others and to communities and states. As Sofaer says, qualitative methods can be very useful in ‘giving voice to those whose views are rarely heard’ (Sofaer, 1999). It therefore has a direct role in translating information from the community, through the district to national and international levels of policy discussion. This information often comes from the voices of those who are normally unheard in the current international political climate.

*Helps with language and translation*

Anthropology is also a key discipline in helping to untangle words, language and translation of information. International public health policy needs to be better connected to the individuals and groups in communities that it is serving (Porter *et al.*, 1999). This process of helping to ensure that the individual voices and perspectives are translated from the local to district, national and international levels of public policymaking is an important role for anthropology.

*Reconfigures boundaries to create innovative conceptual frameworks*

Ethnographic methods are ‘able to *reconfigure the boundaries* of the problem’ producing new conceptual frameworks that lead to substantive knowledge and methodological insights (Lambert & McKeivitt, 2002). This leads to innovation and changes in perspective. In our work on tuberculosis and leprosy control for example, the creation of conceptual frameworks has been at the core of our studies and has provided new insights into disease control activities (Ogden & Porter, 1999; Ogden, 2000).

*Looks to ‘the whole’*

I believe that a key approach of anthropology is inclusion of ‘the whole’. Ethnography or participant observation is the range of research methods that anthropologists are involved in. The discipline concentrates on what is actually happening and looks to ‘the root’ of where things come from. In his paper in this



volume on tuberculosis control in Nepal, Harper writes: 'This, the process of doing ethnography, is simply based on the premise that one of the best ways to understand a situation is to spend extended periods of time interacting with those involved in that situation.'

### *Reflective*

'Ethnographic research helps to critically *reflect* upon the assumptions embedded in public health policy and practice,' (Parker & Harper, in this volume). Anthropological research will bring out and emphasize the structures (historical and social milieu) that contain us – like globalization, like utilitarianism – in order to ensure that these silent domains are considered. Anthropologists examine assumptions and arguments and reflect. Epidemiologists, in contrast, use systems to remove bias in their studies. Reflection may not be so much about individual reflection but more about reflection on the discipline and methods of the discipline itself.

### **Narrative: a link between the individual and the population, between the bottom and the top?**

As I attempt to try and bring the individual 'outlier' back into the public health domain of my work and into discussions on public health, I have been looking for ways of supporting the outlier to speak. What does this person have to say? Story-telling and narrative appears to be a way forward. Who are these outliers? What is their story? As an epidemiologist, I have omitted them for good, rational, research methodology reasons, but I still want to hear their story. Maybe there is something in their story which changes everything?

In focusing on the situation and by following what is happening, anthropology is intimately connected with stories and 'narrative'. Anthropology has contributed to my way of working through the development of conceptual frameworks and linked methodologies. If I want to ensure that the individual is maintained in the whole context of what is going on, then narrative is a way of ensuring that the story is told. Cruickshank describes the importance of stories. She says: 'You have to learn to think with stories. Not think about stories, which would be the usual phrase, but think with them. To think about a story is to reduce its content and then analyse that content. Thinking with stories takes the story as already complete; there is no going beyond it (i.e. it is complete). To think with a story is to experience how it affects one's own life and to find in that effect a certain truth of one's own life,' (Cruickshank, 1994). Rather than reducing the context, they actually link with something much greater than ourselves.

Narratives are understood as stories that 'include a temporal ordering of events and an effort to make something out of those events' (Sandelowski, 1991). They help to contextualize people's lives and to demonstrate how individuals understand their lives and their meaning. Narrative structuring is a method in which narratives are kept un-fragmented, respecting the way the participants in their conversation with the researcher chose to tell about their life and how they understood it (Riessman, 1993). This links the researcher intimately into the research they are conducting. In this

volume, Das and Das link quantitative methods with narrative to demonstrate the complexity of relationship around the phrase 'self-medication' and the intricate link between households and practitioners in low-income neighbourhoods of Delhi.

### **Communication between disciplines: the solution to separation?**

The quality of our communication and relationships and ability to deal with differences between public health disciplines will help to define our commitment to shifting and broadening our public health methodologies. I believe that the change I am talking about is in individual perspective, both in the perspective on individuals and how they are used in data sets/studies and in my own perspective as an individual researcher. I have found that different disciplines force me to engage in perspectives that I am unfamiliar with and a temptation is not to engage but simply to fight my corner from my particular discipline. I have found that I need to find ways of being more generous in my approach, but this has not been easy because it often appears that what is being challenged is my very belief system and way of life!

Work across disciplines is challenging and these challenges relate to the degree of interaction between different disciplinary groups. Rosenfield provides a useful definition of interaction and relationship: *multi-disciplinarity* is when researchers work in parallel or sequentially from a disciplinary-specific base to address a common problem; *inter-disciplinarity* is when researchers work jointly but still from a disciplinary-specific basis to address common problems; and *trans-disciplinarity* is when researchers work jointly using shared conceptual frameworks drawing together disciplinary-specific theories, concepts and approaches to address common problems (Rosenfield, 1992). The trans-disciplinary approach requires individuals to shift their own perspectives in order to create a conceptual framework. In our book *Tuberculosis – An Interdisciplinary Perspective*, the initial title used the word multi-disciplinary but we changed it to interdisciplinary to help the reader understand that the work was trying to engage a link between the different perspectives and disciplines. In many ways the chapters of the book demonstrate mixed multi-, inter- and trans-disciplinary approaches to TB control.

Often the tensions between public health disciplines record the level of 'power' manifested in them by the public health community. Certain disciplines currently hold more weight within public health discussions and in particular when discussing 'evidence-based practice'. Epidemiology continues to be seen as a core discipline within public health and epidemiologists are often less aware therefore of the problems that anthropologists have in being heard in these debates. For example, Allen says in his article on AIDS and Evidence: 'Many anthropologists have been exasperated by demands for 'data' and targeted investigation with pre-ordained conclusions and have retreated from direct engagement with biomedical and policy arenas.' As Parker and Harper indicate in this volume: 'there is a wish for the social sciences and anthropology in particular to be taken more seriously within the domain of public health' and that currently '... particular ideologies – or positivism – are given more weight than the more interpretive social sciences' (Parker & Harper, Introduction to this volume). However, different disciplines are certainly more accepted and listened to within the public health community than twenty years ago. For example, in the world of

tuberculosis control economics and economic theory have been important in influencing government health policy. The work of Murray and colleagues on the cost-effectiveness of TB control in the early 1990s was a powerful policy paper that persuaded the international community to increase its financial resources to fight TB across the world (Murray *et al.*, 1990). I believe that anthropology is increasingly taking its place and being seen as an essential discipline within public health policy and practice at the start of the 21st century. Perhaps, at last, the public health community is beginning to understand the importance of anthropology and social science methods in general and their ability to help us to see and respect different perspectives as well as 'to remember' what we know (Porter & Ogden, 2002).

Anthropology has a particularly important role to play in ethics around normative statements. Lambert and McKeivitt indicate that qualitative health research often fails to distinguish between normative statements (what people say should be the case), narrative reconstructions (biographically specific reinterpretation of what has happened in the past) and actual practices (what really happens). But they go on to say that 'anthropological practice ensures awareness of these distinctions even when interpreting interview data by situating an interviewee's statements and the circumstances of the interview as far as possible in the broader context of the person's life,' (Lambert & McKeivitt, 2002). Anthropology therefore separates out these differences but places them within the broad context of a person's life, thus making it easier to see and understand what 'ought to be done' in a particular situation.

### Conclusion

There is a broader definition of epidemiology than the one at the start of this article and I believe that this definition encourages the link between epidemiology and anthropology, between the quantitative and the qualitative domains. It reads:

Epidemiology is a fundamental science that can enrich our understanding of the natural world in which we live; it has been described as a liberal art (Fraser, 1987) or one of the humanities, because it can be an instrument of social justice; it is the basis for health planning and policy making, an essential element in the quest for health for All, especially in developing countries. Like other sciences, epidemiology is not 'value-free', it is coloured by and reflects, cultures, customs and traditions where it is practiced. (Last, 1991).

The last sentence in this definition indicates to me how epidemiology and anthropology are linked in public health policy. Within public health, each discipline needs the other to ensure the health of both the community and the individual and to remember and to include in our research questions and analysis, the values, cultures and customs of those people we serve as researchers. We need to respect the 'dignity of difference' (Sacks, 2002) in approaches and methods and move beyond our constraints. I believe that in order to do this we need to try to 'see the world as a whole' and to better understand our 'own self' and I know that for me as an epidemiologist, anthropology has an important role to play in this process.

### References

- Altman, D. G. (1991) *Practical Statistics for Medical Research*. Chapman and Hall/CRC, London.

- Beauchamp, T. L. & Childress, J. F.** (1989) *Principles of Biomedical Ethics* (3rd edn). Oxford University Press, Oxford.
- Coast, J.** (1999) The appropriate uses of qualitative methods in health economics. *Health Economics* **8**, 345–353.
- Cruikshank, J.** (1994) *Learning from our Elder's Stories*. University of Calgary Press, Calgary.
- Fraser, D. W.** (1987) Epidemiology as a liberal art. *New England Journal of Medicine* **316**, 309–314.
- Hargreaves, J., Pronyk, P. M., Kim, J. C., Makhubele, M. B., Morison, L. A., Watts, C. H. & Porter, J. D. H.** (2004) Study protocol: The intervention with Microfinance and Gender Equity Study (IMAGE): An integrated community randomized trial of a complex social intervention to prevent HIV and gender based violence in South Africa. *Lancet Protocols*, September 2004, Protocol 03PRT/24.
- Hargreaves, J. R., Atsbeha, T., Gear, J. J., Kim, J. C., Makhubele, M. S., Mashaba, K. et al.** (2002) *Intervention with Microfinance for AIDS and Gender Equity – Study. Monograph 1*. Rural AIDS and Development Action Research Program, Acornhoek, South Africa, May 2002.
- Hogwood, B. & Gunn, L.** (1984) *Policy Analysis for the Real World*. Oxford University Press, Oxford.
- Institute of Medicine** (1988) *Future of Public Health*. National Academy Press, Washington DC, pp. 1–7.
- Kim, C. J., Gear, J. J., Hargreaves, J., Makhubele, M. S., Mashaba, K., Morison, L. et al.** (2002) *Intervention with Microfinance for AIDS and Gender Equity – Study. Monograph 2*. Rural AIDS and Development Action Research Program, Acornhoek, South Africa, November 2002.
- Lambert, H. & McKeivitt, C.** (2002) Anthropology in health research: from qualitative methods to multidisciplinary. *British Medical Journal* **325**, 210–213.
- Last, J. M.** (1988) *Dictionary of Epidemiology*. Oxford University Press, Oxford, p. 42.
- Last, J. M.** (1991) Epidemiology and ethics. In Bankowski, Z., Bryant, J. H. & Last, J. M. (eds) *Ethics and Epidemiology: International Guidelines*. Council for International Organisation of Medical Sciences CIOMS, Geneva, p. 26.
- Leeder, S.** (1997) Health promoting environments: the role of public policy. *Australia New Zealand Public Health* **21**(4), 431–434.
- Lock, M. & Scheper-Hughes, N.** (1990) A critical-interpretive approach in medical anthropology: rituals and routines of discipline and dissent. In Johnson, T. M. & Sargent, C. F. (eds) *Medical Anthropology. Contemporary Theory and Method*. Praeger Press, New York, pp. 47–71.
- Mann, J. M.** (1997) Medicine and public health, ethics and human rights. *Hastings Center Report* **27**(3), 6–13.
- Murray, C. J. L., Styblo, K. & Rouillon, A.** (1990) Tuberculosis in developing countries: burden, intervention and cost. *Bulletin International Union Tuberculosis and Lung Disease* **6**, 2–20.
- Ogden, J. A.** (2000) Improving tuberculosis control – social science inputs. *Transaction of the Royal Society of Tropical Medicine and Hygiene* **94**, 135–140.
- Ogden, J. A. & Porter, J. D. H.** (1999) Leprosy: applying qualitative techniques to research and intervention. *Leprosy Review* **70**, 129–135.
- Pahil, R.** (2001) Society, community and well-being. In Evans, M. & Finlay, I. G. (eds) *Medical Humanities*. British Medical Journal Books, London.
- Porter, J. D. H. & Grange, J. M.** (eds) (1999) *Tuberculosis – An Interdisciplinary Perspective*. Imperial College Press, London.
- Porter, J. D. H. & Kielmann, K.** (2003) TB control in India: the need for research in policy and decision making. *Health Administrator* **XV**, 143–148.

- Porter, J. D. H., Ogden, J. & Pronyk, P.** (1999) Infectious disease policy: towards the production of health. *Health Policy and Planning* **14**(4), 322–328.
- Porter, J. D. H. & Ogden, J. A.** (2002) Commentary on 'the resurgence of disease: social and historical aspects on the 'new' tuberculosis. *Social Science and Medicine* **55**, 397–398.
- Porter, J. D. H., Ragazzoni, H., Buchanon, J., Waskin, H., Juranek, D. & Parkin, W.** (1988) Giardia transmission in a swimming pool. *American Journal of Public Health* **78**, 659–662.
- Raphael, D. D.** (1981) *Moral Philosophy*. Oxford University Press, Oxford, pp. 252–253.
- Riessman, C.** (1991). *Narrative Analysis: Qualitative Research Methods*. SAGE Publication, Newbury Park, CA.
- Rosenfield, P. L.** (1992) The potential of transdisciplinary research for sustaining and extending linkages between the health and social sciences. *Social Science and Medicine* **11**, 1343–1357.
- Sacks, J.** (2002) *The Dignity of Difference: How to Avoid the Clash of Civilizations*. Continuum Press, London and New York.
- Sandelowski, M.** (1991) Telling stories: Narrative approaches in qualitative research. *Image. Journal of Nursing Scholarship* **23**(3), 161–166.
- Singh, V., Jaiswal, A., Porter, J. D. H., Ogden, J. A., Sarin, R., Sharma, P. P., Arora, V. K. & Jain, R. C.** (2002) TB control, poverty and vulnerability in Delhi, India. *Tropical Medicine and International Health* **7**(8), 693–700.
- Sofaer, S.** (1999) Qualitative methods: what are they and why use them? *Health Services Research* **34**(5Pt2), 1101–1118.
- Sugarman, J. & Sulmasy, D. P.** (2001) *Methods in Medical Ethics*. Georgetown University Press, Washington, DC.
- Varvasovszky, Z. & Brugha, R.** (2000) A stakeholder analysis. *Health Policy and Planning* **15**, 338–345.
- Walt, G.** (1994) *Health Policy: An Introduction to Process and Power*. Zed Books, London.
- William, B.** (1995) Ethics. In Grayling, A. C. (ed.) *Philosophy – A Guide Through the Subject*. Oxford University Press, Oxford.
- Williams, B.** (1972) *Morality*. Canto Series. Cambridge University Press, Cambridge, p. 33.