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## Book Review

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*Forensic Epidemiology: A Comprehensive Guide for Legal and Epidemiology Professionals.* S. Love. Southern Illinois University Press 1999. £35.95. ISBN 0 8093 2222 6.

*‘It is true that open debate is an essential part of both legal and scientific analyses. Yet there are important differences between the quest for truth in the courtroom and the quest for truth in the laboratory. Scientific conclusions are subject to perpetual revision. Law, on the other hand, must resolve disputes finally and quickly’* Justice Harry A. Blackman (p. 107).

Mutual understanding between science and law has often been lacking. These tensions have been attributed to differences in the cultural values of these two disciplines and it has been suggested that whereas science’s central value is truth, law’s central value, at least in its judicial manifestation, is justice. Science and law therefore involve different processes and different goals.

This book is an attempt to bridge the two cultures of law and science (in the form of the discipline of epidemiology) to foster a greater understanding between the two. It explores these and other issues that attend the use of epidemiological evidence in legal proceedings and is intended as a guide to attorneys with little or no background in epidemiological theory, and for the epidemiologist who is contemplating a new role as an expert witness.

The introduction provides an excellent overview of the book. It is divided into five chapters and includes extensive notes and an appendix. Chapter one provides a discussion for the epidemiologist as an expert witness; chapter 2 examines various legal theories of causation; and chapter 3 addresses epidemiological principles and methods used in the process of causal inference. The fourth chapter focuses on legal mechanisms used to assess causation, and the final chapter uses actual legal cases to compare the legal and epidemiological concepts of causation. The legal system described and used is from the United States, but there are many lessons here for people working in other countries and using different systems of law.

*Forensic epidemiology* is a relatively new discipline which has been spawned through the increasing needs and requirements of scientists attending law courts and trying to

understand the legal perspective and lawyers trying to understand the perspectives of scientists! The growing complexity of litigation in such diverse areas as toxic torts, product liability, and criminal law has increased the demands for expert witnesses trained in the area of epidemiology, which is ‘the study of disease occurrence in human populations’. These areas are complex and difficult to grasp. Toxic torts involve injuries that may have arisen from widespread use of pharmaceutical products or pesticides; for example claims for injuries alleged to have arisen from the breast implants or asbestos. The author demonstrates how epidemiological evidence was significant in law suits alleging injury due to diethylstilbestrol (DES), intrauterine contraceptive devices (IUDs), tampons, swine flu vaccine and Agent Orange. However, as she indicates, reliance on experts is not without problems. First, the values of expert witness testimony has been subject to extensive criticism often as a result of the testimony’s length and complexity and the ‘newness’ of the area or studies. Second, epidemiology may be at a loss for an answer to questions because of an insufficient passage of time to observe the development of a disease. The conclusions of epidemiology may, as a result, be subject to perpetual revision as new information becomes known. The legal process however, requires that a determination in a case be made at a given point in time. Third, because epidemiology is the study of disease in populations, the applications of epidemiological conclusions to injuries or situations involving specific individuals may be a problem.

As a public health epidemiologist, I found the book fascinating and consider it an essential book for people who work in the public health arena. It is well set out and easy to read; detailed notes are provided at the end of the text and the appendix contains useful references and a basic overview of the legal system in the United States. The author has the ability to take the reader through the difficult terrain of both epidemiology and the law and not only make it interesting to read but also easy to follow. Ultimately therefore, she provides the reader with important insights into the links between the two different disciplines.

The final chapter attempts to resolve some of the dilemmas and differences between the law and epidemiology (‘Reconciling Epidemiology and Law’). Two solutions are proposed, first, that causal inference should be in the

domain of public policy rather than science and that the two spheres should be separated; and second, the suggestion of the author, is that rather than removing causal inference from the realms of science that a more pragmatic approach is required. This approach not only recognizes the differences in purpose between law and epidemiology but also provides for a frank discussion of the extent to which we are willing to erroneously compensate those who have not been harmed and to erroneously withhold compensation from those who have suffered injury. The discussion can be analogized to the use of screening tests for specific diseases and the concepts of sensitivity and specificity. The author supports here arguments using three case studies: benedictin and birth defects; silicone breast implants, cancer and autoimmune disease; and tobacco, nicotine and addiction.

An excellent, easy to read book with important information for both the lawyer and the public health practitioner. Highly recommended.

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**Staying Alive: a Thoroughly Modern Microbe.** Educational Broadcasting Services Trust 1998. £45 (£25 to universities).

The video describes an outbreak of *Escherichia coli* infection in a village in Scotland and is a balanced mixture of a good 'who dunnit' detective approach to this singularly difficult outbreak. There have of course been other outbreaks in the UK and elsewhere. This particular video benefits from a strong content relating to a life-threatening disease which is presented in an interesting and involving way. Retrospectively the video takes you through the logical progression of the outbreak as it occurs. It stresses the importance of public health doctors and their respon-

sibilities and indicates how important interpersonal skills with other professionals matter. It does not overdramatise the importance and human elements of the infection and deals very carefully with the symptomatology of this particular disease. There are strong and sensible epidemiological and clinical contributions and the microbiology with related safety factors are interspersed throughout the video. The documentary indicates the zoonotic importance of the disease and how farmyards and pastures play an important role in the transmission of *E. coli*

The importance of handwashing and food hygiene, particularly in butchers shops, is touched upon, and also the valuable contribution which the media can make in such situations. There are good shots of microscopy in the laboratory and the procedures used at the bench and how laboratory workers process specimens in order to identify and 'fingerprint' the organisms isolated.

Overall therefore this video acts both as a timely reminder of the crucial importance and effect of mounting public concern over *E. coli* in the community and how the population has to be aware of the risk both as consumers and providers of food, in particular meat products and especially those who work in the meat industry in the production and retail areas. The video would enhance education and training in many areas and should satisfy a number of audiences including schools, food workers, farmers and butchers and could with benefit be shown to medical students and indeed postgraduate workers as well. It demonstrates the very great effect such an outbreak has on a community and the way in which the staff charged with responsibility of unravelling and containing the problem have to work very closely together and use interpersonal and media skills as well as a number of other skills that one has to develop in the course of a professional career in this area.

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