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## Book Reviews

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*Atlas of Infectious Diseases. Vol. VI, Pleuropulmonary and Bronchial Infections.* Editor-in-Chief: Gerald L. Mandell. Current Medicine: 1996. £95.00. ISBN 0 443 07740 1.

Volume VI of the Atlas of Infectious Diseases, edited by Gerald L. Mandell, is devoted to pleuropulmonary and bronchial infections. It keeps up the extremely high standard set by previous volumes in this series, and is a delight to read or browse through.

There are 13 chapters, starting with Gram-positive and Gram-negative infections of the lungs, moving on through atypical pneumonias to tuberculosis and other mycobacterial infections, fungal infections, and anaerobic, viral protozoal and helminthic infections. The last five chapters are devoted to pleural effusion and empyema, pneumonias in cancer patients, respiratory infections in transplant recipients, pulmonary manifestations of extrapulmonary infection and bronchitis and bronchiolitis. Although many chapters provide valuable suggestions concerning differential diagnosis and management, this is not intended to be a comprehensive medical textbook, and the number of pages devoted to each topic does not represent their importance in global terms; inevitably, some subjects lend themselves better to pictorial representation than others.

A particularly attractive feature of this series is its comprehensive coverage of all aspects of the disease, from the microbiological classification and identification of causative organisms, through epidemiology, clinical and radiological features, pathology, diagnosis and therapy. This reflects the nature of the specialty of infectious diseases in the USA, where laboratory and clinical skills are better integrated than in Europe, and the approach works well with respiratory infections. There is a wealth of beautifully illustrated material presented here, including maps, graphs, pictures of organisms in culture and viewed microscopically, life cycles, clinical and above all radiological examples.

Inevitably in a multi-author text such as this, some chapters are better than others, and I was slightly disappointed in the chapter on atypical pneumonias, which covered the causative organisms in detail, but was weak on laboratory and differential diagnosis, and failed to suggest a coherent approach to clinical management. Unlike the other chapters, it gave the impression of being written by laboratory microbiologists rather than by practising clinicians. But this is a minor criticism of a most useful book.

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*Communicable Disease Epidemiology & Control.* R. Webber. Pp. 368. Wallingford, Oxon, UK: CAB International, 1996. £19.95 (US \$37.50). ISBN 0 085199 138 6.

Epidemiology and public health are often seen as the poor relations in the family of medical sciences. This view persists despite many exciting and important developments in our understanding of communicable disease epidemiology in recent years, developments brought about by the application of advances in immunology, molecular biology and mathematical theory. New texts that communicate these developments beyond the research community to public health workers and medical practitioners would, therefore, be extremely welcome. In this respect, *Communicable Disease Epidemiology and Control* by Roger Webber is an opportunity missed. The author draws on his extensive field experience to produce a wide ranging review of the subject which has a very 'classical' flavour with a not unwelcome bias towards diseases common in developing countries. A great deal of basic practical information is given but this is not state-of-the-art epidemiology. Some surprising omissions concern the relationships between helminth infections and age, the role of immunity in schistosomiasis, human genetics and susceptibility to malaria, interventions targeted at school-aged children, and multi-species control programmes.

The first section includes chapters on basic epidemiological concepts, theory and principles of control. Here, issues of dynamics and control are dealt with by the use of diagrams and text, with minimal use of mathematical expressions. This is a laudable approach; it is clearly important that ideas emerging from mathematical epidemiology are made accessible to a non-mathematical audience. But the explanations given require the reader to take a lot for granted, and importance of some fundamental concepts, such as the basic reproduction number, is left unstated. Later chapters fail to convey the correct use of such concepts; for example, the unqualified claim that 80% vaccination coverage every 6 months will prevent measles epidemics in urban areas will be disputed by many who have studied the dynamics of this disease.

The remainder of the book consists of chapters on specific diseases organized by route of transmission, such as faecal–oral, water contact or 'diseases transmitted via body fluids'. This is a helpful arrangement and the disease by disease format with numerous subheadings makes it easy to locate relevant information. On the other hand, the book covers such a large number of topics in 352 pages that it is

inevitably superficial. It can offer no more than a very introductory guide to communicable disease epidemiology, though the book may be helpful to those who would not otherwise study the subject and are reluctant or unable to afford more authoritative texts.

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*Microbial Biofilms*. H. M. Lappin-Scott & J. W. Costerton. Pp. 324. Cambridge: Cambridge University Press, 1995. £65.00 (US \$99.95). ISBN 0 521 45412 3.

In the laboratory, most medical microbiologists study an artificial situation of single species cultures often grown in liquid media. Outside the laboratory most bacteria exist attached to surfaces growing within biofilms. This book, which aims to provide an analysis of the development of biofilms and their interaction with living and non-living surfaces, is the fifth volume in a series devoted to plant and microbial biotechnology. Edited by one of the doyens of biofilm research, Bill Costerton, and his collaborator Hilary Lappin-Scott, it features contributions from an international set of authors. In recent years, new techniques which can be applied to living biofilms have revolutionized our understanding of the subject, so the appearance of this volume is welcome.

Part I covers the structure, physiology and ecology of biofilms. It includes fundamental topics, applicable to biofilms formed in many environments, such as the physico-chemical forces which affect the ability of bacteria to grow on surfaces, and genetic responses of bacteria residing in biofilms. Methods of studying biofilm development and

biochemical processes occurring within them are described. Sophisticated, non-destructive new methods, such as confocal scanning laser microscopy with molecular probes, and use of micro-electrodes, used to study living biofilms, have already revealed a hitherto unknown level of heterogeneity and variability in physico-chemical conditions within biofilms. These new techniques will expand our understanding of biofilm function in diverse environments, both natural and manmade. More traditional methods have not yet been superceded, and many scanning and transmission electron micrographs appear in later chapters.

Part II covers biofilms on inert surfaces. Biofilms important in industrial situations are covered here. The chapter likely to be of most interest to readers of this journal is that which describes how biofilms may act as havens for waterborne pathogens, exemplified by the presence of *Legionella pneumophila* in manmade water systems.

There is more to interest the medical microbiologist in the final part on biofilms on the surfaces of living cells, although agricultural subjects (the rhizosphere and the ruminant digestive tract) also appear. The immune response to biofilm bacteria is described in a chapter focusing on *Pseudomonas aeruginosa* infection in cystic fibrosis patients. Catheter-associated infections, which may be the biofilms already most familiar in medical microbiology, are dealt with in the chapter on urinary tract infections. Other chapters cover biofilms in the biliary tract and dental plaque.

This is a well-produced book giving a wide-ranging, if not completely, comprehensive account of the phenomenon of biofilms. Without knowledge of biofilms, one cannot have a proper understanding of the real world of microorganisms, so I recommend this book to those not yet familiar with the subject. Its wide coverage means it should also be of interest to biofilm researchers in various specialities.

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