of culture collections, J. R. Porter the historical and international aspects leading to the formation of the World Federation of Culture Collections with the sponsorship of international organisations and UN agencies, and R. R. Colwell deals with the use of electronic data-processing in biological collections, and of computers in microbiology in general. The remaining essays are heterogeneous, and illustrate the importance of the ATCC as a major culture collection and the wide range of organisms that it maintains: bacteria, viruses, fungi, algae, protozoa (discussed speculatively by S. H. Hutner), and tissue cell lines (on which L. Hayflick writes imaginatively of the future).

H. J. Carlson and A. L. Demain stress the value of the culture collections for the conservation of the genetic resources of micro-organisms, the latter particularly from industrial aspects such as mutant preservation and genetic engineering. E. P. Odum discusses genetic diversity in ecosystems. R. G. E. Murray writes on recent advances in comparative cytology, and R. Dubos on bacterial polymorphism. J. Liston presents an account of the developments in taxonomic approach in the successive editions of Bergey’s Manual, the latest edition (8th) of which gives the culture collection designations of type strains.

This collection of essays, which look both at the past and into the future, can be recommended for borrowing from libraries as an intellectual aperitif, and as a demonstration of the vital role that culture collections play in microbiology.

STEPHEN LAPAGE

Modern views on microbial pathogenicity

Bacterial conjugation

Yield studies in micro-organisms

It is common enough to want something for nothing, and these days we are thankful to get anything at all for less than £2.00. According to these criteria, therefore, the reader picks up these three booklets with some interest and even a shade of disbelief. All three are part of a series called “Patterns in progress”. Each deals with a relatively limited facet of modern microbiology, and the three reviewed here are the first of thirteen that are either already published or in the course of preparation. In practice, they seem broadly to fall into two categories: booklets of about 40 pages, as is the case with the first two reviewed here, and more solid contributions of approximately twice this length, as is the case with the third.

The three booklets take rather different approaches to their subjects. Professor Smith’s book concerns the broadest topic of the three and is the most discursive. He analyses the determinants of microbial pathogenicity inasmuch as anything is known about them. The most valuable aspect of the booklet is that—perhaps unintentionally—it reveals rather clearly that quantitative studies on the interaction of living systems—such as is exemplified by human diseases of microbial origin—is still all but impossible and that the experimental approach to the subject is fraught with difficulty. Nevertheless, this is a succinct and informative account of a developing field of microbiology and clearly the field covered is highly relevant for practising medical microbiologists.

Finnegan deals briefly with a very much more limited topic—bacterial conjugation. This is a strictly factual account of an interesting microbiological phenomenon from the viewpoint of a molecular biologist, and all is correct if significantly out of date by now. The account seems rather eclectic, because it makes no attempt to assess the importance
of the phenomenon in the context of the life of bacteria in their natural environment, or in the evolution of micro-organisms. This in my view is to miss much of the interest on bacterial conjugation, particularly from the viewpoint of the medical microbiologist.

Stouthamer's book is about twice as long as the other two, and correspondingly more expensive. It is a thoughtful and highly detailed account of a very narrow and quantitative aspect of microbiology. Moreover, it is one of great interest only, I suspect, to those interested in growing micro-organisms for industrial purposes. Certainly I cannot see much here that is likely to interest the average medical microbiologist, but that (of course) is not the author's main intention.

In summary, therefore, each of these books offers something, at least to some microbiologists, and the prices are certainly modest by modern standards. So much is to the good. But the low price has not been achieved without cost. The pictures in Finnegans's book are really awful in the quality of their reproduction, and the tables in Stouthamer's are often printed in such small type that I, at least, find it hard to read them. Only Smith's book has no imperfections in this respect, but it has no illustrations or tables, and so does not perhaps provide a fair test.

Finally I wonder whether anyone will really want to buy these small books. Perhaps they will, but really the accounts do little more than recapitulate review articles already written by these authors or their colleagues; and since these reviews are all in accessible journals, I personally would read the reviews rather than buy the booklets. The exception, might perhaps be Smith's book on microbial pathogenicity, where the account is more in the form of a balanced essay on the topic than the other two.

MARK RICHMOND

Applied medical microbiology


Why another general text in Medical Microbiology? Professor Collee answers this question by stating that this small book is designed to "set the scene" for biologists, medical and dental students, nurses and paraclinical technicians. It provides a "gentle introduction" to laboratory diagnosis, infectious disease mechanisms, epidemiology, disinfection and sterilisation, and chemotherapy and immunity, and uses important infectious diseases to illustrate the principles. All this is well done, and the text is enlivened by excellent illustrations, although it must be admitted that some of the "stickmen's" antics are a little difficult to follow.

It provides little discussion of taxonomy, nomenclature, or identification of bacteria—perhaps because the student is expected to refer to other books for these. Curiously, however, there is much more detail on immunological, virological and even mycological procedures. Although most teachers will feel that the move away from systematic bacteriology is highly laudable in this context, others will regret the omission of any definition of such words as "Gram", "agar" and "phage". Perhaps a glossary of such terms could be included in the next edition.

All in all, this is an excellent little book, which should prove useful to teachers of elementary medical microbiology who wish to avoid discussion of technical matters.

I. PHILLIPS

Animals for medical research


About one-quarter of the volume, two chapters, is taken up with the nutrition, breeding and management of experimental animals and a brief description of their diseases under laboratory conditions. However, it is surprising that the authors found it necessary to