along through mostly Soviet literature, this book flows sedately back and forth across the borders of East and West to describe an intersect of cell biology and medicine with care and fairness. I can only hope that the authors may have the personal freedom commensurate with this learned, classical objectivity.

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Microbial Genetics

Genetics as a Tool in Microbiology. Papers from a symposium, Cambridge, England, April 1981. S. W. GLOVER and D. A. HOPWOOD, Eds. Published for the Society for General Microbiology by Cambridge University Press, New York, 1981. x, 428 pp. $65. Society for General Microbiology Symposium 31.

In these days of host-vector systems, expression vectors, and cutting and splicing, it is easy to forget that current advances in studies of microorganisms, in spite of recombinant DNA, rely on a very substantial background of classical genetics. As is pointed out in the preface to this book, it is 21 years since the Society for General Microbiology last held and published the proceedings of a symposium on the genetics of microorganisms; it is highly appropriate that a sequel should appear now, both as a reminder of the importance of studies in this field and as a summary of how the field has advanced. There is no question but that genetics is an indispensable tool in the analysis of microbes, as it is in studies of higher organisms. The old saying (attributed to Luria) that "one mutant is better than no mutant" still has validity.

This collection of papers is an extremely valuable source of information on the application of classical genetic studies to the analysis of a number of microbial systems. It is one of the most useful and readable books that I have seen for some time, and it deserves a place on most bookshelves.

The papers include not only discussions of classical approaches to microbial genetics but also extensive reviews of subjects of more recent development. In this respect, the review by Ferenczy of protoplast fusion is especially timely and comprehensive and provides as complete a view of this subject as can be found in the literature. One other pleasing aspect of this volume is the inclusion of reviews of genetic studies of microorganisms that seem to have taken a back seat to *Escherichia coli* in the present rush to clone. Thus Arst presents an excellent and concise summary of fungal genetics with special attention to *Aspergillus nidulans*; it is easy to forget the role that studies of this microorganism have played in our present understanding of many interesting genetic phenomena. The review also emphasizes our failure to explain many of these effects in biochemical terms. In a similar vein, Shapiro, Nisen, and Ely summarize the state of affairs of genetic studies of *Caulobacter crescentus*.

Most of the papers concentrate on specific aspects of the genetic analysis of interesting microorganisms, such as antibiotics and secondary metabolites in Actinomycetes (Hopwood), bacterial chemotaxis (Parkinson), bacterial virulence (Maas), nitrogen fixation (Dixon, Kennedy, and Merrick), photosynthesis (Bartlett, Boynton, and Gillham), the cell cycle (Nurse), and the bacterial cell surface (Mäkelä and Stocker). These papers vary in quality, but all provide valuable background information in their fields. Two subjects of interest in microbial biochemistry, translation and transcription, have been ignored, which is strange, for there has been so much excellent genetic analysis of the ribosome and RNA polymerase. A review of transcriptional regulation (Travers, Kari, and Mace) is out of place, since it contains very little discussion of genetic analysis and pays only lip service to studies of nucleotide sequences involved in transcriptional control.

Finally, the book contains two reviews of methodology, one on gene manipulation in vitro (Timmis), which gives as excellent an appraisal of recombinant DNA technology as one would want to find in 60 pages. This contrasts with the rather terse description of genetic manipulation in vivo (Sherratt), in which, for example, all the beautiful work on bacteriophage lambda as a tool for the genetic manipulation of *E. coli* is summarized in only 30 lines.

To summarize, this volume is a good buy—it has some deficiencies (why were *Bacillus subtilis* and *Saccharomyces cerevisiae* left out?), but it provides a lot of good, practical information. In addition, it was published in the same month as the symposium, so that it is generally up to date. The Society for General Microbiology has set a high standard in rapidity and quality of publication; it is to be hoped the American Society of Microbiology will try to match this in the future.

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Bronchology. Research, Diagnostic, and Therapeutic Aspects. Proceedings of a congress, Düsseldorf, Germany, June 1980. John A. Nakhosteen and Werner Maassen, Eds. Nijhoff, The Hague, 1981 (U.S. distributor, Kluwer Boston, Hingham, Mass.). xxii, 630 pp., illus. $79. Developments in Surgery, vol. 3.

Categories and Concepts. Edward E. Smith and Douglas L. Medin. Harvard University Press, Cambridge, Mass., 1981. xii, 204 pp., illus. $15. Cognitive Science Series, 4.

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The Earth. Its Birth and Growth. Minoru Ozima. Translated from the Japanese edition (Tokyo, 1979) by Judy Wakabayashi. Cambridge University Press, New York, 1981. x, 118 pp., illus. Cloth, $22.50; paper, $8.95.

The Foundations of Ethology. Konrad Z. Lorenz. Translated from the German edition (Vienna, 1978) by Konrad Z. Lorenz and Robert Warren Kickert. Springer-Verlag, New York, 1981. xviii, 380 pp. $21.95.

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High-Density Lipoproteins. Charles E. Day, Ed. Dekker, New York, 1981. xiv, 684 pp., illus. $65.

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