agricultural microbiology, industrial microbiology,
and food and dairy microbiology is broader than
in many other books. Coverage of the eukaryotic
microorganisms, particularly the "protozoa," is sadly
dated.

The text is peppered with very simple line draw-
ings and a few photographs. The latter are of poor
quality, probably as a consequence of the paper
used to print the book. The overall look of the book
is "plain-pipe rack." Other publishers have used
color, more polished figures, dialog boxes, and
other graphic tricks to make their textbooks more
appealing to students. Although it is always difficult
to judge appeal to students, the graphics and pro-
duction qualities make this book less likely to be
selected as a textbook for undergraduates.

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Coronaviruses and Arteriviruses. Proceedings of
a symposium held in Segovia, Spain, 10–15 May 1997.
Advances in Experimental Medicine and Biology, Volume 440.
Edited by Luis Enjuanes, Stuart G Siddell, and Willy Spaan.
This collection of 106 papers represents work pre-

sented at the VIIth International Symposium on Co-
ronaviruses and Arteriviruses held in 1997. This
book is especially useful for those who desire an
overview of current concepts in coronavirus entry,
replication, pathogenesis, and treatment of disease.
An especially interesting chapter on RNA virus evo-

lution is presented by Domingo et al. (Population
Dynamics in the Evolution of RNA Viruses). The
information on arteriviruses was sufficient, but by
no means comprehensive. In this regard, the big-
gest disappointment is the lack of papers devoted
to Lactate Dehydrogenase-Elevating Virus (LDV),
the prototypic example of arterivirus persistence.
Papers on Equine Arteritis Virus (EAV) are the ma-
jor strength in the arterivirus area, especially those
papers devoted to molecular genetics. Information
presented on Porcine Reproductive and Respira-
tory Syndrome Virus (PRRSV) is adequate, but bet-
ter treated in more recent publications.

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Enzyme and Microbial Biosensors: Techniques
Edited by Ashok Mulchandani and Kim R Rogers.
Totowa (New Jersey): Humana Press. $69.50. xii + 264

The chapters in this volume present a concise re-
view of important topics, including: plasmids, car-
bohydrate catabolism, polysaccharides, lipsids,
outer membrane proteins, transport systems, iron
metabolism and siderophores, the flagellum, and
industrial biotransformation.

Can another compilation of reviews be of any real
help to those in the fields of Pseudomonas research?
Perhaps, but there are timely articles published at
such an accelerated rate in varied journals, that the
book may become out of date rather quickly. We
should be able to find updated references related
to these topics and their applications more quickly
online (http://www.pseudomonas.com).

This volume is designed to focus on research at
the molecular level, with particular emphasis on bio-
chemistry. Extensive reviews have been presented in
the chapter on polysaccharides, which is very help-
ful for those who are working in the field of bio-
chemistry. Alginate biosynthesis and regulation, and
its immunoprotective function, however, should be
included with immunobiology. Perhaps in the fu-
ture a separate chapter on pseudomonas immunol-
ogy will be included. Immunology of lipopolysac-
charide (LPS) O-capsule function (an antigen) and
other topics such as exotoxins, elastase and alkaline
protease, and alginate regulation deserve their own
chapters. It should be noted that the references
cited in the immunology section end at 1986.

The chapter on biotransformation is very informa-
tive. The authors list all the strains, enzymes and
patented products in a single table. The informa-
tion on biodegradable, environmentally-friendly
biopolymers, an alternative to common plastics, was
very encouraging.

It is quite confusing to see all the different ge-
neric name changes of Pseudomonas, even though
the reclassification of genus Pseudomonas is in effect;
the changes were not in use in the text. Collectively,
the chapters present a valuable review of different
aspects of pseudomonas biology. Although primarily
for specialists, this book can be read by anyone with
some knowledge of this organism.

IRA ROY, Microbiology & Molecular Genetics, Loma
Linda University, Loma Linda, California

Series in Ecological and Applied Microbiology.
By Gabriel Bitton. New York: Wiley-Liss. $99.95. xii
1999.
This is the second edition of a textbook that has
previously received a degree of acceptance. There
have been several earlier books on the same topic,