

mented throughout with illustrations and photographs.

The author recognizes that many engineering applications of flowmeters are in flow rate measurements of multiphase or nonNewtonian fluids or in situations where the flow is nonhomogeneous or pulsatile. His treatment of these "influence quantities" in terms of their effect on the mean velocity profile is complete and thorough. It does not point out the fact, however, that such "influence quantities" can affect not only the velocity profile but also the flow pattern around certain types of obstructions (e.g. orifices) used in flow metering. This additional complication must be accounted for if the flow meter utilizes any local change in diameter of the flow path. To his credit, however, the author does discuss means of dealing with nonhomogeneous flow effects and recommends the use of nonobtrusive meters with such fluids as those having viscoelastic properties.

In my judgement this book should be a useful resource for those chemical engineers who must design or specify flow metering methods in closed conduit flow systems.

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**Chemistry and Unit Operations in Water Treatment**, by D. Barnes (University of New South Wales, Australia) and F. Wilson (University of Canterbury, New Zealand), Applied Science Publishers Ltd., Price \$55.50.

Viewed from the practicing engineer's perspective, this book provides a good basis for understanding the physical, chemical and microbiological processes used to produce safe, potable water at municipal water treatment plants.

Along with those engineers involved with municipal water treatment, chemical engineers who design and operate water treatment facilities at large manufacturing plants in the food-processing, pharmaceutical and fermentation industries should find this book very useful.

The authors assume that practicing engineers in water treatment plants have inadequate backgrounds in chemistry and biology but are well versed in mathematics. Chemical engineers will find the applied chemistry interesting, the discussions of unit operations such as multi-media filtration, coagulation and flocculation—different, and the chapter on disinfection especially valuable. The book would be more useful outside of the author's extension classes if problems with answers had been included at the ends of chapters.

Since the book is based upon "experience gained from postgraduate and extension courses" given to practicing engineers, it has some unusual features. New developments in current practices are featured, assuming that the reader already is familiar with the operations and processes involved; some chapters are more up-to-date than others; the discussions of basic chemistry in Chapter 2 is elementary while that of analytical chemistry in Chapter 9 requires a more advanced background. The information in both of these chapters is necessary for practicing engineers in water treatment plants.

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