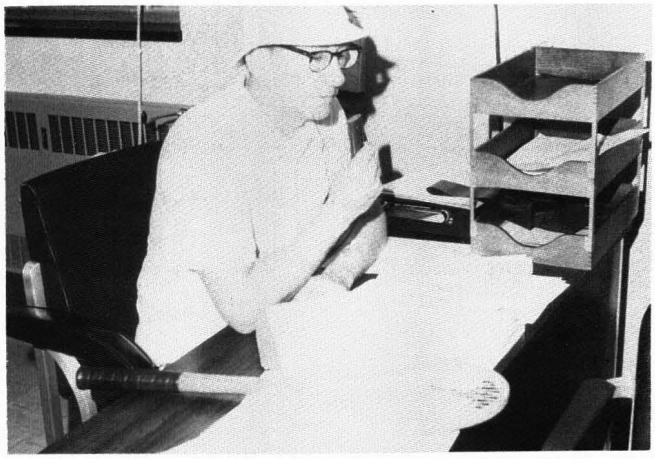

A bit of dictation before heading for the courts.

In a memo of March 4, 1975, Zilly banned the use of portable electric heaters by secretaries. This aroused the competitive fire and wit of Eagleton and led to his masterpiece of March 14, 1975, which was termed a "Zilly dilly" by our appreciative secretaries. Nevertheless the battle between these two persistent memo-masters (REZ humorless, LCE wry) raged on for almost two years until, on January 4, 1977, Zilly caved in with, "Your point is well taken." Space requirements preclude the inclusion of their memorable correspondence in this article; however, copies of key memos will be provided by the author upon request. This anecdote may seem frivolous, but it illustrates Lee's determination, his disarming wit, and his tolerance of diverse opinions, all of which make him so effective in deliberative bodies.

Although he had numerous opportunities (Deanships, National ASEE, *etc*) to expand his field of influence, Lee consistently chose to focus his energies on his professional discipline. For example, he was recently elected to the select group of ASEE Fellows. His election was, however, almost entirely because of his activity in the Chemical Engineering Division. He has been heavily involved in the Summer Schools and has held all offices in the ChE Division. He volunteered to serve on the *CEE* Publication Board and was Secretary of the Division when *CEE* was moved to the University of Florida. He was elected as Publication Board Chairman in 1981, where he served through 1985. Klaus Timmerhaus credits Lee with pushing hard to make *CEE* the quality publication that it is and for helping to set up the mechanism for adequately financing its operation.

All three of Lee and Mary's children followed his example by studying engineering. Beth is an industrial engineer with Rockwell International in Los Angeles. Jim most closely fits the mold with chemical engineering degrees from Michigan and MIT, a job with Rohm & Haas in Philadelphia, and involvement in a recent AIChE contest problem. Bill's current position as a cook for Stouffer's Restaurant in King of Prussia seems to go back more to his catering service at his father's receptions than to his college education.

When you see Mary, ask her about Lee's devotion to the evening tennis doubles group. The group was surprised one night when a substitute, Jack Purnell, showed up for the 8 o'clock game. Jack (who still plays with the group) is an anesthesiologist at the local hospital where Lee was preparing for minor surgery. Lee was on the table, ready for the mask, being wheeled by the anesthesiologist to the operating room, when he said, "Wait a minute, I have to play tennis tonight." □

ChE letters

HOUGEN MEMORIAL

Editor:

I just wanted to drop you a note and thank you for initiating the tribute to the memory of Olaf Hougen in your journal. I think that the finished product is quite fine, and I have already heard a number of favorable comments. I hope that some of the material in the summary will be interesting to many of your readers and that through the "Hougen Principles" his influence will spread still further.

R. B. Bird
University of Wisconsin

ChE book reviews

ECONOMIC EVALUATION IN THE CHEMICAL PROCESS INDUSTRIES

by Oliver Axtell, James M. Robertson
Wiley-Interscience, Somerset, NJ 08873 (1986), 241 pages, $44.95.

Reviewed by
Max S. Peters
University of Colorado

This short book presents a general treatment of methods used for economic evaluation in the chemical process industries with primary emphasis on keeping the presentation as simple as possible. There are essentially no mathematical equations in the entire book, and quantitative analysis is limited to examples

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REVIEW: Economic Evaluation

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of process applications.

The book is broken down into six chapters with the first chapter giving a very simple survey of the principles of economic evaluation with many generalizations. The second chapter is on the subject of capital and is an adequate survey for providing overall information with few details. Chapter Three on production costs and Chapter Four on capacity economics are presented in the same general survey form as Chapter Two, with a very simplified description, a few illustrations, and definition of terms. Probably the most useful chapter in the book is the fifth chapter which deals with year-by-year economics. It is almost completely a word discussion, with no base equations being given for the relationships which are presented in the numerous examples. This chapter gives the general ideas of discounted cash flow, net present value, and year-by-year accounting, but very little useful quantitative information on the various methods is given. There is nothing included on income taxes or modern depreciation based on recent Federal laws.

The final chapter on computer processes is a very simplified presentation based on flow diagrams and block schedules. No examples and no problems are included. The book concludes with a seven-page glossary of terms and a twelve-page index.

The book can serve as a useful over-view for economic evaluation in the chemical process industries, but it would not serve as a teaching text because of the lack of quantitative information. The material it presents is given in easy-to-understand language with very little mathematics background required. It would be of use as an introduction to the subject for someone who needed to get an overall picture of the methods and basis of economic evaluation for industrial processes without getting into technical details. □

PRINCIPLES OF POLYMER SYSTEMS, 2ND EDITION

by Ferdinand Rodriguez; McGraw-Hill Book Company,
New York, 1982; pages xvi, 575, $29.95

Reviewed by
D. R. Paul
University of Texas at Austin

The first edition of this book appeared in 1970 as a text for polymer courses primarily in chemical engineering departments, although at that time not many departments taught such courses. The second edition is part of the well-known and respected McGraw-Hill Chemical Engineering Series. This fact may be taken as one indication of the degree to which instruction in polymers has been incorporated into chemical engineering departments since 1970.

The second edition follows the same format as the first and is essentially an updated version of that book. While substantial progress has occurred in the science and technology of polymers during the years between the appearance of the first and second editions, the goal of the book is to present to the beginning student basic principles of the subject which largely remain timeless; however, all of the dated content of the first edition, such as production statistics, has been appropriately made current. The lengths of both editions are approximately the same so about the same amount of material was removed as was added. The main strengths of the new version are more problems at the end of various chapters, plus greatly expanded lists of specific and general references which should help introduce the student to the modern literature.

The first three chapters deal with basic issues of polymer molecular and physical structure to give a framework for understanding properties. The next three chapters are devoted to polymerization reactions and processes and the closely linked issue of the description and measurement of molecular weight and its distribution. The following three chapters deal with rheological behavior ranging from laminar flow of solutions and melts, to viscoelasticity at small deformations and finally ultimate failure properties of polymers under use-type conditions. The next chapter introduces the reader to other types of properties than mechanical ones with a strong, and appropriate, emphasis on electrical behavior. The following chapter deals with types and mechanisms of polymer degradation with equal focus on how these problems can be avoided or solved by the use of various additives. This is a feature unique to this textbook and is one of its really strong points. The reader is then introduced qualitatively to some of the common processing and fabricating techniques. The entire book could be made stronger at this point by more detailed analyses of some of these operations to show how rheological data, introduced earlier, can be used in practice and how molecular weight and its distribution is a powerful way of tailoring polymers for these specific processing methods. In turn, an excellent opportunity could have been provided to show the chemical engineering student how the latter ties to the polymerization mechanism, conditions, and process to give a glimpse of the strong interrelationship between each of these

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