(should teach) to our undergraduates. It stands as an undergraduate textbook on its own. There is nothing fundamentally new compared to the previous editions except additional examples; however, the material is organised in a much better way, the examples are great, and the result is highly didactic.

Parts III, IV and V represent the second half of the book, which is much more devoted to advanced material, certainly not the kind of material which can be taught at undergraduate level. Solid catalysed reactions, packed and fluidised beds, non-catalytic systems, and biochemical systems are treated there. Heterogeneous reactions are organised in a new and better way; the inclusion of a chapter on fluidised beds and another on biochemical reaction systems is an excellent choice. However, the material is not easy, and the style is hermetic. These chapters generate curiosity and a desire to search further on the specific fields. In other words, the second half of the book is introductory to further reading.

I quite like the emphasis on models, with the clear identification of their applicability and of their limitations. The approach to the field is very well suited to engineers and is quite practical, with frequent very helpful comments.

Constitutive equations are introduced very early (rate equation), but never mentioned as such. This is the only negative comment I have about the book: a clear distinction between balance and constitutive equations is never made.

The style reflects the author, it is colloquial, fresh, very enjoyable, often witty. The examples are well chosen, the problems challenging.

In conclusion, this new edition of Chemical Reaction Engineering was certainly overdue, and the result is a very good one. It is too bad that in this country there is not the tradition of buying, using or even borrowing books at the undergraduate level. This is a book that each one who plans to become a chemical engineer should have on his desk, and not only those aspiring to the profession: I suggest that everyone who ''deals'' with Chemical Engineering should have it: it remains always as a ''classical'' reference.

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Project Management for the Process Industries. Gillian Lawson, Stephen Wearne and Peter Iles-Smith. The Institution of Chemical Engineers, 1998, 381 pp., £56.00 (hardback), ISBN 0 85295 406 9.

Many books have been written on 'Project Management' (see, for example, the bibliography of this book). For that reason, it is a challenge to add another book to the literature on this subject even though this book is more focused on project management in one particular field: the process industry. The authors/editors have succeeded quite well in meeting this challenge. The product is a good book, paying attention to many aspects of project management in this field, and is easy to read. It is not necessary to read the whole book to get good information on critical phases in a project. Most chapters can be read independently from the other chapters, which also makes the book useful as a reference.

The book is set up in three sections. In the first section, the 'typical' phases of a project are described in chronological order, from project initiation, objectives and options through to project completion. All projects in the process industry go through these typical phases, so project managers will recognize the sequence and important aspects of all phases. The first section provides the overview; reference is made to special subjects which are discussed elsewhere.

Throughout Section 1, an example of a small and simple process industry project is used to illustrate the situations that may arise in the various phases described. In Section 2, tools and techniques relevant to project management are discussed, such as health, safety and environment aspects (including legal requirements and techniques to carry out hazard studies), quality assurance, risk management, planning and organization of projects. The most common techniques are described and characterized (advantages and disadvantages), making the toolbox fairly complete. The chapters on tools and techniques provide sufficient detail for the project manager to get a very good insight in specific aspects of managing a project. For more detailed information, some references to further reading material are given. In the Section 3, some of the more general competencies for a project manager are described. This section also touches upon subjects in which a project manager will usually not be an expert, but where he or she should have good awareness.

Sections 2 and 3 provide all the required information on specific subjects and can be read as relatively independent topics. A lot of attention is paid to cost estimating, planning and monitoring of a project, all very important tasks for a project manager. Relatively little attention is paid to the management of hazards and risks — the more difficult tasks of a project manager. In larger scale, complicated projects, the management of hazards and risks is probably even one of his main tasks. It is important to understand where risks come from and to take measures to deal with them at the appropriate phase of the project. The end phase of the project — handing over of the facilities to the owner/operator of the facilities, (pre-)commissioning and start up also might have got some more attention. It is important to realize that the project is only finished when 'product in tank' can be sold to the customer!

The book is useful in many situations. People who are involved in projects and want to know more about the

management of the project and develop understanding of their role in the project will obtain good information from the book; for 'specialists', the section on tools and techniques could be particularly interesting. The relatively inexperienced project manager will particularly like the book. It will tell him what to expect in various phases of the project and what to pay attention to. The book will help him to set out a strategy, not by trying to give a recipe, but by describing options and highlighting advantages and disadvantages. The experienced project manager will have developed his own style. He will usually deal with more complicated situations and strong integration of the various project phases. The book will not provide him with much new information, but the checklists can be used as a memory jogger.

Summarizing, this is a good book, providing a good overview of project management in the process industry. Very useful as a starting point — possibly followed by reading one of the books mentioned in the paragraphs 'Further Reading'.

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