

BOOK REVIEW

Chemical Engineering, Vol. 1, 3rd edn (SI Units), J. M. COULSON and J. F. RICHARDSON. Pergamon Press, Oxford (1977). 449 pp. Price £7.50.

THIS third edition of what is now a well-known and well-liked standard text is not substantially changed from the second edition. Although the text contains numerical examples worked out quantitatively and various graphs expressed in physical dimensions, the change to SI units will cause little difficulty even where a class works with both editions at once, particularly because both units are quoted in many cases of importance in the third edition. The book is well produced; and the soft cover is suitable for student use.

The important issue is whether a book first conceived 25 years ago is as suitable for teaching basic chemical engineering today as it was then. It would be easy to find fault with the Coulson and Richardson approach, because it attempts what

to my mind is an almost insuperable task, namely that of providing briefly, for undergraduates, a firm background in transport phenomena in the context of currently used processing equipment. The limits the authors work within are set by the length and context of the standard English 3-year engineering course. The result is a very patchy approach to fluid mechanics, heat and mass transfer, and a relatively sketchy description of process equipment. The equally well-known alternative text by Bird, Stewart and Lightfoot (*Transport Phenomena*) attempts a more rigorous approach to the basic ideas, but is less close to process equipment. Few other authors attempt such a wide coverage of the subject. Hence Coulson and Richardson Vol. I will remain a recommended text in many chemical engineering departments and will fulfil a valuable function.

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