

is prevented from using high-order schemes. Rule 3 is not related to rule 2 as the author thinks. When  $S_P$  is positive, it does not mean that  $a_P - S_P \Delta x$  will possess a different sign than  $a_P$ . For this example, the requirement for  $a_P$  being negative is due to the numerical stability requirement when the discrete equation is to be solved using a Gauss–Seidel method.

In Section 10.6, the author presented the discretization of an advection term. Using the basic rule 2, the author ruled out the possibility of using a “central difference” scheme. Therefore, an “upwind method” must be used. However, the simple “upwind” used may not satisfy the conformity requirements as the function value may take two different values at the common interface between two adjacent finite volumes. Since the author did not discuss the conformity directly, this point is missed in the text. As the low-order (“upwind”) scheme is not accurate, higher order schemes should be preferred. However, the author did not check the QUICK scheme against the rule 2, which would have readily lead to its rejection. This shows that the theory presented is not accurate. Other inconsistencies with this rule can be found elsewhere in the book.

It is not clear whether some of the data presented in the text were regenerated or taken from the literature. For example, the data in the table on the Lennard–Jones potential and collision diameter (Table D.1, p. 362) are not consistent with the trusted sources (e.g. [1]). As the table is not credited to any sources, one has no way of knowing its accuracy. Quite a few figures are poorly presented: the lines were too thick and the overall quality is not up to the standards of a normal text.

Overall, I feel the book is easy to follow. I will recommend the book to software engineers who wish to learn some fundamental aspects of transport phenomena, particularly heat transfer.

## Reference

- [1] E.L. Cussler, *Diffusion: Mass Transfer in Fluid Systems*, 2nd Edition, Cambridge University Press, Cambridge, 1997.

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## Writing for Science and Engineering

Heather Silyn-Roberts, Butterworths, Heinemann, 2000, 281 pp., £14.99, paperback, ISBN 0-7506-4636-5

As you might hope from the title, I found this book very readable. It is a comprehensive “manual” of how to write every conceivable form of technical document, from e-mails

to theses. As the author says, it is almost a recipe book, but that is apparently what the target readership (postgraduate students) wants. It also makes it easy to find what you are looking for and avoids a lot of padding.

After two chapters on the general structure and elements of a document, there are 11 chapters dealing with specific types of documents. The book concludes with chapters on referencing, editorial conventions, revising and proof-reading, problems of style and giving presentations to audiences of various sizes. There are appendices on SI units, grammar and style manuals.

The book is liberally sprinkled with helpful hints and checklists. I liked the suggestion early in the book for how to get over the problem of getting started. The author says just start with the section that gives you the least problems, which is why I always start writing reviews with the book title!

The chapter on “Problems of style” looks particularly useful, and includes a very illuminating section on the distorted passive. This is a construction that we are so used to seeing in technical writing that we do not pay it any attention, but when you see the example in the book, “Dropping of the slipper was carried out by Cinderella”, the absurdity is clear.

I was not quite so happy with the advice a couple of pages later to “just use instinct — it usually works”. We are inundated with so much poor grammar these days that I am not at all sure that instinct is reliable any more and that is exactly why we need this type of book.

I also disagree with the advice at the end of the chapter on presentations not to use “cartoons, cute pictures or clipart”. As a distinguished colleague once said to me, “You can be serious without having to be solemn”.

However, I was delighted to find someone else who hates the “striptease system”, whereby more and more of an overhead slide is revealed by sliding a piece of paper down it. As the author says, it is unappealing and can be irritating. Slides should be designed in such a way that the whole content can be shown. My own experience is that slides revealed by this technique usually contain too much information anyway!

Appendix 3 lists a number of style manuals for specific disciplines. I was disappointed to find that, with one exception, these are all American.

I would strongly recommend this book to anyone interested in producing written documents. I would not have thought that it need be restricted to postgraduates, but would also be suitable for (senior) undergraduates and as a useful refresher for almost anyone engaged in technical writing.

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