information on individual univalent functions can be obtained by embedding them by subordination in the so-called Löwner families and then studying the semi-group structure. I can think of no authors better able than the present ones to give an exposition of the modern theory of univalent functions and they have succeeded admirably. They conclude by remarking, "Since publication of the proof of the Bieberbach conjecture there has been a search for deeper significance of the methods. . . . The search continues, and it seems safe to say that the final chapter remains to be written." One only hopes that, when it *is* written, it is as well written as the present volume.

The first six chapters were originally intended for the authors' book *Hardy classes and operator theory* but even read on their own they give a cogent presentation of the role of Function Theory in Operator Theory. Many of the landmarks of the subject are considered, including the Nevanlinna and Hardy classes, the F. and M. Riesz theorem, Beurling's theorem on the shift operator and the Szegö–Kolmogorov–Krein theorem on weighted trigonometric approximation. There is a chapter on the Phragmén–Lindelöf principle applied to functions of exponential type in a half-plane.

The book is written for graduate students. It is a compelling introduction to this fascinating subject and is warmly recommended.

J. M. ANDERSON

BAYLIS, W. E. *Theoretical methods in the physical sciences: an introduction to problem solving using Maple V* (Birkhäuser, Basel, Berlin, Boston 1994) 304 pp, (a floppy disk is included), softcover, 3 7643 3715 X, £36.

The stated aim of this book is to cover the areas of mathematics which students of the physical sciences will need 'throughout their careers', which are accessible at (Scottish) second year level, but which may not be covered in more traditional Mathematical Physics courses. For some topics the examples are taken from physical situations and exercises lead the reader toward deeper exploration of these. The purpose of introducing Maple into the course is (I paraphrase) to remove some of the drudgery from manipulations so that the effects of different options can be more readily explored. I sympathise with this aim and read the book hoping to pick up a few tips for my own teaching.

The contents of the book are as follows. The first two chapters form an introduction to Maple and in addition cover such topics as units, dimensional analysis and radioactive decay as an example. Next follow chapters on approximations to a real function, vectors, basic statistics, curve fitting, integration and complex numbers. The final chapter is devoted to Clifford algebras with the Pauli algebra and its application in special relativity and electromagnetism as an example.

In addition to the book there is a 3.5 inch disk with Maple worksheets for each chapter. A comparison of Chapter 3 (*Approximating Real Functions*) in the book and the corresponding worksheet shows that there is quite a lot of overlap, so that points of mathematics are explained in both and identical Maple commands are in both. One could use only the worksheets and find out much of what is in the book and at the same time see the mathematics come to life. Indeed, since there are no Maple outputs or plots in the text, the worksheets are needed to appreciate what is going on. However an example in the book on simple harmonic motion is omitted from the worksheet and the section numbers in the two formats do not correspond.

The introduction of Maple is a help in avoiding discouraging amounts of pencil and paper work in areas such as approximating functions and curve fitting. The plotting routines are of great value in the investigation of differential equations. In some chapters however there is not much use of Maple, for example the ones on vectors and, surprisingly, statistics.

The shape of the book is determined by areas of mathematics and as a result the description of Maple commands is a bit unsystematic. It would have been a help to put the commands in the index at the end of the book. Most are introduced through examples and the syntax is understood through inference. This is a good way to avoid confusing the beginner with detail and the students can use the excellent Maple help system if more detailed explanations are needed. The omission of any reference to procedures, which are the staple of serious Maple use, seems a pity, even in an introductory text.

Some aspects of the text disappointed. For example an asymptotic series is described essentially as being a series in powers of $1/x$. More space is given over to Numerov's method for the numerical solution of ordinary differential equations (an interest of the author) than to Runge–Kutta methods even though Maple uses the Runge–Kutta–Fehlberg method. A number of quite elementary points of mathematics are explained (the derivative of $x^n$ is one) which I felt could have been left out. Finally there are examples at the end of each chapter, but not enough!

Looking back at my review I have sounded more negative than I feel. This text is a good effort at dealing with what is a fairly new aspect in our teaching and perhaps if I were in the Physics department I would warm to it more. But my overall impression is that it tries to hit two targets and does not manage a bull's eye for either.

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