issues far earlier than the numerical analysts. For example, only recently have numerical analysts begun to appreciate that their customary pointwise error measures are inappropriate for problems with highly oscillatory solutions. In perturbation theory there are more natural definitions of a solution, and there are approaches with real promise for these extremely difficult problems. It is to be hoped that Miranker's seminal work can be generalized to less special problems, so that new software tools can be based on the ideas.

The author states that most of his material is drawn from the recent literature and that his treatment varies from formal to informal. This is accurate. The monograph might be described as a collection of papers by the author and his coworkers, supplemented with the necessary background material. More attention has been given to background material in numerical methods than in perturbation theory. Some mathematical sophistication is necessary for the more important sections of the book.

This is a stimulating book on the application of the methods of singular perturbation theory to the numerical solution of stiff ordinary differential equations. The numerical examples merely demonstrate feasibility, but numerical analysts should be reading this book for the possibilities of the approach, rather than for algorithms they can immediately implement. It is to be hoped that Miranker's success will encourage others to further develop the ideas to the point that they will provide new and powerful numerical algorithms.[1]

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The tragicomical history of thermodynamics 1822–1854, by C. Truesdell, Studies in the History of Mathematics and Physical Sciences, Volume 4, Springer-Verlag, New York, Heidelberg and Berlin, 1980, xiii + 372 pp., $48.00.

1. This volume carries the word 'history' in its title, and is published in a series of historical studies. The reader is thus doubly invited to expect an historical account, in which, therefore, past events and their contexts are described.

Truesdell's play is divided into five acts and an epilogue, with two named 'distracting interludes' (pp. 139–148, pp. 219–276) and an extra Act V to be played as an 'antiplot in a dark and empty theatre' (pp. 277–304). The action takes place mostly in the period between Fourier (1822) and Reech (1854), with major roles played also by Carnot, Kelvin, Clausius, Joule and Rankine, and minor parts and noises off coming from various other figures. Laplace, Biot, and Poisson perform a Prologue (pp. 29–46), without the help on p. 31 of Laplace [**1803**].