BAKER, C. T. H., *The Numerical Treatment of Integral Equations* (Clarendon Press; Oxford University Press, 1978), xiv+1034 pp., £22·50.

This book is from the series "Monographs on Numerical Analysis", and presents an up-to-date account of our present knowledge of the subject in the title. There are six chapters, one on the theory of integral equations, one on numerical analysis, then eigenvalue problems, linear equations of the second kind, further treatment of Fredholm equations, and, finally, Volterra equations.

Each of the last four chapters commences with a discussion of available methods, well illustrated with several numerical examples. The second part of the chapter then discusses the theory of the methods, proving convergence, and obtaining rigorous and asymptotic error bounds. Only a few of the results are presented without proof (reference being made to the original source), and samples of work are presented from various different schools. The result is a very worthwhile text, both for those approaching the subject for the first time, and also for workers in the field who wish to make selective reference. The only serious omission, in my opinion, is consideration of equations in more than one variable, which receive little mention and no detailed treatment.

The text has been reproduced directly from a typescript, and this has led to headings of subsections which do not stand out very clearly. The consequence of this is that it is difficult to find specific parts of the text, especially in view of the very long chapters. Placing the number of the current subsection at the head of each page would have been very helpful. Also, there are many errors in the text, more than should have been tolerated, even taking into account the length of the book.

In spite of these last criticisms, there is no doubt that this clearly written book is an invaluable addition to the literature.

D. W. ARTHUR

BIBBY, J. and TOUTENBURG, H., *Prediction and Improved Estimation in Linear Models* (Wiley, 1977) xiii+188 pp., £7·95.

This is by no means the worst of the recent minor flood of books on regression, but it is a disappointing book.

The preface states "The main aim . . . is to bring to the attention of the English speaking public some recent theoretical work from the German Democratic Republic". There follows some jibes at the insularity of English readers leading to the need for a translation to do this. Leaving aside the point that the "public" is probably not very interested in regression, the truth is that serious students of regression and related topics in the west are generally aware of the work of the school led by Bunke and of which Toutenburg is a member and accept it as an important integral part of the main stream of developments in this branch of statistics. In the light of the stated main aim it is surprising to find that a hundred of the 121 references are to work by Western authors or were published in the West. The book also gives deserved prominence to the work of a number of American statisticians, notably Stein, Theil, Goldberger, Hoerl and Kennard. These features of the book are more understandable if one accepts the GDR work as part of the main stream studies of linear prediction models.

A direct translation of Toutenburg's original "Vorhersage in linearen Modellen" might have been more satisfactory than this mixture of near translation and new writings by a second author. The style and approach of the two authors is incompatible. While they show obvious enthusiasm for their subject matter, the result will please neither the theoretical statistician nor the practitioner of prediction methods based on regression and time series models. The former hardly needs the long and somewhat disjointed discussion of mean square errors, shrinkage estimators and quadratic loss functions while he will be irritated by repeated references to Toutenburg's German version for proofs of results likely to interest him. While the explanations of basic statistical concepts may or may not help practitioners (depending on their background and training) they will find it a very sudden jump from conventional regression notations in the first seven chapters to an early passage in Chapter 8 that states "Let $\boldsymbol{Z} = (Z_1, \ldots, Z_T)$ be a sample from $(\mathfrak{Z}, \mathfrak{U}, p_Z^\theta)$ where $\mathfrak{U}$ is the sigma algebra consisting of the subsets of $\mathfrak{Z}$".

There are some valuable concepts partially brought together in this book but the mode of presentation is unlikely to make it a work of wide appeal.

P. SPRENT