impression that the authors have had little contact with the general mathematical community. This feeling is amplified by the authors' English, which is often far from the spoken language.

The book will probably be of most interest to people with a background in finite dimensional convexity, because they will at least see how that theory is related to C^*-algebras. I do not recommend a serious student of C^*-algebras to spend much time with the book.

ERLING STØRMER

BULLETIN (New Series) OF THE
AMERICAN MATHEMATICAL SOCIETY
Volume 10, Number 2, April 1984

0273-0979/84 $1.00 + $.25 per page

A general theory of optimal algorithms, by J. F. Traub and H. Wozniakowski, Academic Press, 1980, xiv + 341 pp., $36.00. ISBN 0-1269-7650-3

Let me begin by remarking that this book may not be well served by the particular conjunction of title and series (ACM monograph series) which suggest to me that the authors believe that their main audience will be found among computer scientists. I must disagree with this appreciation. In my opinion this is a book about certain aspects of applied mathematics, an ambitious, largely successful and therefore important book; and it is somewhat unfortunate that it is being noticed here several years after initial reviews appeared in computer science journals.

These remarks touch on the demarkation dispute between computer science and applied mathematics and perhaps deserve more explanation. One characteristic feature of the rapid evolution of computer science has been the way in which it has drawn on quite diverse subject areas as these become major sources of applications interest or of necessary development techniques, absorbed what has been needed, and passed on to other applications areas with new technological requirements and different problems. Interaction between computer science and the mathematical sciences has proved to be of continuing mutual benefit. Historically it has provided much of the impetus that has transformed such subjects as numerical analysis, formal systems, and complexity theory into important and flourishing branches of applied mathematics. However, many of the participants have understood neither the dynamics nor the strong pragmatic component in the computer science side of the interchange. It seems that as they become more deeply involved in the formal questions raised by their subject specialty they argue with increasing persistence that they are providing the theoretical basis for computer science. Unfortunately their chosen audience has not always taken note.

Numerical analysis and approximation theory seem the categories most appropriate to the present work. *A general theory of optimal algorithms* is certainly a tempting title, and the authors claim to subsume most, if not all of, computational complexity into their thesis; but the problem domain is analytic computational complexity or the complexity of problems which can only be