

C. BREZINSKI, *History of Continued Fractions and Padé Approximants*, Springer-Verlag, 1991, 551 pp.

At first a tool for investigating rational and special irrational numbers, continued fractions play an important role in function theory and approximation theory. They are very close to orthogonal polynomial constructions. In this book covering the subject from ancient times (Euclid, p. 3) to 1939 (Gabor Szegő, p. 311), we find much information on Pafnouty Lvovitch Chebyshev, Charles Hermite, Edmond Nicolas Laguerre, Henri Eugène Padé, Thomas Jan Stieltjes, and many others. The author claims that he did not try to make a true history, but mainly to gather facts. The number of facts found in this book is indeed truly amazing, organized in 311 pages of chronological exposition, 33 pages of documents, 2858 bibliographic entries, and a fabulous name index of about 1500 people, from Abel, Niels Henrik, to Zygmund, Antoni, often with complete first names and birth-death-places-dates (where the presence of Sardanapalus IV could be questioned, if you ask me). The book is a pleasure to read, mixing anecdotes, quotations, and emphasis on true deep questions (so, more than just a collection of facts, after all). Only French lovers will appreciate the sometimes long quotations in French. This is certainly a reference book.

ALPHONSE P. MAGNUS

W. LI, *Continuous Selections for Metric Projections and Interpolating Subspaces*, Verlag Peter Lang, 1991, 108 pp.

Let  $A$  be a subset of a normed linear space  $X$ . The *metric projection*  $P_A$  of  $X$  to  $A$  maps each element of  $X$  to the set of its best approximants from  $A$  (which may be empty). If there is a continuous mapping  $S$  from  $X$  to  $A$  such that  $S(x) \in P_A(x)$  for each  $x \in X$ , then  $P_A$  is said to have a *continuous selection*. Let  $T$  be a locally compact Hausdorff space, and  $C_0(T)$  denote the space of real-valued continuous functions on  $T$  which vanish at infinity, i.e., for which  $\{t \in T: |f(t)| > \varepsilon\}$  is compact for each  $\varepsilon > 0$ , normed by the usual supremum norm. This monograph centers on the problem of characterizing finite-dimensional subspaces of  $C_0(T)$  for which there is a continuous selection for the metric projection. If  $T = [a, b]$ , then included as a special, but central, case is Nürnberger and Sommer's solution of about 10 years ago to this problem.

ALLAN PINKUS

#### *Proceedings*

J. C. MASON AND M. G. COX, EDs., *Algorithms for Approximation II*, Chapman & Hall, 1990, 514 pp.

Proceedings of the "Second International Conference on Algorithms for Approximation," held in Shrivensham, UK, in 1988. Forty-one refereed articles arranged into three primary categories, namely, Development of Algorithms, Applications, and Catalogue of Algorithms. Articles on algorithms for diverse types of approximation processes.

C. K. CHUI, ED., *Approximation Theory and Functional Analysis*, Academic Press, 1990, 247 pp.

A collection of 11 research and survey articles dedicated to George G. Lorentz on the occasion of his 80th birthday. Includes Lorentz' witty autobiography and a number of photographs.