are derived in terms of suitably defined K-functionals. Various expressions for these K-functionals are given in Chapter 5. Chapter 6, one of the central chapters, is devoted to the question where the supremum norm and the L_p-norms of weighted polynomials wP, $P \in \Pi_n$, live.

Chapter 7 deals with the problem of approximation of entire functions, while Chapter 8 contains further technical results regarding Freud polynomials. In Chapter 9, these results are applied to the study of orthogonal polynomial expansions, polynomials of Lagrange interpolation, and quadrature processes. The closure of certain weighted polynomials and the asymptotic behavior of the leading coefficients of the Freud polynomials are studied in Chapter 10. The last chapter, Chapter 11, contains the theory of weighted polynomials of the form $w^n P$, $P \in \Pi_n$, of the incomplete polynomials, and applications in the theory of neural networks and wavelets. The book concludes with a short appendix about theorems from functional analysis, potential theory, the theory of Fourier series, approximation theory and the Bernstein approximation problem on the real line.

No references are given in the main text, but the historical notes for each chapter and the credits are collected in the notes following the appendix.

I have enjoyed reading this monograph, and I recommend it for all students and scholars interested in analysis and approximation theory.

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R. A. Lorentz, Ed., *George G. Lorentz*: *Mathematics from Leningrad to Austin*, Selected Works in Real, Functional and Numerical Analysis, Vols. 1 and 2, Contemporary Mathematicians, Birkhäuser, Boston, 1997; Vol. 1: xxxvi + 548 pp.; Vol. 2: xxviii + 648 pp.

Very few mathematicians get the privilege of having their selected works edited by their son who is also a mathematician on his own right. And very few mathematicians have the honor of having a father whose mathematical life spans more than 60 years and at least five broad areas and whose impact on present day mathematics will be felt many years from now. These two volumes contain about two thirds of the papers that George G. Lorentz wrote from 1932, at that time an assistant professor in Leningrad, until 1994, when he was a Professor Emeritus at the University of Texas at Austin. The first volume contains papers in summability theory, number theory and interpolation, while the second one is dedicated to real and functional analysis, and approximation theory. But there is much more in these books. First of all, the first volume contains a touching introduction by George's son Rudi, from which we can learn George's life story in

a nutshell through the reminiscences of his child. Next, it contains George's life story told by himself: a faithful, though sometimes sarcastic narrative, which covers periods that most of us know only from history books. Next comes the list of Lorentz' 130 papers and his six books, as well as the list of his 17 doctoral students. With excellent editorial insight Rudi included four unpublished essays of his father on mathematics in the first volume: an account on the pre-war University of Leningrad (lecturers and curricula), on the work of the mathematical mind, on proofs in mathematics, and on writing mathematical books. Then come the papers in their original form (in German or English). The work of Lorentz in the aforementioned main areas are summarized by experts in the different fields. The summary for summability is written by S. Baron and D. Leviatan, for (Birkhoff) interpolation by S. D. Riemenschneider, for real and functional analysis by C. Bennett, and for approximation theory by H. Berens. The summary papers reflect their original source: they are lively and elegant.

Volume II also contains an article by T. Erdélyi and P. Nevai on Lorentz' books. His books, namely *Bernstein Polynomials*, *Approximation of Functions*, *Problems in Approximation Theory*, *Birkhoff Interpolation* (with K. Jetter and S. D. Riemenschneider), and the two magnificent volumes *Constructive Approximation* (with R. A. DeVore) and *Constructive Approximation*: *Advanced Problems* (with M. v. Golitschek and Y. Makovoz) are all related to approximation theory and they are among the most extensively used textbooks on approximation.

George once told me that he would write a problem article and then drop mathematics altogether. Seeing the immense work presented in these two volumes and the fact that two of his most important books were written *after* his retirement, one can hardly believe that. And we all hope that he will continue doing mathematics, with his elegance, enthusiasm and wisdom, well into the next millennium.

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I. Novikov and E. Semenov, *Haar Series and Linear Operators*, Mathematics and Its Applications **367**, Kluwer, Dordrecht, 1997, xv + 218 pp.

Alfred Haar introduced the orthogonal system that now bears his name in his 1909 Göttingen dissertation. Since then it has played a significant role in many contexts, some unexpected, for example in the Lévy–Ciesielski construction of Brownian motion. Providing the first example in wavelet theory, it is also a martingale difference sequence.