places coupled with a complete absence of analysis of important aspects, and a multitude of misprints and little errors. The crucial problem of how to start the validation process so that it may be successful is not analyzed. (The recipe given does not work in the elaborated examples, a fact which is covered up by "short cuts".) Also the choice of the approximate inverse in the validation iteration is left open. Nearly all interesting details are missing in the illustrative examples of Chapter 7.

The reviewer does not share some views of the authors: their analogy with floating-point computation may be more misleading than helpful, and their "block-relaxation" mechanism appears clearly inferior to simply solving larger-dimensional systems. However, he strongly feels that this volume points the way to important developments in numerical analysis; the many open questions and the interesting implementation problems should attract the attention of numerical and computational researchers.

H. J. S.

20[45-01].—ABDUL J. JERRI, *Introduction to Integral Equations with Applications*, Marcel Dekker, New York, Basel, 1985, x + 254 pp., $23\frac{1}{2}$ cm. Price $39.75.

This little text is simply written and easy to read, and it could easily be used as a one- or a two-semester undergraduate course for an introduction to integral equations. It could possibly also be used to teach a one-semester engineering mathematics course on integral equations, along with the one-semester ordinary and partial differential equations courses that are being taught at many universities. The subject matter is motivated with some applications, as well as with connections to ordinary and partial differential equations. The majority of the text is written in a nonrigorous style, the exception being Chapter 6, where the contraction mapping principle is presented; even there, an attempt is made at simplifying the functional analysis concepts. Only the simplest numerical methods of solution are discussed; for example, the only numerical integration techniques used are the midordinate, the trapezoidal and Simpson's rule.

In its table of contents one finds the following chapter headings:

Ch. 1: Integral Equations, Their Origin and Classification;
Ch. 2: Modelling of Problems as Integral Equations;
Ch. 3: Volterra Integral Equations;
Ch. 4: The Green's Function;
Ch. 5: Fredholm Integral Equations;
Ch. 6: Existence of the Solutions: Basic Fixed Point Theorems
APPENDIX A: Fourier and Hankel Transforms;
APPENDIX B: Some Homogeneous Boundary Value Problems, Their Integral Representation, the Green's Function, and Classical Solutions;
APPENDIX C: The Green's Function and Partial Differential Equations;
APPENDIX D: Solution of Equation (6.32);
Bibliography;
Answers to Exercises;
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F. S.