100[X].—EDWARD L. STIEFEL, *An Introduction to Numerical Mathematics*, Academic Press, Inc., New York, 1963, x + 286 p., 24 cm. Price $6.75.

This book tends to treat many of the newer aspects of computing to the neglect of a balanced presentation such as is apt to be required in American schools where the beginner is almost totally ignorant of all of computing. The author also tends to give an algorithmic approach to many topics to the exclusion of "why." Since he seldom tells the reader where he is going, the reader is apt not to know where he has been when he reaches the end of a section.

Among the better points of the book is the treatment of simultaneous linear algebraic equations so that linear programming fits neatly into the scheme. He follows this with some game theory, but, as is often the case, the treatment is so rapid and scanty that the student is not likely to retain much.

The author is clearly oriented towards the treatment of each individual problem and away from the mass production of many answers to many problems (which can, of course, be dangerous but is a fact of life, nevertheless). Finally, the author makes a number of small slips which reveal that he was occasionally "nodding" when he wrote the book, especially when it comes to the treatment and effect of roundoff errors.

All in all, however, it is an interesting book and one that many experts could profit from reading.

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101[Z].—MICHAEL A. ARBIB, *Brains, Machines, and Mathematics*, McGraw-Hill Book Co., New York, 1964, xiv + 152 p., 20 cm. Price $6.95.

This book is intended to be a readable introduction to the relatively new and fashionable subject of modeling of mental or nerve activity by mathematical or machine systems. Rather than trying to say a little about every aspect of this rather sprawling subject, the author has chosen to go fairly deeply into one particularly nice piece of work in each of several areas, with passing mention of a few others. Mathematics, in the form of finite automata theory and computability theory, gets some fifty pages, with communication theory and related work on reliable structures taking up another thirty. The remainder of the book is devoted to a summary of the work of Lettvin and others on the visual system of the frog, the vaguely similar Perceptron, and a brief discussion of Cybernetics. The book has, in fact, a good bit of the flavor of a collection of research papers, since many of the sections follow some standard presentation quite closely, though usually with a good bit of compression obtained by omission of detail and some reduction in generality. These omissions are usually well indicated, and the interested reader is referred to one or more sources for a fuller treatment. A particularly pleasant feature is the presence of frequent comments pointing out the often gross approximations involved in associating the various models with actual neurological structures, and making explicit the assumptions which have been made and the limitations which they imply.

One can, of course, quarrel with some of the choices in emphasis that have been