that book by drawing on earlier drafts and by reprinting fairly long excerpts where these deviate significantly from the 1953 published version.

Eddington's ideas have not found much favor with most professional physicists, and I must admit that even with the help of Slater's guide and Whittaker's lucid exposition in *From Euclid to Eddington* I find the going exceedingly rough. But Eddington was a man of very great vision indeed, and we cannot be certain that at some later stage in the development of physics we may not come back to some of his conceptions. Accordingly, I consider the publication of this guide worth while. As is stated in the introduction, the publication of Eddington's posthumous papers in this form is a compromise between reprinting his drafts *in toto* and not publishing them at all. Not only would a full reprint have been economically forbidding; it would also have made access to Eddington's principal ideas even more difficult. From what has emerged, it looks as if Slater had proceeded with great dexterity and with a respect for his material and its author that does him credit.

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Microwave Principles. Herbert J. Reich, John G. Skalnik, Philip F. Ordung, Herbert L. Krauss. Van Nostrand, Princeton, N.J., 1957. ix + 427 pp. Illus. $8.75.

Microwave Principles is one of the volumes in the Van Nostrand series in electronics and communications, which is edited by the senior author. As the authors point out in the preface, this book is essentially an abridgment of *Microwave Theory and Technique* (1953), written by the same group of authors. It was apparently felt that an abridged version would be more suitable as a text for a one-semester course for senior-level students in the field of communications. The authors point out that this condensation was accomplished by eliminating the mathematical detail, which they feel belongs more appropriately in a more advanced book. They do feel, however, that adequate treatment of fundamental principles has not been sacrificed by this type of abridgment. Some new material has been added, although no attempt has been made to bring the book totally up to date.

At the outset, I would like to point out that I feel that this book is competently written and that it covers enough of the diverse aspects of the microwave field to be rewardingly informative and continuingly useful and of interest to engineers or physicists practicing in the microwave field. This is certainly a palatable presentation of the body of knowledge which must be encompassed by those hoping to practice effectively in the field. An opinion about the pedagogical effectiveness of this book is not as easily stated or even as easily arrived at.

I feel that the separation of the mathematical techniques from the multitude of detailed descriptions which must be given is, in fact, an advance in presentation. It seems rather unrealistic to attempt to teach details of application along with the mathematics of electromagnetic theory. There is plenty of material for a senior-level student to digest in this book without his having to learn analytical techniques also. In a sense, I feel that the handbook technique, which, essentially, is what is used here, is preferable in that it allows the material to be presented succinctly and in small space, thus giving the student a bird's-eye view of the field. By contrast, the multivolume series of books known as the *Radiation Laboratory Series* gives a presentation of microwave techniques. The two difficulties with the latter series lie in the fact that it is now out of date, by 12 years, and that it occupies too many volumes to be of value to the average microwave practitioner. It would seem, then, that when a considerable amount of detailed material is being presented, the concise "why," together with a fleeting "how," is a preferable presentation.

It should probably also be pointed out that the fact that *Microwave Principles* comes some 12 years after publication of the *Radiation Laboratory Series* is hardly, of itself, sufficient reason for its creation. Nor is the fact that it strives to be up to date (through the early months of 1957) a compelling reason for its consideration. On the contrary, the striking impression to be gained from reading *Microwave Principles* is that so little has changed in the intervening years. This is certainly to the credit of the book, for the writing of a text of this sort with the prime motive of introducing only the new and up-to-date material tends to create a book which has only transient significance. It is the generous amount of space given to basic, timeworn, and, for the most part, even unsophisticated material which will prevent this book from becoming rapidly obsolete.

I picked up my own acquaintanceship with microwave techniques in a thoroughly unorganized fashion — mainly from fundamental papers in the field— but it would be intellectually dishonest of me to say that my own experience was ideal. On the other hand, it would be equally shortsighted to say that the use of any one text, such as *Microwave Principles,* is a proper means of becoming acquainted with the microwave field. Most probably, to study both this text and the reference sources, and to expend much more time in such study than is possible for the average person, is the optimum way to be introduced to the field.

As I have said, the microwave field contains such a body of knowledge that a perfunctory recitation of what this book contains is of little use. Suffice it to say, it considers transmission lines and guides, components for manipulating the fields (such as bends, twists, T's and so forth), impedance matching and general microwave impedance measurements, antennas, resonators, and the sources of microwave power and their properties. Since this is a textbook, problems are presented at appropriate points in the text, and some appropriate laboratory experiments for demonstrating microwave properties and techniques are outlined in an appendix. There are numerous illustrations throughout the text in the form of clearly executed line drawings or photographs. The primary aim of the book is to be descriptive. Good illustrations are a prime necessity, and the ones in *Microwave Principles* undoubtedly increase the value of the book very greatly.

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Chemistry Creates a New World. Bernard Jaffe. Crowell, New York, 1957. xii + 321 pp. $4.50.

Bernard Jaffe is well known for his elementary chemistry texts, several of which have had wide circulation in secondary schools of this country. His present work is designed for a broader distribution. In the author's words, its aim is to meet "the widespread desire of alert and thoughtful people of all ages for a simple basic understanding of chemistry and its major achievements."

The book is interesting and easy to read and manages to get across many of the simpler chemical concepts in an outstandingly clear manner. The first three chapters present the basic facts, history, and theories of chemistry which are minimal for the understanding of modern developments. The eight chapters which follow outline the contribution of creative chemical technology to the material progress of our age. Included are accounts of the applications of chemistry in medicine, food production, and metallurgy; in the production of synthetic gasoline, rubber, and fibers; and in the release of atomic energy. A notable omission is a report on the high-energy fuels which are so significant to rocketry, a field with which the chemical industry