book with the wisdom of the past—to such an extent that one might compile from their unlimited fund of quotations his own Practical Cogitator for atomic energy.

HERBERT S. MARKS
Member, District of Columbia Bar.
Formerly General Counsel, USAEC

MIT RADIATION LABORATORY SERIES. Louis Ridenour, Editor-in-chief. McGraw-Hill Book Co., Inc., New York, 1948. Vol. 4, Loran, Long Range Navigation, edited by J. A. Pierce, A. A. McKenzie, and R. H. Woodward, 476 pp., $6.00. Vol. 7, Klystrons and Microwave Triodes, edited by D. R. Hamilton, J. K. Knipp, and J. B. H. Kuper, 533 pp., $7.50. Vol. 14, Microwave Duplexers, edited by L. D. Smullin and C. G. Montgomery, 437 pp., $6.50. Vol. 23, Microwave Receivers, edited by S. N. Van Voorhis, 618 pp., $8.00.

To anyone connected with the wartime development of radar or loran, these books will bring pleasant memories of new and urgent problems and of how they were solved—and personal memories of the many authors as well. In one aspect, these books are a success story, a part of the history of the MIT Radiation Laboratory.

As for technical matters: each book is written by a group of very able men who were, for the duration, at least, practicing experts with a high degree of competence in the fields they cover. This does not mean that the books are necessarily without error, but it does make it futile for any one man, however well informed, to try to criticize them in much detail. They must be accepted for what they are, mines of information both theoretical and empirical, of a standard and completeness rarely encountered in books on similar subjects.

The organization of the books necessarily suffers somewhat from their being written by many authors with a deadline (not met) and as an assigned task. If the books can be said to suffer from anything else it is perhaps some lack of continuity with earlier work. This leads occasionally to absence of proper references and in one instance to an amusing confusion of the Kipp point with the name of one of the authors.

The book on loran is a good straightforward account giving the history, nature, and operation of the system, the geometry involved, pertinent data on propagation and on antennas, and a description of typical equipment. The level is not difficult.

The book on microwave duplexers treats in an orderly fashion a somewhat narrow field arising in radar. However, it is surprisingly rich in material of general interest on waveguides and resonators, presented at such a level as to be thoroughly sound and useful without being abstruse. There is an instructive analysis of magic tees (hybrid junctions) in terms of matrices.

The book on klystrons and microwave triodes includes valuable material, both experimental and theoretical, which is unavailable elsewhere. There is material on microwave triodes, including Neher's close-spaced amplifier, a thorough treatment of klystrons, an excellent account of noise sidebands in reflex oscillators and, for the first time in print, the problem of multi-velocity electron streams at large transit angles is at least formulated.

The book on microwave receivers has valuable material on band width and noise in amplifiers, including the effects of feedback. It also covers a-v-c, a-f-c, converters, superregeneration, measurement and constructional technique, and describes typical receivers.

It is rather overwhelming to realize that with all the material in these books, they still cannot be complete, and that new as they are, they cannot be entirely up-to-date.

J. R. Pierce
Bell Telephone Laboratories

PHYSICS OF SOLIDS: Part I. By Georg Joos. 228 pp. Office of Military Government for Germany, 1947.

This is one of the series (written in German) in the FIAT (Field Information Agencies, Technical) Review of German Science, 1939–1946, of which a very limited number of copies will be distributed by the Department of Commerce. A German edition will appear under the title "Naturforschung und Medizin in Deutschland, 1939–1946" and will be printed from the same plates insofar as possible.

Books Received

VIBRATION AND SOUND. 2nd ed. By Philip M. Morse. 468 pp. McGraw-Hill Book Co., Inc., New York, 1948. $5.50.

HYPERFINE STRUCTURE IN LINE SPECTRA AND NUCLEAR SPIN. 2nd ed. By S. Tolansky. 120 pp. Methuen & Co., Ltd., London, 1948. $1.20.

ERGÄNZUNGEN ZUR EXPERIMENTALPHYSIK. By H. Greinacher. 186 pp. Springer-Verlag, Vienna, 1948. $2.80.

COLLEGE PHYSICS. By E. F. Burton, H. Grayson-Smith, and F. M. Quinlan. 724 pp. Pitman Publishing Corp., New York, 1948. $4.50.

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WHEREABOUTS

MARCUS A. ACHESON has been appointed chief engineer for the Radio Tube Division of Sylvania Electric Products Inc. Mr. Acheson was formerly manager of the Advanced Development Department of Sylvania's Central Engineering Laboratories.

DR. JOHN N. ADKINS, assistant professor of geophysics at the Massachusetts Institute of Technology, has been granted a year's leave of absence to assume his new duties as head of the Geophysics Branch, Physical Sciences Division, of the Office of Naval Research. Dr. Adkins succeeds DR. ROGER R. REVELLE, who will return to the Scripps Institution of Oceanography as associate director, after a leave of absence from the institution.

W. G. ANDERS has joined the Physical Branch, Chemical Division, Chemical Corps Technical Command, Army Chemical Center, Maryland, as a physicist.

MR. DAVID L. ANDERSON of Harvard University has been appointed assistant professor of physics at Oberlin College, Ohio.

DR. CHRISTOPHER E. BARTHEL, JR., has been named chairman of physics research at Armour Research Foundation of Illinois Institute of Technology, to succeed DR. HALDON A. LEEDY, who was recently appointed director of the foundation.

Washington University, St. Louis, Missouri, announces four appointments to the department of physics: as associate professor, SERGIO DE BENEDETTI, of the Clinton Laboratories; as assistant professors, C. SHARP COOK, of Indiana University, GEORGE E. PAKE, a Fellow at Harvard University, and FRANKLIN B. SHULL, a Fellow at the University of Michigan.

DR. WAYNE B. DENNY, assistant professor of physics at Oberlin College, Ohio, has accepted a position as associate professor of physics at Grinnell College, Iowa.

DR. CARL ECKHART has been named director of the University of California's Scripps Institute of Oceanography at La Jolla, to succeed DR. HARALD U. SVERDRUP, who has resigned to return to his native Norway as director of the new Institute of Polar Studies at Oslo. At Scripps Institute, Dr. Eckart will direct the activities of a staff of approximately thirty faculty members and forty graduate students investigating the ocean and its weather, flora, fauna, chemistry, physics, geology, and commercial possibilities.

DR. LEONARD EISNER, VERNON W. MYERS, and RICHARD G. STONER have been appointed to the physics staff of The Pennsylvania State College.

DR. DOUGLAS H. EWING has been appointed Manager of Advanced Development Engineering of the RCA Engineering Products Department.

DR. T. KEITH GLENNAN was inaugurated as fourth president of Case Institute of Technology, Cleveland, Ohio, on May 21.

PROFESSOR KARL F. HERZFELD, head of the physics department of The Catholic University of America, Washington, D. C., has arrived in Munich, where he will be Visiting Professor of Physics for the coming quarter.

CHARLES A. MABEY, formerly director of research of The Bristol Company, Waterbury, Connecticut, has joined the staff of the Electronics Division of the National Bureau of Standards.

ERIC NICOL has been appointed Director of Organization and Personnel of the United States Atomic Energy Commission, to succeed FLETCHER C. WALLER who is now Assistant General Manager.

DR. THOMAS C. POULTER will become associate director of the Stanford Research Institute, Stanford University, California, on the termination of his work at the Armour Research Foundation.

PROFESSOR GEORGE D. ROCK has been appointed dean of the Graduate School of Arts and Sciences of The Catholic University of America, Washington, D. C.

SAMUEL UNTERMYER has joined the staff of the Pile Research and Development Division of the Argonne National Laboratory as an Associate Mechanical Engineer.

DR. SOL WEXLER has joined the staff of the Experimental Nuclear Physics Division of the Argonne National Laboratory, Chicago, Illinois, as an associate physicist.

BOOKS *Continued from page 19*

THE MICROSCOPE, ITS THEORY AND APPLICATIONS. By J. H. Wredden. 296 pp. Grune & Stratton, New York, 1948. $5.50.

INTRODUCTION TO THE DIFFERENTIAL EQUATIONS OF PHYSICS. By L. Hopf, translated by Walter Nef. 154 pp. Dover Publications, Inc., New York, 1948. $1.50.

ELEVEN AND FIFTEEN-PLACE TABLES OF BESSEL FUNCTIONS. By Enzo Cambi. 154 pp. Dover Publications, Inc., New York, 1948. $3.95.

LOGIC AND SCIENTIFIC METHODS, An Introductory Course. By Herbert L. Searles. 326 pp. The Ronald Press Co., New York, 1948. $3.50.

PROCEEDINGS OF A SYMPOSIUM ON LARGE-SCALE DIGITAL CALCULATING MACHINERY. Vol. XVI, The Annals of the Computation Laboratory of Harvard University. 203 pp. Harvard University Press, Cambridge, 1948. $10.00.

THE CORROSION HANDBOOK. Edited by Herbert H. Uhlig. 1188 pp. John Wiley & Sons, Inc., New York, 1948. $12.00.

THE DIARY AND SUNDRY OBSERVATIONS OF THOMAS ALVA EDISON. Edited by Dagobert D. Runes. 247 pp. Philosophical Library, New York, 1948. $4.75.

SCIENCE YEAR BOOK OF 1948. Edited by J. D. Ratcliff. 244 pp. Doubleday & Co., Inc., New York, 1948. $3.00.

INDEX, RCA TECHNICAL PAPERS, 1947. Vol. II(b). 24 pp. RCA Review, Princeton, New Jersey, 1948. No charge.