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Edited by **LOUIS N. RIDENOUR**, Vice-president, Telemeter Corporation, and Visiting Professor of Engineering, University of California, Los Angeles. In press

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By **L. GRANT HECTOR**, Sonotone Corporation, **HERBERT S. LEIN**, University of Buffalo, and **CLIFFORD E. SCOUTEN**, formerly University of Buffalo. 731 pages, \$6.00

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In some respects, this reviewer expects that Sturley's style and his treatment of fundamentals would be quite irritating to the theoretical or mathematical radio student. For example, in discussing the modulation of a carrier wave on page 1 of the text, we find "Such a carrier wave possesses two fundamental characteristics, amplitude and time, either of which may be varied by the original signals." The statement that *time* is a characteristic of a signal wave reappears at other points in the text. Along this same line, in Appendix 1A, we find *Z* equated to the absolute value of the impedance of a circuit in equation 1A.2 and the same symbol equated to the complex impedance in equation 1A.3. Since the purpose of this appendix is to explain complex qualities to the reader, this lack of care in terminology is inexcusable.

One might point out examples in Sturley's text of dogmatic statements which have been refuted by developments in communication art since the time that his manuscript was completed. Also, there are certain inconsistencies. For example, on page 23 it is pointed out that a balanced detector forms a useful part of a frequency modulation receiver. In discussing detection on page 614, however, we find that "It has been shown that only under special circumstances can full-wave detection prove superior to half-wave detection, and the latter is almost universally employed in receivers."

Even though these lapses by the author will prove galling to the purist, they are not so important as to reduce greatly the value of the book to the general student. And, one would expect to find *Radio Receiver Design*, Part I on the practicing radio engineer's bookshelf alongside its American counterpart by Terman.

Mathematics in Western Culture. By Morris Kline. 484 pp. Oxford University Press, New York, 1953. \$7.50. Reviewed by C. Süsskind, Stanford University.

This is the latest member of the excellent Oxford Mathematics Books series, which also contains the Courant-Robbins *What Is Mathematics?* and Kramer's *The Main Stream of Mathematics*. Professor Kline has set himself the imposing goal of showing that mathematics constitutes a major cultural force in Western civilization; his book is a cogent argument in support of this thesis.

The role of mathematics (and indeed of all science) in the evolution of our civilization has been expounded at length before, most frequently with reference to technological development. In the present volume, the author has undertaken nothing less than to trace the influence of the "queen of the sciences" on such diverse disciplines as philosophy, religion, sociology, literature, music, and the visual arts. To find a scientist who is perfectly at home in all of these fields is in itself quite startling in this day and age, but it is positively amazing to find one who is also a good enough writer to perform the literary *tour de force* of presenting the argument in a manner that will satisfy and fascinate both the layman reader and the scientist.

One of the main reasons why the narrative manages to hold our attention is that it proceeds with many a refreshing change of pace—now an exciting biographical account, now a leisurely philosophic discourse.

In addition to being a connoisseur of the arts (the chapter on Painting and Perspective, which is the only one illustrated by plates, is among the most convincing), Morris Kline is obviously a well-read man. His penchant for eighteenth-century poetry serves him particularly well: the section that discusses the effect of Newton's work on literature and aesthetics is at once witty and erudite.

The material is presented in chronological sequence. As we reach the more recent developments, such as the contributions of Cantor, Lobachevski, Bolyai, Riemann, and Einstein, we find that we are concentrating more and more on the description of the new theories and less on their implications. When he comes to quantum mechanics, the author wisely declines even to explain the subject itself (much less its influence), and regretfully passes on—to a brilliant final chapter in which mathematics is discussed for its own sake, as an important part of our culture.

Mathematics in Western Culture represents an important addition to the book shelf of any scientist who has been touched by the growing awareness of the impact that his work is having on the modern world.

Physics Literature. A Reference Manual. By Robert H. Whitford. 228 pp. The Scarecrow Press, Washington, D. C., 1954. \$5.00. *Reviewed by R. A. Beth, Western Reserve University.*

From the preface: "This is a survey of physics literature at the college level. It describes the many types and forms available, selects a representative working collection, and outlines efficient library methods. . . . Background materials have been interspersed for greater interest and information." The arrangement of this guide, by the technology-physics-chemistry librarian of The City College in New York, is novel; it is based on the "approach" (bibliographical, historical, biographical, experimental, mathematical, educational, terminological, or topical) that an information seeker may have in mind. While useful to the research worker, the book should be of particular value to the teacher and student of physics, the graduate student and his advisers, and those who do not have access to expert library guidance.

Climatic Change. Evidence, Causes, and Effects. Edited by Harlow Shapley. 318 pp. Harvard University Press, Cambridge, Massachusetts, 1953. \$6.00. *Reviewed by Arthur Beiser, New York University.*

In an effort to elucidate the powerful but unknown forces responsible for the great ice ages, the American Academy of Arts and Sciences held a conference in 1952 at which a number of astronomers, geologists, meteorologists, paleontologists, paleoanthropologists, and

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