peratures below 300°K are: density, expansivity, thermal conductivity, specific heat, enthalpy, heats of transition, phase equilibria, dielectric constants, adsorption, surface tension, and viscosity where appropriate. A cross-referenced bibliography of 1068 references is included.

The charts, which are really the primary vehicle here for the presentation of the data, are well prepared and are probably useful to the design engineers for whom they were intended. The tables presented on the backs of these charts should, however, be used with caution. They should not be used as definitive values since they are not the result of the painstaking critical analysis required for such purposes. In this connection it should be mentioned that the words "selected values" or "best values" used in the introduction in describing the tabular material serve more as a description of the hope and intention of the authors than of an accomplished fact. To continue in this vein, however, would be to lose sight of the fact that this "formal publication" represents an abortive birth and should be treated accordingly.

Beyond these remarks, the reader is reminded that this $30 compendium is available in an equivalent or perhaps even better format for $13 (Part 1, PB 171618, $6.00; Part 2, PB 171619, $4.00; Part 3, PB 171620, $3.00) from the Office of Technical Services, Department of Commerce, Washington 25, D. C.

Non-Destructive Testing. By J. F. Hinsley. 495 pp. Macdonald & Evans Ltd, London, 1959. Distr. in US by Gordon & Breach, New York. $15.50. *Reviewed by Walter G. Mayer, Michigan State University.*

THE subject of nondestructive testing is presented in such a manner that the uninformed reader will have no difficulty in understanding this lengthy review of well-known methods while the more expert reader may occasionally become a little impatient.

The first fifty pages deal with definitions, general descriptions of the merits of nondestructive testing, and related preliminaries. This is followed by an extensive résumé of x-ray techniques and radiological methods, complete with historical sketches. Less extensive chapters on ultrasonic and magnetic flaw detection are followed by short discussions of other rather well-known techniques. Various procedures are outlined for the actual performance of specific tests with the emphasis on radiological techniques. The book also contains short chapters on mathematical principles and certain safety precautions.

The book is well illustrated although many pictures of assorted hardware do not seem to contribute too much to the understanding of the subject matter. It is perhaps not surprising that much space is devoted to radiological techniques: the author is chief radiologist and physicist with a British industrial concern. His position may possibly account for the fact that—in comparison with the other chapters of the book—the author presents the sections on radiology with authority obviously based on experience.

Unfortunately, very few references are given; the majority of them quote British journals and books. The reader is frequently referred to British standards and no particular effort seems to have been made to inform him about the literature on the subject published in other parts of the world. This tendency can be expected if one reads the preface where the author states that it is not unusual for a scientific discovery to be made by two workers far away from each other, and that subsequent writers should regard such events as "national issues to the extent of championing the contributions of inventors from their own countries and almost disregarding work done elsewhere".

One should consider this book more suited for the beginner than for the advanced worker. Its main purpose is the presentation of technological methods and procedures of nondestructive testing to a reader with a limited background in physics. The somewhat sketchy treatment of certain topics and the serious reference deficiency make other books on the subject more attractive.

Statistical Theory and Methodology in Science and Engineering. By K. A. Brownlee. 570 pp. John Wiley & Sons, Inc., New York, 1960. $16.75. *Reviewed by R. Bruce Lindsay, Brown University.*

STATISTICAL reasoning in physical science has been well established for the past one hundred years. In the other sciences and in engineering its application has been of slower growth. At the present time, however, there is no aspect of human experience subject to quantitative study in which statistical methods are not employed, and there exists a vast number of books on the subject ranging all the way from fundamental treatises such as those of R. A. Fisher to the "cookbooks" of statistical "recipes". The present volume is a substantial textbook on statistical methodology with numerous illustrations chosen from science and engineering. It develops the basic idea of a statistical distribution with great care and thoroughness, and the common types of distributions are described and analyzed in detail.

Clear and simple explanations of the meaning of estimation and the testing of statistical hypotheses are provided. The analysis of variance and the discussion of regression and correlation are carried out in greater detail than in most general texts on statistics. The mathematics used is mainly college algebra, though some calculus creeps in at various points. Many illustrations are developed in great numerical detail and a wealth of problems for the student to test his skill on is presented. There is no reference to statistical mechanics, but the student of physics will find his old friend, the standard deviation (the square root of the variance), playing a very significant role in the whole of the author's development. The book has some useful statistical tables and a fair bibliography, but a rather inadequate index. The style of writing throughout is clear and agreeable.