The book must be reviewed as a collection of papers presented as an extension course to listeners who have a wide range of backgrounds and interests. As such, it should not be faulted for review material and references less extensive than Darwin and Buddery's *Beryllium*, a definitive review and critique of the beryllium literature to 1960. Nor is H. H. Hausner's book to be judged as a text, which it is not.

For a survey volume, several authors should have been more diligent in including material other than their own and should have concentrated on telling rather than selling. Trade names have become traditional, for lack of industry standards, but they detract from readability and usefulness. More ruthless editing might have pruned some excessive detail and questionable data. The most serious criticism is lack of an index, without which such references are most difficult to use effectively. Note should be made of possible obsolescence, since this is a survey as of March, 1963, and technological advances since that date are numerous.

Norman P. Pinto, Vice President of The Beryllium Corporation, graduated from MIT and has been active in the beryllium field since 1943. He conducted research on the fundamentals of beryllium powder metallurgy and later managed a major beryllium refinery and production plant. Currently, he is responsible for research and development in beryllium and beryllium alloys. He has contributed significantly to the literature on beryllium metallurgy.

A PAINLESS PILL

Title Sampling

Author Morris James Slonim

Publisher Simon and Schuster, 1966

Pages xiii + 143

Price $1.45 (paperback)

Reviewer Margaret K. Butler

The author has based this book on notes originally published in a US Air Force Statistical Services Technical Letter written to instruct Services personnel in sampling and the value of the sampling technique. It is essentially a sales pitch for the use of sampling, prepared for those unfamiliar with this statistical tool.

The paperback consists of an expanded glossary of sampling terms—universe, sampling with and without replacement, tolerance, confidence limits, sampling error—and methods including random sampling, stratified, cluster, and systematic sampling. Even interpenetrating replicate subsamples are defined, all in a highly palatable style accompanied by humorous examples and drawings. Brief descriptions of polls, television program ratings, quality control, and acceptance sampling procedures are also included as well as a wide variety of case histories giving the reader the impression of having covered the sampling waterfront albeit in a somewhat breezy fashion.

The book is an interesting extracurricular evening's reading. If after this sugar-coating one elects to swallow the pill and use sampling it would be wise to devote a few additional hours reading more substantial tests on statistical methods. If not, he's had an enjoyable experience, painlessly acquiring an overview of the subject.

Margaret Butler is a mathematician in the Applied Mathematics Division of Argonne National Laboratory. After receiving her BA degree in mathematics from Indiana University, she served as a statistician with the US Bureau of Labor Statistics in Washington, D. C., and the US Air Forces in Europe. She has been a member of the Argonne staff since 1948, except for a two year break when she headed a Minnesota-US Bureau of Labor Statistics payroll project in St. Paul, Minnesota.

FORMULAS - HUNDREDS OF THEM

Title Formulas For Stress and Strain (4th Ed.)

Author Raymond J. Roark

Publisher McGraw-Hill Book Company, 1965

Pages xiii + 432

Price $12.50

Reviewer M. M. Lemcoe

This book brings together, in working-reference form, basic definitions, assumptions, formulas, and principles pertaining to strength of materials. Part I comprises two chapters which contain definitions of pertinent terms used in strength of materials or materials technology, and the symbols and units used in formulas appearing later in the book.

The four chapters of Part II deal with the general behavior of materials under stress, failure criteria, and effects of materials properties on the static, dynamic, and fatigue behavior of materials. In addition, the basic principles, analytic and experimental methods or tools used in stress and deformation analysis are described, including brief sections on dimensional analysis, equations of motion and of equilibrium, principle of superposition, and strain energy methods.

Formulas for calculating the combined stress at a point are presented in Part III, comprising eight chapters. An introduction to the theory of the bending of straight or curved beams is given, along with formulas for shear, moment, and deflections of: beams and reactions in rigid frames; beams of great depth or width; beams subject to simultaneous axial and transverse loading; circular rings and arches. Shear lag, beams