metal single crystals," R. Madding and N. K. Chen give an extensive discussion of the formation of slip lines and the slip systems in B.C.C., F.C.C., H.C.P., and other metal crystals. The article by N. J. Petch on "Fracture of metals" is less satisfactory. Some important contributions to this field are neglected, while undue emphasis seems to be placed on the author's own theory that associates Griffith cracks in metals with arrays of blocked dislocations.

The two remaining articles relate, respectively, to the solidification and structure of liquid metals. The former, by U. M. Martius contains an extensive summary of the data related to pure metals, but the segregation of alloys during solidification is only barely touched on. B. R. T. Frost gives a useful, if somewhat uncritical, review of the structure of liquid metals. The section of his article treating the thermodynamics of liquid alloys is too sketchy to be of much value and contains an excessive number of small errors which will be irritating to the specialist and a source of confusion to the nonthermodynamicist.

The only general complaint I would make is that the value of some of the contributions would have been enhanced by the inclusion of a summary either at the end or beginning of each article. Otherwise, the presentation and typography maintain the very high standard set by the previous volumes. An excellent name and subject index is included.

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Modern Experiments in Telepathy. S. G. Soal and F. Bateman. Yale Univ. Press, New Haven, 1954. xv + 425 pp. Illus. + plate. $5.

The authors have presented a book intended for the purposeful reader and the student of parapsychology. Its primary purpose is to consider much of the available evidence concerning telepathy from the point of view of the scientific statistician. This purpose is admirably fulfilled by a careful résumé of the historical background and experimental approaches to paranormal happenings. As nearly as possible, the authors have attempted to confine themselves to extrasensory perception (ESP) in its relation to card guessing, basing their work on the assumption that "the validity of any piece of scientific research depends ultimately upon its confirmation by other investigators. . . ." They have assembled an impressive array of experiments and data, carefully evolved, minutely recorded, and, within limits, capable of reproduction by other investigators. In their endeavor to eliminate deception, fraud, and artifact, they have imposed extreme and, at times, absurd precautions.

A secondary theme of the book appears to be a refutation of those hypotheses that seek to explain the beyond-chance results of ESP experiments as being due not to telepathy or extrasensory perception but, instead, to artifacts or defects in our theory of probability. The evidence offered as rebuttal to these hypotheses, however, is based chiefly upon statistics derived from the very probability theory under question. It seems that the reliability of such reasoning is unsound. More attention might well be directed not toward an evaluation of the mathematical accuracy of those statistics dealing with beyond-chance expectations but rather toward a determination of whether random distribution based upon these statistics actually behaves in practice as would be predicted by accepted probability theory.

The book provides, in addition to adequate testing techniques, a review of the hypotheses that seek to explain ESP., a summary of current research in the field, a correlation of parapsychology with the more orthodox sciences, and an insight into methods of statistical analysis. An extensive appendix, a bibliography, and a well-organized index enhance the usefulness of the book as a guide for those who wish to investigate or evaluate paranormal phenomena on a scientific basis.

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Complex Variable Theory and Transform Calculus. With technical applications. N. W. McLachlan. Cambridge Univ. Press, New York, ed. 2, 1953. xi + 388 pp. Illus. $10.

This is a second edition of a work originally published in 1939 under the title *Complex Variable and Operational Calculus with Technical Applications.* In the preface to this new book, the author says, in speaking of the two editions:

> . . . the degree of rigour seemed to be adequate, but certain pure mathematicians (and physicists!) who reviewed the book disagreed. In the interim, the standard of technical mathematics has improved, and it is now possible to be more rigorous than before. Accordingly the chapters on Complex Variable Theory have been rewritten, amplified, and made rigorous enough for all but the pure mathematician, *to whom the book is not addressed.*

This change in attitude toward mathematics is most welcome, although it would seem that there is still much room for improvement in the average electrical engineering article of the present day. Let us hope that McLachlan's colleagues will follow his lead.

Almost exactly one-half of the book is devoted to an exposition of certain portions of the theory of functions of a complex variable, particularly such topics as the calculus of residues, contour integration, operations with integrals, and transform theory. The second half deals with applications of these mathematical disciplines to a variety of technical problems drawn largely from electrodynamics and related fields. The more specialized applications include studies of the influence of gun recoil on the motion of an airplane, radio receiver circuits, various aspects of partial differential equations, loaded and unloaded cable circuits both with and without terminal apparatus, electric wave filters, condenser microphones, and loud-