else. Low-angle scattering was indexed under Scattering only. These are but a few of the examples.

In connection with the conversion table of kX to Å, the reviewer noted what seemed to be an unnecessary, and therefore disturbing, numerical discrepancy of one unit in the difference column between the kX and the Å columns.

Although both the compiler and the American publisher, in their acknowledgements at the beginning of the book, extend their sincere apologies to any and all authors whose data have been used, but inadvertently credited to a secondary source, there are many other shortcomings in the bibliography of 464 references (up to 1960 only) cited at the end of the book. Perhaps the most important is that the references have not been arranged in any systematic way. They follow neither the sequence of citation in the book, nor an alphabetic sequence of first author, nor a chronological order. Thus, it is not surprising to find some references quoted twice. For example, references 39 and 145 are the same, as are 36 and 148.

Chapter 8, which was singled out for closer study, seemed poorly organized. Thus, the section (8-3) on x-ray determination of dislocation densities, using particle size (translated as block size) and rms strain (translated variously as lattice deformation, atomic displacement, etc.), was placed between sections dealing with the determination of these quantities, rather than at the end of these sections, i.e., at the end of the chapter (after 8-12). The section (8-9) on the value of the constant in the Scherrer equation $D=K\lambda/\beta\cos\theta$ follows the section (8-7) on the separation of the effects of block-size and of microstress, so that this equation has to be repeated unnecessarily. A few lines (on p. 592) are devoted to the measurement of stacking–fault probability, α, with reference, curiously, only to body-centered cubic crystals, which in general (except for those formed martensitically) do not contain stacking faults, whereas no mention is made of faults in face-centered cubic and hexagonal close-packed structures, in which they are far more common. Consequently, also, there appears to be no mention of the peak shifts produced by stacking faults in the diffraction patterns from face-centered cubic structures and now so widely used to measure α in these structures. Furthermore, these peak shifts can seriously influence the measurement of residual stresses by x rays.

There are many more curious inconsistencies in this and other chapters. For example, in a table (section 6-9) listing the lattice constants of some standard substances, gold is included, but no value of the lattice constant is given! Presumably one is supposed to consult the reference cited.

The ASTM Power Data File, the 1957 version of which apparently appeared in the Russian version of this book, has been omitted from translation by the publisher and an explanatory note printed (p. 425) instead.

The description of x-ray units is confined to Sóviet instruments, which may be of great assistance to all who follow the Russian literature on crystallography. Also, there are numerous good illustrations of many of the crystal structures. These are among the several good features of the book, which in spite of its many shortcomings, will undoubtedly be of great help to laboratory workers in industry and educational research institutes as an extremely valuable source book. Although the price is rather high, this comprehensive reference volume will, nevertheless, serve as a useful addition to most x-ray laboratories.

Les Fonctions généralisées ou Distributions. By M. Bouix. 223 pp. Masson et Cie, Paris, 1964. 46 F.
Reviewed by J. E. Mansfield, Harvard University.

This book nicely complements the number of excellent monographs on distribution theory that have appeared in recent years. The approach is fundamental and pedagogical, though it is problematical whether rigor suffers at all from this approach. The general orientation and development lead to the study of differential equations, a fact that will be of particular interest to physicists. A general treatment it admittedly is not; the basic theme is one of application, especially as regards the introduction of singular sources into field equations.

The notion and definition of a distribution are developed in both popular ways: by Schwartz' method of linear functionals; and by the limit method of Mikuzinski and Sikorski, called here the method of fundamental sequences. Extension to complex variables allows a simple interpretation of the Cauchy and Hadamard principal parts. The treatment of the Dirac delta function is very complete; a whole chapter is given to the complex plane extension and derivatives.

Special cases of Fuchs' theorem are discussed in the case of distribution solutions to certain differential equations. An extensive survey of familiar differential equations is given in this light. Especially helpful is a very concise appendix on the Lebesque integral.

Unfortunately there is no treatment of the Fourier transform, though references are given. Also the applications are chosen more from a pedagogical than from a practical viewpoint. Thus this little book is rather a complement to some of the more specialized books, such as Arsac.

Optical Illusions. By S. Tolansky. 156 pp. (Pergamon, Oxford) Macmillan, New York, 1964. $5.00.
Reviewed by L. Muldawer, Temple University.

"This book is an attempt to revive and revitalize an almost forgotten subject. It is not at all aimed at the professional psychologist, but, on the contrary, is addressed to the layman, to the artist, and to the scientist." So writes the author in his preface. He has succeeded in presenting the subject of geometrical illusions in a pleasant, interesting, and nonmathematical way. The physicist might be tempted to ask for a more mathematical treatment but we are warned that theory of illusions is primitive and that "it is wiser to restrict oneself to the bare exposé of the illusions and leave it at that."

The author *does* consider causes of the bisection illusion and discards several hypotheses as obvious failures. But the author could have suggested several obvious experiments which would have borne him out: (1) close one eye and examine, (2) rotate figure 90° and examine. Professor Tolansky shows that the number of independent