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experience but to contribute to the welfare of people. Positivism is ardently attacked, and the materialistic view of the universe is taken for granted.

Physicists may be interested in the article by V. Novacu on "La Méthode Dialectique et les Sciences Physiques." Here, the author provides a rapid review of the history of physics from the 19th century to contemporary high-energy physics. Leaving aside the continual emphasis on dialectical materialism, the treatment is superficial, though it is clear that the writer has read widely in contemporary physical literature.

**Absorption Spectra in the Ultraviolet and Visible Region, Volume 3.** L. Láng, ed. 424 pp. Academic, New York, 1962. \$20.00.

Reviewed by *Stuart A. Rice, University of Chicago.*

This book is a loose-leaf compilation of the absorption spectra of complex organic molecules. In each case there is a reproduction of the spectrum (usually over the range 2000 to 5000 angstroms) accompanied by a table of optical densities in one or two solvents. The book is provided with a celluloid over-leaf which permits accurate reading of the graphs.

In general, the spectra represented are of low resolution and show no vibronic structure. The compilation will primarily be of use for analytical purposes and not of great interest to physical chemists or physicists.

**Fourier Analysis on Groups.** By Walter Rudin. No. 12 in Tracts in Pure and Applied Mathematics, edited by L. Bers, R. Courant, and J. J. Stoker. 285 pp. Interscience, New York, 1962. \$9.50.

Reviewed by *Dagmar Renate Henney, University of Maryland.*

This is another superior book from the Interscience Tracts in Pure and Applied Mathematics, which takes its readers to the forefront of an interesting but advanced level of research done in modern mathematics. There are no exercises, and the material is too difficult for the undergraduate or beginning graduate student. But it is of great value to those who are actively doing research in the field of harmonic analysis. It is assumed that the reader has a background consisting

of courses in topology, topological groups, elements of functional analysis, and measure theory. Some essential topics concerning these background subjects are given in the appendix. Which means, of course, that a complete list of results and a complete proof (if one is given at all) cannot be achieved.

The first two chapters of the book cover essentially the development of the theory of Fourier analysis on locally compact Abelian groups. These two chapters are primarily introductory in nature. The remaining seven chapters consist of material which is presented for the first time in book form. These chapters are based on research papers which have only in recent years appeared in mathematical journals. The main object of study is the group algebra of all complex functions on a group which are integrable with respect to the Haar measure and the group algebra consisting of all bounded regular Borel measures on the group. Though the solutions of some of the problems under consideration are almost complete at the present time, various open questions remain and a graduate student might be tempted to select any one of them as a thesis project.

**Introductory Statistical Mechanics for Physicists.** By D. K. C. MacDonald. 176 pp. Wiley, New York, 1963. \$6.75.

Reviewed by *William S. Bickel, Pennsylvania State University.*

Ever since the fusion of two major theoretical sciences, thermodynamics and classical mechanics, into a new theoretical science — statistical mechanics, there has been a gradual evolution of both the mathematical elegance of its structure and of the techniques of demonstrating its application. Even with the classic texts on hand and many other books supplementing the classic texts, MacDonald's *Introductory Statistical Mechanics for Physicists* will still be welcome as a satisfying, almost entertaining introduction to this seemingly esoteric subject. Intended primarily as a modest introduction to the standard texts, especially for physicists working with the solid state and low temperatures, this book will fulfill this aim admir-



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ably. Its main feature is a fresh commanding approach to the basic ideas of statistical mechanics without an aura of involved mathematics.

After a concise discussion of fundamental principles, this monograph then elucidates two major areas treated by statistical mechanics—the vibrations of crystalline solids and gaslike assemblies. With special emphasis on questions of particular interest to physicists, problems of normal coordinates, Debye and Einstein models for solids, details on anharmonicity and some nonequilibrium phenomena are dealt with. Considerable attention is paid to Fermi-Dirac and Bose-Einstein statistics and to a Bose-Einstein application to the liquid-helium problem. Mathematical simplicity, which characterizes this monograph, has been achieved by including more detailed physical essentials in five appendices.

The book is well written. It is interesting and even enjoyable to read. In particular, a noteworthy feature is the many footnotes which give both an informal and historical insight to the growth of statistical mechanics that is rarely seen in text books.

**Theory of Elasticity of an Anisotropic Elastic Body.** By S. G. Lekhnitskii. Transl. from 1950 Russian edition by P. Fern. Edited by Julius J. Brandstatter. 404 pp. Holden-Day, San Francisco, 1963. \$10.95.

Reviewed by E. H. Dill, University of Washington.

Lekhnitskii is responsible for the pioneer work, beginning in 1936, in the use of complex variable techniques in the two-dimensional theories of anisotropic bodies, and he eventually published two monographs on anisotropic problems, *Anisotropic Plates* (1947) and the present book in 1950. A translation of the first book has been available for some time, and all scholars of elasticity, as well as those persons who are merely interested in the applications to anisotropic bodies, will welcome this translation of his second classic monograph.

The book appears to be photo-offset from a typed copy, but the quality of reproduction, paper, and binding is excellent. The contents include an extension of the elementary solutions for isotropic materials to the anisotropic case, and an extensive treatment

of the two-dimensional problem. No attempt is made to include the bending of plates and shells.

This is, of course, an old book and represents the state of knowledge at the time of writing, but little more has been done with regard to the linear theory since that time. The treatment uses elementary mathematics, and may appeal therefore to a wider class of readers than more modern treatments which tend to use tensor analysis. It is unfortunate that the editor has not chosen to provide introductory remarks which orient this book in the history of the subject and which relate it to more recent publications on anisotropic materials.

**Ausgewählte Abhandlungen.** Mit einem Verzeichnis der wissenschaftlichen Schriften. By Max Born. Vol. 1, 718 pp; Vol. 2, 706 pp. Vandenhoeck and Ruprecht, Göttingen, 1963. DM 100 per set. Reviewed by Emilio Segrè, University of California, Berkeley.

The author was born in 1882 in Breslau, Germany. Thus he was 18 years old at the time of the introduction of  $h$  into physics, and 23 at the time of Einstein's first paper on relativity. From these dates it is apparent that Born is a contemporary of Bohr and Einstein. He could not have chosen a better time to participate in the development of quantum theory and relativity. In his maturity from the early 1920's until 1933, he was professor of theoretical physics at Göttingen, and one of the most popular teachers and leaders in the field. Between 1920 and 1925, Heisenberg, Jordan, Pauli, Fermi, and many, many other young physicists from Germany and other countries learned from and worked with Born at Göttingen, which was then one of the major centers of theoretical physics in the world. The advent of Hitler destroyed that center of learning; however, the works performed there remained, and these volumes are a suitable testimonial to that golden period of theoretical physics.

The selection of Born's papers collected in this volume reflects several of the most important developments in theoretical physics during the last 50 years. It is divided into six classes according to subject: (1) Mechanics, relativity, thermodynamics; (2) Crystal