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the standard x-ray texts. On the other hand, a concise monograph like this one, which emphasizes solutions to practical problems using clear illustrative examples, should be most welcome to them. In fact, the book could have been entitled, *Practical X-Ray Metallurgy*.

The author has not omitted the essentials; he merely quotes most of them without proof. Chapter 4, for example, reviews the fundamentals of x-ray diffraction by crystalline matter in about seven pages of text. Conversely, Kovacs' much lengthier treatments of the Laue method and the powder method in Chapters 5 and 6, respectively, are as clearly written as any in the literature. His final two chapters are devoted to practical problems of the sort encountered in industrial research: identification of unknowns, analysis of alloy-phase diagrams, grain-size determination and the texture of wires and sheets. The book concludes with a bibliography of well known reference books.

One might well imagine a number of recalcitrant students being eased into the subject of x-ray diffraction by means of Kovacs' neat little book and the proper faculty guidance. But if you are planning to own just one reference on the subject, you had better look elsewhere.

ALLEN N. GOLAND

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Springer Tracts in Modern Physics, Vol. 49:

Electron Scattering, Photoexcitation and Nuclear Models; Baryon Current Solving SU(3), Charge-Current Algebra
G. Höhler, ed.

146 pp. Springer-Verlag, New York, 1969. \$11.00

This volume of the Springer *Tracts in Modern Physics* is in two parts, as reflected in the title of the book. Although the intent of the tracts is to present competent reviews of modern physics, they are not really intended for the pedestrian in the subject matter.

The first part of this book is a review of the basic theory of electron scattering from nuclei and of photonuclear processes. Several experiments in electron scattering are analyzed and discussed along with the theory. The giant-resonance region, which has received considerable attention in the past few years is emphasized, particu-

larly with reference to inelastic electron scattering and excitation of nuclear levels below and in this region.

The second part of the book is devoted to currents and their algebra. Group dynamics has already provided prescriptions for developing conserved currents for baryons of fixed internal quantum numbers. In this article these prescriptions are extended to apply to an entire SU(3) octet of weak and electromagnetic currents. Once again the treatment is not presented in a tutorial form and will be of interest to particle-algebraists rather than the casual reader.

The *Tracts* form in reality a hard-bound journal of reviews of selected topics of interest to specialists in various disciplines in modern physics. Although they may be valuable sources of information to researchers and serve as keys to new information for them on these selected topics, their audience appeal is not broad.

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Superconductivity Vols. 1, 2

R. D. Parks, ed.

664 pp. and 748 pp. Marcel Dekker, New York, 1969. \$75.00 a set

Superconductivity was discovered in 1911 by Kamerlingh Onnes in Leiden, when he found that the electrical resistance of certain metals vanishes below a critical temperature T_c . Although it was immediately apparent that this phenomenon was a scientific mystery of the first order, as well as having the possibility of many practical applications, progress toward unraveling the mystery or in making applications was rather halting for some 40 years.

Probably the most lasting development was the formulation of a pair of phenomenological equations in 1935 by Fritz and Heinz London to describe the perfect conductivity and perfect diamagnetism. Progress accelerated in the postwar period, leading to the theoretical breakthrough of the "BCS Theory" by John Bardeen, Leon Cooper and J. Robert Schrieffer in 1957. This theory opened the modern era of research in superconductivity, marked by the availability of a successful microscopic theory that