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getting a bargain, for the execution of the book, in binding, printing, and in figures, is excellent. I wonder, however, to what extent this type of approach will hold its own with the increasing number of more specialized and more coherent annual volumes entitled: "Advances in . . .", or "Progress in . . .", or "Annals of . . .", each of which deals only with a small field of physics, such as nuclear physics, or cosmic rays, or solid-state physics.

Elements of X-Ray Diffraction. By B. D. Cullity. 514 pp. Addison-Wesley Publishing Co., Inc., Reading, Mass., 1956. \$10.00. *Reviewed by R. Smoluchowski, Carnegie Institute of Technology.*

This book offers a very thorough but also a very elementary presentation of the basic elements of x-ray diffraction and its applications. It will be most useful to various x-ray laboratory technicians, and, in teaching, it will be suitable for an undergraduate course in x-ray crystallography for metallurgical engineers. In the reviewer's opinion it is not sufficiently advanced to serve as a textbook either for chemistry or physics students or for graduate students in metallurgy. This limitation stems from the fact that, apart from a short appendix, the notion of the reciprocal lattice is not used and that the powerful rotating crystal method is only briefly treated. Apart from this (planned) restriction the book is very well written, covers the ground in a systematic manner, and is very neatly published. Illustrations are numerous and excellent.

The book consists of three sections: fundamentals (4 chapters), experimental methods (3 chapters), and applications (10 chapters). The first two comprise less than half of the text so that the accent, quite rightly, is placed on applications. Of particular value are the excellent chapters on diffractometric techniques, on single crystal orientation, on texture determination, on chemical analysis, and on stress measurement. Of special pedagogical value are problems appended at the end of each chapter and a set of answers to these problems at the end of the book. The book can be highly recommended to all who, without special background, want to become acquainted with x-ray crystallography.

Physics for Everybody. By Germaine and Arthur Beiser. 191 pp. E. P. Dutton and Co., Inc., New York, 1956. \$3.50. *Reviewed by Walter C. Michels, Bryn Mawr College.*

It is indeed unfortunate that public understanding of our profession has been deteriorating just at the time when the research activities of physicists have been undergoing a mushroom-like growth, when our national interests demand the education and wise use of increasing numbers of physicists, and when the physical sciences have become an essential and pervasive part of our culture. In contrast with the present, physics was far better understood in the two decades that preceded

the war, a period during which American physics was just coming of age and was laying the foundations on which the later contributions to the war effort were based. It is almost certainly more than coincidental that the era in which physics enjoyed its greatest respect and private support was one in which well-written popular books brought the subject into the homes and the consciousness of intelligent laymen. Eddington, Jeans, and the younger Bragg, in England; Darrow, Harrison, and Gamow, in this country, were among those who produced readable books that discussed not only the findings of the physical sciences, but also the ideas and the reasoning that led to those findings. They presented contemporary physics as a fascinating human activity, full of drama and of intellectual stimulation.

Plenty of popular books about physics have appeared in the post-war years, but too many of them have concentrated on the nucleus of the atom and on the military, medical, and economic aspects of atomic energy. As a result, many persons now see no distinction between physics and nuclear engineering. Being somewhat frightened of the latter, they view physicists with a suspicion that is akin to that which a primitive savage feels for a medicine man from a distant tribe. Regardless of whether we view our jobs selfishly or altruistically, it is essential that we make serious efforts to educate the public about our profession and our activities.

Physics for Everybody attempts to present physics, both classical and modern, "to a nontechnical audience. The only equipment required of the reader is curiosity—and we hope he will leave the book even more curious about our remarkable universe than when he started reading." Its 22 short chapters (averaging eight pages each) cover about the same range of subject matter as is included in a typical textbook written for introductory college courses. The necessary compression is accomplished by the omission of most of the quantitative discussions, of all but a few very important equations, and of all derivations. In one sense, the result of such omissions is a glossary of physical terms, yet the direct and informal style of the authors and the careful ordering of the topics make the book far more readable and interesting than any glossary could possibly be. The delightful drawings at the beginning of each chapter, done by Sol Ehrlich, also contribute to the acceptability of the volume. When the reader has finished, he will have little idea of how physicists have made their discoveries, but he will have acquired in a painless fashion an acquaintance with a vocabulary that is necessary if he is to read his daily newspaper and his weekly or monthly magazines. He may well, moreover, have overcome a distaste that has been left behind by a poorly taught physics course in high school or college.

Germaine and Arthur Beiser have rendered a service by publishing their book. It is to be hoped that others will take advantage of their work by bringing out other volumes designed to help the public along the road to a better understanding of the sciences upon which our civilization increasingly rests.

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