powerful bombers, air-borne radar for strategic bombing, proximity fuses, and the innumerable other new weapons of the most technological of wars. In that war, in which we were the victims of aggression, it was the obvious duty of every scientist to give our armed forces all the help he could. Now that the war is ended, but firm peace not yet achieved, it remains the duty of every good citizen, including the scientist, to do what is needful to maintain our national strength in order that we may lead in the firm establishment of a strong international organization. Should our Government misuse that strength to start an aggressive war, the scientist, like all other citizens, no more and no less, would share in the guilt if he acquiesced.

As for the second point, while we all earnestly hope that never again will an atomic bomb be dropped on human beings, the only insurance against it is the creation of an international organization strong enough to outlaw the use by any nation of the atomic bomb and other weapons for mass slaughter, to enforce its law by adequate policing, and to inflict individual punishment for infractions. No voluntary association of scientists can exercise such governmental powers. It seems to me unfortunate to deflect attention from the only true remedy by raising hopes in a measure which is certain to prove inadequate.

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Book Reviews

Chemical crystallography: an introduction to optical and X-ray methods. C. W. Bunn. Oxford, Engl.: Clarendon Press, 1945. Pp. xii + 422. (Illustrated.) $7.50.

The author's purpose, as stated in the Preface, is to present a practical guide to optical and X-ray methods for the identification of solid substances and for the determination of atomic configurations in crystals. His treatment of the subjects is designed primarily to introduce the chemist to these techniques and to provide him with a sufficient background to enable him to begin to apply the principles. In accomplishing his purpose, the author has been highly successful. The success is due, in great measure, to the simplicity of the presentation. Mathematics, for instance, has been kept to a minimum consistent with a thorough understanding of the practical applications of crystallography.

The subject matter is divided into two sections. The first, dealing with identification, is concerned with the use of morphological characteristics, indices of refraction, and X-ray powder patterns in chemical analysis. Elementary crystal theory, including symmetry, nomenclature of planes, growth features, etc., is clearly presented. The meaning of the refractive indices and their measurement and use in identification are particularly well developed.

The second section is devoted to structure determination and is an excellent introduction to both its theory and applications. Of particular merit is the use of the reciprocal lattice concept at the beginning of the development of single crystal techniques rather than in a later section, as is customary. In the reviewer's opinion, considerably more emphasis could profitably have been put on the various moving-film methods. These techniques, which are more powerful and easier to interpret than the rotation method, deserve a full discussion for the student being introduced to X-ray diffraction.

In regard to the physical make-up of the book, the author is to be commended for the general excellence of the line drawings, most of which were made especially for the purpose. The inclusion of a section of selected references for the various topics covered would have been an improvement, since no introductory volume can be expected to cover all phases of the subject thoroughly and additional reading is necessary.

On the whole, the present volume is a very worthwhile contribution. It should find widespread use as a text in the study of structural crystallography.

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Principles of dynamic psychiatry: including an integrative approach to abnormal and clinical psychology. **Jules H. Masserman. Philadelphia: W. B. Saunders, 1946. Pp. xix + 322. (Illustrated.) $4.00.**

In the author's own words the purpose of his book is "to provide an orientative introduction to the principles of modern dynamic psychiatry, to outline their application to the techniques of clinical diagnoses, and to demonstrate the rationale and methods of effective therapy." All this in a little over 200 pages of text! Admittedly, Dr. Masserman has set himself a difficult task. If he does not wholly accomplish it, it will surprise no one who possesses any familiarity with this field. Actually, he has made an excellent approximation to his goal, even if he has not quite hit the bull's-eye.

The book is so condensed, so concentrated, that one doubts whether it could possibly convey much meaning to the uninitiated, to the uninstructed reader, however zealous his ardor for learning. Added to this, the author's liking for twenty-five-dollar words (such as "frustraneous," "semeiotic," "circumambient milieu," "temporal desuetude," "identificatory," and "neurogenetic dynamisms") is such that the result is a turgidity and stickiness of style which makes reading sometimes difficult. One gets the feeling of having eaten a meal of K-rations covered with blackstrap molasses. It is very much to be hoped that before the companion text, *Practice of dynamic psychiatry,* appears Dr. Masserman will take his blue pencil firmly in hand and apply it vigorously to all such cant phraseology. If he does, the volume will be a useful addition to expository literature. For there can be no doubt whatever that Dr. Masserman knows his subject. His brilliantly chosen and succinctly put case histories are in themselves evidence of this.

He has, moreover, a mature discrimination and a philosophically holistic point of view which will commend itself to the sophisticated student and is rarely found in an experimentally gifted specialist.

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Basic electrical engineering: circuits, machines, electronics. **A. E. Fitzgerald. New York and London: McGraw-Hill, 1945. Pp. ix + 443. $3.75.**

Planning an electrical engineering course for students majoring in other subjects becomes an ever more difficult task, because the number of topics that might be treated increases with technological progress, while the time allowed for the course usually decreases. Obviously there comes a time when more and more subject matter cannot be crammed in, and it becomes necessary to re-evaluate the field, select only that material which is of current or likely future importance, and organize it into a new whole. This is what the author has attempted in *Basic electrical engineering,* with what appears to be a high degree of success.

The treatment is directed toward the user of electrical engineering apparatus and is by no means a condensation of a complete major course in electrical engineering, as is unfortunately the case with many texts in this field. Emphasis is on external characteristics with only such discussion of the inner workings as is necessary to an intelligent understanding of the equipment. Consistent with modern electrical engineering technology, the treatment of direct-current equipment is subordinated to that of alternating current. Motors are emphasized in comparison with generators, as is appropriate in a text directed to potential users of electrical tools. It is noteworthy that fully one-third of the text is devoted to electronic circuits and equipment.

In style the book is very readable. The theoretical developments are simple and direct, and where there are departures from generality or complete rigor for the sake of brevity some note of this is usually made. Free use is made of electrical engineering short cuts, such as equivalent circuits, vector diagrams, and complex notation. While these are explained adequately, students not proficient in mathematics might have difficulty in grasping the ideas in some cases. There are illustrative examples throughout the book and a fine collection of problems at the end of each chapter.

The book is well designed; diagrams are clear and properly labeled; and there is an appropriate selection of illustrations suitably placed in relation to the text. Typographical errors exist in no more than normal numbers.

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