ton; "Thoughts on the social relations of science and technology in China" by J. Needham; "Metallurgy and technology in the Middle Ages" by R. J. Forbes; "Cause and effect in the history of science" by S. Lilley; "The French Revolution and the progress of science" by R. Taton; "The idea of progress and theories of evolution in science" by S. F. Mason; "Science, industry and society in the nineteenth century" by J. D. Bernal; "Science and confidence in the rational mind" by Dorothy Waley Singer.

This is a noteworthy collection of essays and it will repay careful reading. Not all readers will agree with all the points of view advanced, but it is this very heterodoxy that makes this book important.

MORRIS C. LEIKIND
Armed Forces Institute of Pathology

Elements of Statistical Mechanics. D. ter Haar. Rhinehart, New York, 1954. xix + 468 pp. Illus. $8.50.

The author's preface says

> The reason for writing another textbook on statistical mechanics was the feeling that there should be a textbook which combined in not too large a volume an outline of the main elements . . . with an account of a number of successful applications . . . the book is meant to be a textbook . . . for graduate lectures in the United States or for postgraduate lectures in the United Kingdom.

Part A, 97 pages, discusses the elements of the statistics of independent particles (perfect gases), with little mention of applications; part B, 73 pages, gives ensemble theory; part C, 159 pages, discusses applications in eight chapters, equation of state, condensation, metals, semiconductors, cooperative phenomena (order-disorder), nuclear physics, the origin of elements, and rubber elasticity; part D, 145 pages, is labeled "Appendices." It gives a more detailed discussion of some of the topics considered in parts A and B and a few fundamental topics not explicitly discussed in the text. Most chapters are followed by a page or more of bibliography.

The chemist will be struck by the omission of any mention of the very real success of statistical mechanical theory in computing, from spectroscopic data, the thermodynamic properties of many substances in the gaseous state, and also by the omission of any discussion of applications to liquids, ionic solutions, or magnetic or electric susceptibility measurements. Since just these subjects constitute the main interest of physical chemists in statistical mechanics, the book will be of more interest to physicists than to chemists. With this limitation the book adequately covers its intended purpose. Rather than attempting a single unified approach, the author, in different chapters, tends to discuss most of the important approaches used by different investigators. Insofar as a single approach carries the thread, it is that of Kramers, to whom the author makes due acknowledgment. Of necessity, since so much is mentioned, parts of the discussion are scanty and end with "we refer the reader to the original publication for a more detailed discussion." The extensive bibliography will be valuable to the serious student.

The book seems to suffer from some defects. Classical and quantum statistics are rigidly separated in different chapters. Since statistical mechanics offers the easiest field for unifying and merging quantum and classical behavior, this seems highly unfortunate. The author does not appear to have written all parts for students of the same level of sophistication. For instance, in chapter III quantum mechanics is introduced to a reader who had not yet heard of h, but in chapter VII the density matrix operator is used with the assumption that the student is fully familiar with operator theory. Occasionally rather simple but important principles are either omitted or quite inadequately stressed. For instance, that Bose rather than Fermo statistics apply to atoms or molecules containing an even number of neutrons appears not to be stated, and the reader of chapters IV or VIII, in which the behavior of helium is discussed at length, might have the impression that it is still very uncertain which statistics to use for He_4, and no reason for choice in the case of He_3.

JOSEPH E. MAYER
Institute for Nuclear Studies, University of Chicago

Histology. Roy O. Greep, Ed. Blakiston, New York, 1954. xi + 953 pp. Illus. + color plates. $15.

This textbook is the result of the combined efforts of 13 contributors who are able teachers and investigators. Each of the authors is presently or has been associated with Harvard University. Under the editorship of Roy O. Greep, an excellent textbook has resulted. The subject is well covered and presented, although the inevitable change in style from one author to the next detracts somewhat from continuity.

The embryologic approach to an understanding of histology is not as complete as appeared in the Bremer-Weatherford *Textbook of Histology* (which this text was originally meant to revise), yet the presentation of this subject is sufficient where necessary, without overdoing it. The inclusion of a chapter describing some basic histochemical methods is very apropos the type of histologic investigation now holding the interest of workers in the field.

The book is well illustrated; the color plates are of exceptional quality. The labeled photomicrographs of the testes, endometrium, and kidney, to cite a few examples, are of the type that are most helpful to and most appreciated by the student of histology. In this connection, more photographs of this type, rather than line drawings of tissues and cells, would add much to this book's usefulness in the laboratory. Its high cost will probably be an important consideration in its adoption.

EARL B. SCOTT
Department of Anatomy, School of Medicine, University of South Dakota