

**Die Fernrohre und Entfernungsmesser**

Von Dr. Albert König. Zweite Auflage. Pp. v+242. (Berlin: Julius Springer, 1937.) 24 gold marks. SHORTLY after the Great War, Dr. König, whose association with Messrs. Carl Zeiss of Jena eminently fitted him for the task, published his book on the telescope and range-finder. It dealt particularly with the more important fighting service optical instruments such as binoculars, sighting telescopes, submarine periscopes and range-finders, with the intricacies of which so many people through necessity had become familiar.

The second edition, in comparison with the first, which appeared at a time of great depression, is an excellent production, well illustrated and printed. It is stated in the preface, which modestly describes the book as a "Büchlein", that about half the original illustrations have been discarded and replaced by twice the number of new ones. The text has been correspondingly revised not only in the practical but also in the theoretical portions. A new section has been devoted to the important recent developments of anti-aircraft height- and range-finders of various types.

Many readers will find the historical descriptions of interest and particularly the additional chapter at the end which summarizes the history of the telescope from Lipperhey to Porro. Its invention has been attributed to Lipperhey in preference to Janssen, to whom Borel accorded the honour.

The use of abstruse mathematics has been avoided to an even greater extent than in the first edition, but the usefulness of the book to the student has not been prejudiced thereby. This excellent edition embodies so much new material that it may be read with advantage by those already familiar with the contents of the original work. J. W. F.

**Zusammenhänge zwischen physikalischen Eigenschaften und chemischer Konstitution**

Von Prof. Dr. Robert Kremann. Mitbearbeitet von Dr. Max Pestemer. (Wissenschaftliche Forschungsberichte: Naturwissenschaftliche Reihe, herausgegeben von Dr. Raphael Ed. Liesegang, Band 41.) Pp. xvi+225. (Dresden und Leipzig: Theodor Steinkopff, 1937.) 16 gold marks.

IT is characteristic of the present state of natural science that books appear with increasing frequency dealing with borderland subjects between physics and chemistry. This is all to the good, since boundaries have been needlessly rigid in the past.

In the book before us, it is natural that the molecule forms the basis of discussion, but stress is laid upon the relation between physical properties of the molecule as such, and the constitutional effects which derive from them. A particularly welcome chapter is that concerned with the forces of cohesion and surface potential, which concludes with some useful information about melting points. The interest of the volume is that the authors have produced a compact treatise upon chemical physics, rather than upon the conventional physical chemistry. The diagrams are too cramped to be very helpful, but the text is clear and concise. F. I. G. RAWLINS.

**Lectures on College Algebra:**

a Text Book for the use of Intermediate Students of Indian Universities. By S. B. Dandekar. Pp. xii+402. (Indore City: Vinayak and Co., 1936.) 3 rupees; 5s.

THE author of this very interesting volume claims to present a course in algebra, suitable for the use of intermediate students of Indian universities, in a manner quite different from that given in other books. An attempt is made—with commendable success—to deal with fundamental principles and methods in a simple, logical and connected form which will at once arouse the student's interest in, and enthusiasm for, the subject.

Beginning with preliminary notions, the topics considered, taken in order, include surds, theory of indices, ratio, proportion, variation, complex quantities, theory of quadratics, the progressions with applications to interest, annuities and scales of notation, logarithms, permutations and combinations, the binomial and exponential theorems, partial fractions and determinants. There is no doubt that it would be difficult to find any other book that deals with so comprehensive a course in such an order. It is certainly a long way from preliminary notions to complex quantities; yet the latter form the subject matter of chapter iii. There are, however, alternative courses of reading suggested to suit the particular needs of different types of student.

The whole treatment, whilst being very succinct, is quite sound, and the style of presentation one which compels interest from the beginning.

F. G. W. B.

**Volumetric Analysis**

By A. J. Mee. Pp. vii+223. (London: William Heinemann, Ltd., 1937.) 7s. 6d.

THIS useful text-book is meant primarily to cover the course of volumetric analysis necessary for the various school and university examinations. It deals especially with the growing tendency on the part of examiners to set questions dealing with the application of titrimetric methods to the solution of practical chemical problems. While this does not convert the work into a treatise suitable for the industrial chemist, it certainly covers a surprisingly large field and will be found of value not only to students but also to many others who make use of such methods of analysis. The subject-matter is quite up to date, and contains sections dealing with the use of ceric sulphate, titanous sulphate and chloride, potassium bromate with special reference to the evaluation of 8-hydroxyquinoline in metal complexes by means of bromate-bromide mixture and, in addition, there are given numerous interesting precipitation methods.

The text is set out mainly in the form of exercises which the student is expected to carry out, these being carefully and lucidly described and adequately explained. Additional exercises are given at the end of each chapter and there are also included a large number of problems. Two short appendixes deal respectively with automatic burettes and pipettes and with mixed and universal indicators, while a third appendix contains a list of materials required in working out the various problems. G. R. D.