

one to the other within a gaseous shell surrounding both. Finally the two papers of the sixth group discuss the physical processes that may cause the observed aberrancies of these stars.

The material presented in these papers constitutes the first summarized gleanings in a field of astrophysics that is bound to enlarge. One wonders what a book on the same subject will have to offer, say, ten years from now? Will the resources of our large observatories, personal as well as instrumental, be adequate to follow the momentary and occasional capricious behavior of stars for which no underlying causes are as yet apparent?

Physikalisches Taschenbuch (2nd Revised Edition). By Hermann Ebert. 544 pp. Vieweg & Sohn, 1957. DM 22.80. **Technische Kunstgriffe bei physikalischen Untersuchungen** (11th Revised Edition). By E. v. Angerer. Revised by H. Ebert. 369 pp. Friedr. Vieweg & Sohn, Braunschweig, Germany, 1957. DM 18.80. Reviewed by L. Marton, National Bureau of Standards.

It seems logical to review the two books listed above together, for they both have been edited by Hermann Ebert and cover closely related subjects. Both books are new editions of earlier books; one of them is now in its eleventh edition. I have translated the description of the edition on the title page somewhat freely in both cases as "revised edition". Actually, I am misleading the reader, because while the title page of the first book says "third improved and extended edition", the eleventh edition of *Technische Kunstgriffe* merely says "eleventh inspected edition" (durchgesehene Auflage). Both books are well known to many American scientists who were either studying in Germany or getting closely acquainted with the German literature. This applies particularly to v. Angerer's book which is a classic of its own much in the manner of Strong's manual in America.

The *Physikalisches Taschenbuch* is the same type of production as the *American Institute of Physics Handbook*. Its total volume is roughly one third of that of the *AIP Handbook*, and its emphasis is a trifle more on experimental data than that of the *Handbook*. Personally, I am somewhat surprised by the renewed tendency of publishing handbooks of this type, because more often than not when I try to look up some data which I sadly need, just the data are missing in the handbook. This may be the fault of the book, or of my special interests. For instance, the other day I needed to know the dielectric strength of mica. I could find the value in neither the *AIP Handbook* nor in Ebert's new *Physikalisches Taschenbuch*. On the other hand, it is indisputable that there is much valuable material collected in this small volume and for those who learn to use it, it may stay, because of its size, a somewhat more useful compendium than the *AIP Handbook*. The editors pride themselves that the volume goes into the pocket of any "Physiker", and that claim the *AIP*

Handbook can't make, unless special pockets are provided for "Physikers".

The *Technische Kunstgriffe bei physikalischen Untersuchungen* of the late v. Angerer has been reworked by Dr. Ebert with the help of numerous collaborators. It is a very good book of its kind with many recipes of laboratory practices and makes a serious effort toward including material from outside Germany. Nevertheless, any user in this country will have to make a slight adjustment because when it comes, for instance, to a list of suppliers for such materials, 97% are German and only 3% are foreign. Often enough the English expression for a given German word is given in the footnote. The purpose is apparently to acquaint the German reader with the English language literature but the opposite is equally true and this may be a good book to use for a physics major's German examination, or as supplementary reading for a course in technical German. On the whole this is a very nice book and many a physicist will enjoy browsing in it from time to time.

Vector Analysis. By Louis Brand. 282 pp. John Wiley & Sons, Inc., New York, 1957. \$6.00. Reviewed by Paul Slepian, Hughes Research Laboratories.

The organization of this book, *Vector Analysis*, is excellent. Although nominally divided into nine chapters, the book naturally partitions itself into three sections. This grouping consists of Chapters 1-5, Chapters 6-8, and Chapter 9.

In Chapters 1-5 the standard mathematical treatment of vector analysis is presented. Chapter 1 deals with the basic fundamentals of vector algebra which are now included in most modern calculus textbooks. At the end of the chapter is a useful collection of the main formulas of vector algebra.

Chapter 2, the shortest in the book, could have been omitted with no loss. It deals with line vectors, couples, motors, and their applications to statics. Professor Brand states in the preface to his earlier book, *Vector and Tensor Analysis*, published in 1947, that the motor is apparently destined to play an important role in mechanics and line geometry. This predilection of his for motors is the only reason this reviewer can find for the inclusion of this chapter.

Chapters 3 and 4 deal with curves, surfaces, and the accompanying elementary results of classical differential geometry. In Chapter 5 the gradient of a vector is introduced followed by the definition of a dyadic; this leads to a greater generality in discussing divergence and rotation, which is preserved throughout the book. As explained in the preface, the author believes that this is not only the proper procedure, but actually the simplest in the long run. Many people may question both of these statements, but the use of dyadics is held to a reasonable minimum, and the exposition is usually suitably clear.

In Chapter 5 the standard integration formulas of Stokes and Green are developed together with their ex-