of this substance was less than 5 per cent. of the total amount of hemoglobin; only in a few cases (four altogether) did it exceed 10 per cent. of the total hemoglobin.

It was not practicable to identify this substance by ordinary spectroscopic examination; for the present its composition and the cause of its appearance will have to be looked upon as unknown.

According to these findings, however, the so-called active oxygen fixation power must be considered a very unreliable measure for the amount of hemoglobin. Indeed, in fourteen comparative colorimetric (Hellige's universal colorimeter) and gasometric blood examinations the colorimetric values were found to deviate considerably more from the active values than from the total.

Thus it can not be recommended to standardize colorimetric hemometers by means of the oxygen capacity.

ESTHER AMMUNDSEN

SCIENTIFIC BOOKS

MATTER AND LIGHT

Matter and Light. By LOUIS DE BROGLIE. Translated by W. H. Johnston, B.A. 300 pp. New York: W. W. Norton and Company, Inc. $3.50.

WE have here a book written by an author outstanding in his field and noted for the clarity of his expression. In these matters the volume leaves nothing to be desired.

The book can hardly be regarded as one for the general reader. While at the outset matters of interest to the layman and comprehensible to him are presented, the author soon reaches a degree of sophistication in which the subjects treated would only have significance to a physicist and, indeed, to one who had thought fairly deeply along the lines of the modern quantum theory.

The nature of the various sections is such that there is a great deal of overlapping. We do not have here one book written in an ordered sequence, but rather a number of articles dealing with more or less the same subject in different words. This has some advantages and some disadvantages. Its advantages lie in the fact that the subject is one which is developed rapidly and presents to the minds of many a picture of artificiality and abstractness. For this reason, even a repetition of the ideas in different words is helpful in gaining more complete understanding of the matter. On the other hand, the type of treatment cited is not, perhaps, the best one for a reader whose purpose is to seek an ordered development of the subject.

In conclusion, it may be said that the book ranks as a very important contribution to the literature of the subject and will be enjoyed by a fairly large group of scholars who have the necessary background to understand it.

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WAVELENGTH TABLES

Wavelength Tables. Measured and compiled under the direction of GEORGE R. HARRISON. xxviii + 429 pp. Boston: The Technology Press, Massachusetts Institute of Technology. New York: Wiley and Sons, Inc. London: Chapman and Hall, Ltd. 1939. $15.00.

THE book comprises a systematic survey of spectrum lines giving intensities in arc, spark or discharge tube of more than 100,000 spectrum lines most strongly emitted between 10,000 and 2,000 A by the atomic elements under normal conditions of excitation. The measurements and compilation have been made under the direction of Professor George R. Harrison by staff members of the spectroscopy laboratory of the Massachusetts Institute of Technology, assisted by the Works Progress Administration.

There is a clearly written introduction summarizing the scheme of the book, and the notation, and dealing with several other matters such as the precision of the wavelengths, the nature of the apparatus used in the Massachusetts Institute of Technology observations, sources of error, etc.

There is a table stating the numbers of lines included for the various elements, a table giving the sensitive lines of the elements compiled from combinations of empirical and theoretical data selected from the literature, the lines being listed according to the elements. Then follows a table in which the aforesaid sensitive lines are arranged in order of wavelengths. Next comes a key to the symbols for authors and references, and finally what comprises practically the whole volume of the book, a table of the lines in order of wavelengths extending over the ranges already cited.

The material is set forth in a clear form, and the volume is of a size such as to provide for absence of crowding and for convenience of handling. The work will undoubtedly be found of great value to those working in both the pure and applied fields of spectroscopy.

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