

Kolloides Silber und die Photohaloide. CAREY LEA, translated by H. LUPPO-CRAMER. Dresden: T. Steinkopff. 1908. 147 pp.

This pamphlet is a collection of Carey Lea's papers on photochemistry which were printed in various English and American journals between 1887 and 1891. These pioneer investigations dealt with the red and purple silver halides, with the nature of the latent image, and allotropic (colloidal) forms of silver; and the translator has done a real service to photochemistry in bringing them together. No mention of the translator's own important contributions to the subject is made, except in a brief preface in which he states that he has carried Lea's work to the conclusion that the photo-halides are adsorption compounds of silver and silver halides.

L. DERR.

Sewage and Sewage Bacteriology. By DR. S. RIDEAL. Third Edition. New York: John Wiley and Sons. London: The Sanitary Publishing Co., Ltd. 1906. pp. 367. Cloth, \$4.00.

The first edition of this book was published in 1900, and its decided merits were immediately recognized, as was shown by a second edition being published in less than twelve months, and this was followed by a third edition issued in 1907. The value of the book lies not in its being a careful summary of the subject, or in its systematic arrangement, in which respect the book is woefully deficient, but because it gives to the student of sewage disposal a mine of valuable information regarding sewage bacteria and the changes produced by the agency of bacteria on the organic matter contained in sewage. The third edition follows the same general lines as the first edition, and the same criticism holds true, that for subject matter it is perhaps the most valuable of all the books on the subject which have appeared during the past ten years, but as regards the arrangement and subject classification of this matter, very little can be said. In the opinion of the reviewer the two best chapters, only very slightly changed from the first edition, are the ones entitled "Bacteria and Other Organisms in Sewage" and "Chemical Changes Produced by Bacteria." These two chapters give a better insight into the underlying principles of bacterial purification than is contained in any other book on the subject. The chapters on "Chemical Analyses of Sewage and Effluents," "Irrigation and Sewage Farms," and on "Chemical Precipitation" are essentially the same as in the first edition. The three chapters on "Bacterial Purification," though giving valuable facts and data, fail to give a clear idea of the development of the various processes, intermittent filtration, septic tank treatment, contact beds, and continuous filtration, and, to an American reader, very little space seems to be devoted to the work that has been done in this country. From a practical point of view the chapter on "Distribution and Distributors" is perhaps the most valuable, giving as it does a very good idea of the

various methods used in the attempt to obtain even distribution of sewage on bacterial beds. The chapter "Sterilization by Heat, Chemicals, and Electricity" has been carefully revised. In this chapter the importance of sterilization when effluents are discharged near shell-fish layings is carefully and fully discussed, numerous papers on the subject being cited. The concluding chapter of the book "Agricultural Value of Bacterial Effluents-Trade Effluents" contains comparatively little new matter. In conclusion, the reviewer can only repeat what he said in 1901 regarding the first edition, that notwithstanding its faults of arrangement and its lack of clear concise conclusions, it is a book of great value to all students of sewage disposal, and a book which could have been written only by one who had given the most careful study to the subject.

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Elements of Water Bacteriology. By SAMUEL CATE PRESCOTT and CHARLES-EDWARD AMORY WINSLOW. Second Edition, Rewritten. New York: John Wiley and Sons. London: Chapman & Hall, Limited, 1908. 12mo. xii+258. Cloth, \$1.50.

The first edition of this book was published in 1904 and was immediately recognized as a most valuable contribution to the knowledge of water analyses as viewed from the bacteriological standpoint. The publication of the second edition in less than three years shows the favor with which this book has been received, as well as the growing importance of the subject. Not many years ago a chemical examination of a water was considered to be all sufficient for determining its sanitary character; today it is universally recognized that while a chemical examination gives data from which not only the past history, and the changes which the purifying substances have and are undergoing, can be told better than in any other way, and that, as a rule, the character or nature of the organic matter can be determined, a chemical analysis often signally fails in a most important point, in detecting small amounts of excreta accidentally washed or carried by various means into wells, or small streams, and further, can give no direct answer to the question whether or not a given water should be considered dangerous on account of containing bacteria derived from the intestinal tract of the higher mammals. The answer to these questions can be given only by a bacteriological study of water, and for this purpose Prescott's and Winslow's *Elements of Water Bacteriology* is admirably fitted. This book gives the latest and most important contributions to the subject, discusses very carefully the conclusions to be drawn from bacteriological data, and states the present view of bacteriologists scientifically and conservatively. In many ways the second edition is a decided improvement over the first, for not only are data not known in 1904 given, but the importance of these data in modifying and changing to a certain degree the views held in 1904 is clearly stated. The principal additions are in those chapters