

as an incontrovertible fact that water at 0° contains 80 per cent. of double molecules.

The third chapter consists of a passionate onslaught upon osmotic pressure. The author considers that this conception has rendered important service to science, but believes that its usefulness is over, and shows how it may be replaced by the thermodynamic potential. In this war on what he calls the "dilute school" of chemists he recognizes the services of his ally Jahn. After quoting liberally from the latter, he writes, "All this is so plainly and correctly expressed that I, in my struggle of twelve years, have hardly expounded it better." --- "Now we can say that time has justified me completely. Osmotic pressure runs on its last legs, and the thermo-dynamic potential gains influence everywhere."

The remaining six chapters are devoted to an elementary exposition of the thermo-dynamic potential and its application to special physico-chemical problems. Here the author to a great extent abandons the fierce polemic style of the previous chapters, and his elementary statement and proof of the fundamental thermodynamic equations are remarkably clear and effective. In the later chapters, however, where van der Waals' theory of liquids is introduced, it is sometimes difficult for the reader to distinguish between pure thermodynamic equations and those which possess only approximate or hypothetical validity.

Throughout the book the style is vivacious and interesting, and the reviewer usually concurs heartily in the opinions expressed. He regrets therefore that the author's extreme partizanship makes it impossible to recommend the volume to those who are not already somewhat familiar with the principles of thermodynamics.

GILBERT N. LEWIS.

TENTH ANNUAL CONVENTION OF THE ASSOCIATION OF STATE AND NATIONAL FOOD AND DAIRY DEPARTMENTS. HELD AT HARTFORD, CONNECTICUT, JULY 17-20, 1906. 8vo., vi + 349 pp. John Wiley & Sons, New York, 1907. Cloth \$3.00.

This association is to be congratulated on having its proceedings appear in a manner commensurate with its dignity, in a continuous and readable form, instead of being interspersed with advertising matter as in past years.

Even to a greater degree than in previous years, the 1906 convention was characterized by a most notable series of able papers by the leading food experts in the country. In addition to the usual reports of committees and miscellaneous addresses, the following papers were presented and recorded in full in the proceedings, together with interesting discussions in many cases:

"Conflict of Laws", by George L. Flanders; "Food Work in Foreign Countries", by A. L. Winton; "A Few Thoughts for the Good of the Order", by T. K. Bruner; "City Milk Inspection", by J. Q. Emery; "Cheese Making in the Colorado Climate", by Mary Wright; "Color and

Antiseptics in Butter", by E. K. Slater; "The Value of Household Tests in Detecting Food Adulteration", by J. Hortvet; "The Food Law and the Experts", by H. W. Wiley; "Food from the Consumer's Point of View", by Alice Lakey; "Pure Food Work in Indiana", by H. E. Barnard; "Canned Goods and their Adulteration", by E. F. Ladd; "The Pure Food Issue—Some of its Problems", by R. M. Allen; "American Milk and Milk Standards", by Wm. Frear; "Harmony of Standards", by Richard Fischer; "Extracts and Beverages", by O. S. Marckworth; "The Use of Sulphurous Acid in Food Products" by C. D. Howard; "Port Inspection", by R. E. Doolittle; "From the Canner's Standpoint Concerning Further Legislation", by J. T. Olney; "The Normal Constituents of Whiskey", by J. H. Shepard.

These papers and discussions cover a wide range of live topics, treated almost without exception by specialists in close touch either with the practical enforcement of the food laws from the standpoint of the food commissioner, or with the composition of food and detection of adulteration from the analyst's point of view.

The book is gotten out in attractive form and will be found indispensable to the ever increasing corps of workers and students in food control work.

In a useful appendix are given regulations of the U. S. Department of Agriculture governing the inspection, labeling and transportation (interstate and foreign) of meat and meat products, together with the rules and regulations for the enforcement of the Food and Drugs Act of June 30, 1906, the text of the Act itself, and some of the important food inspection decisions of the Agricultural Department. ALBERT E. LEACH.