

efforts are not lacking to provide us with more accurate and more comprehensive generalizations. From within and without, the organic chemist is stimulated to his best endeavors; his efforts are encouraged, and his achievements are appreciated. The scientist can ask no more.

To him, however, busy with other work, who gazes occasionally on organic chemistry, it may often seem to lack coherence of effort, to waste its strength burrowing for details, and to owe many of its successes to mere chance. If such a one there be, I recommend to his attention a notable address by Baeyer last year.<sup>1</sup> From this address he will learn of the unity of research work—that nearly all of this master's brilliant discoveries were due not to luck or chance, but to the consistent prosecution of a logical train of ideas. Baeyer's first extensive research work dealt with uric acid. The similarity of alloxan and isatin led him to the indigo group. From this sprang the tension theory, the quinoline synthesis, and tautomerism. The tension theory led to the curious tetra-acetylene dicarboxylic acid; this to the benzene ring studies. The investigation of terpenes and related substances took its rise from their similarity to reduction products of benzene. During the terpene researches some curious peroxides were obtained, and the work described above (on ethyl hydroperoxide, etc.) resulted from following up these latter. Thus we can trace Baeyer's research work—than whom no single man has contributed more to the stupendous growth of organic chemistry—back in an unbroken logical chain extending over forty years.

There lies here a world of thought for him who cares to find it.

ARTHUR LACHMAN.

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#### NOTE.

*A Gravimetric Method for the Estimation of Hydrogen Dioxide.*  
—All the methods thus far described for the estimation of hydrogen dioxide are volumetric, which may be divided into the three following classes: first, gasometry, by the use of Lunge's nitrometer, or some modification of it; second, iodometry, originated by Kingzett, and depends upon the liberation of iodine from potassium iodide in the presence of sulphuric acid; and, third, oxidimetry, the mutual decomposition of potassium permanganate and hydrogen dioxide in the presence of sulphuric acid. Of these three methods, the latter is preferred and most frequently used. The author has obtained good results by estimating the hydrogen dioxide as water. For the purpose a "Schrötter" apparatus (with tube and glass stoppers), such as used for carbon

<sup>1</sup> *Ber. d. chem. Ges.*, **33**, Sonderheft, p. 52ff. (1900).

dioxide determinations in mineral carbonates, was employed. The drying tube was half filled with concentrated sulphuric acid and the "acid tube" with a solution of potassium permanganate (2 grams in 100 cc. water). The bulb contained 10 cc. water and 5 cc. of dilute sulphuric acid (1 : 5). The weight of the apparatus was now noted and then about 1 cc. of the hydrogen dioxide was introduced. The apparatus was again weighed to insure the amount of hydrogen dioxide added. The permanganate was now allowed to flow in drop by drop until a permanent faint rose tint was formed. The apparatus was next allowed to cool and then weighed. The author claims that if the usual precautions are exercised, as prescribed in carbon dioxide determinations, excellent results can be obtained. However, it must be remembered that the loss in weight must be divided by 2, because one-half of the oxygen comes from the permanganate itself, and, furthermore, a too great excess of the latter must be avoided because the sulphuric acid decomposes it, giving off oxygen, thus leading to higher results.

GEORGE E. HOSCH.

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### NEW BOOKS.

JAHRBUCH DES VEREINS DER SPIRITUS-FABRIKANTEN IN DEUTSCHLAND.  
Erster Band, 1901. Berlin: Paul Parey. 316 pp. Price, 6 M.

This volume gives reports of the work of the German Society of Alcohol Distillers, also of the Society of Starch Manufacturers, for 1900 and is the first of the series. Heretofore the minutes and reports of these organizations have been published in the form of a supplement number to the *Zeitschrift für Spiritusindustrie*. This first volume of the new yearbook contains 316 pages and presents not only the proceedings of the two societies but also a large amount of statistical matter relating to production and consumption of alcohol and starch. The first-named society supports a number of experimental laboratories, and the investigations of these are briefly described in the book. As alcohol may be used in the arts in Germany tax-free under certain restrictions, space is devoted to a discussion of new outlets for alcohol in various directions. The chapter relating to the advantages of the alcohol motor presents some very interesting data and is one of the best in the book.

J. H. LONG.