

plants pentose molecules are formed in complex molecules of hexosans in which a part or all of the aldehyde groups have been bound by condensation, and are thereby preserved from further oxidation. He considers the pentoses to be formed from hexoses by the end alcohol group being oxidized and then losing carbon dioxide. The investigation was only carried far enough to show that probably the hexosans are oxidized to the aldehyde.

H. C. Jones publishes the results of a method that can be used for the determination of formic acid by oxidizing it with potassium permanganate. The method he used was as follows: After making the formic acid solution alkaline with sodium carbonate, it was treated with an excess of a standard solution of potassium permanganate. The formic acid was all oxidized to carbon dioxide and water. The solution was then acidified and a measured volume of oxalic acid run in until the solution became clear, and the excess of acid determined by the permanganate solution. The two solutions were then compared and the necessary data secured for calculating the amount of formic acid.

Several reviews of books on chemistry are included in this number, the principal one being the review of Palmer's translation of Nernst's 'Theoretical Chemistry.'

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#### NEW BOOKS.

- Zeit- und Streitfragen der Biologie.* OSCAR HERTWIG. Vol. I. Jena, Gustav Fischer. 1894. Pp. iv+143. M 3.
- Report of the International Meteorological Congress.* Pt. II. Edited by OLIVER L. FASSIG. Washington, Weather Bureau. 1895. Pp. 583.
- The Gospel of Buddha.* PAUL CARUS. Chicago, The Open Court Publishing Co. 1895. Pp. xiv+275. 35 cents.
- The Cell.* OSCAR HERTWIG. Translated by M. Campbell and edited by Henry Johnston Campbell. London, Swan & Sonnenschied. New York, Macmillan & Co. 1895. Pp. vi+368. \$3.
- Hydrodynamics.* HORACE LAMB. Cambridge University Press. New York, Macmillan & Co. 1895. Pp. xviii+604. \$6.25.
- Transactions of the American Institute of Electrical Engineers.* Vol. IX. New York City, The Institute. 1894. Pp. xii+938.
- Petrology for Students.* A. HARKER. Cambridge University Press. New York, Macmillan & Co. 1895. 12mo. \$2.
- The Great Frozen Land.* FREDERICK GEORGE JACKSON. New York and London, Macmillan & Co. 1895. Pp. 414. \$3.25.
- Anuario publicado pelo Observatorio do Rio de Janeiro.* Rio Janeiro, Lombaerts & C 1895. Pp. x+374.
- Studies in Spherical and Practical Astronomy.* GEORGE C. COMSTOCK. Madison, Wis., The University. 1895. Pp. 106. 40 cts.
- Experimental Study of Field Methods which will insure to Stadia Measurements greatly increased Accuracy.* LEONARD SEWAL SMITH. Madison, Wis., The University. 1895. Pp. 145. 35 cts.
- A Contribution to the Mineralogy of Wisconsin.* WILLIAM HERBERT HOBBS. Madison, Wis., The University. 1895. Pp. 156. 40 cts.
- On the Quartz Keratophyre and associated Rocks of the North Range of the Baraboo Bluffs.* SAMUEL WEIDMAN. Madison, Wis., The University. 1895. Pp. 56. 25 cts.
- The Finances of the United States from 1775 to 1789 with especial reference to the Budget.* CHARLES J. BULLOCK. Madison, Wis., The University. 1895. Pp. viii+273. 75 cts.
- Inductive Psychology.* E. A. KIRKPATRICK. New York and Chicago, E. L. Kellogg & Co. 1895. Pp. 208.