

CANADIAN
PHARMACEUTICAL JOURNAL

VOL. VIII, No. II. TORONTO, JUNE, 1875. WHOLE No. LXXXV

Original and Selected Papers.

NOTE ON DILUTED PHOSPHORIC ACID.

BY H. H. CROFT.

Professor of Chemistry, University College, Toronto.

Some months since, a druggist of Yorkville called my attention to the fact that a white precipitate is formed on adding a solution of glacial phosphoric acid to ferric chloride, (tincture of iron.) Before I had leisure to make any experiments on the subject, a notice appeared in the *Canadian Pharmaceutical Journal* for April, of some investigation by Mr. L. Dohme, who arrived at the conclusion that the precipitate so formed was due to pyrophosphoric acid.

So-called glacial phosphoric acid, is, when properly prepared, metaphosphoric acid; HO PO_3 , old formula; H PO_3 , new empirical, $\left. \begin{matrix} \text{PO} \\ \text{H} \end{matrix} \right\} \text{O}_2$ typical. When dissolved in cold water it remains unchanged, but when warmed gradually passes into pyrophosphoric acid, $\text{H}_2\text{O}_2 \text{ PO}_5$; $\text{H}_4\text{P}_2\text{O}_7$; $\left. \begin{matrix} 2 \text{ PO} \\ \text{H}_4 \end{matrix} \right\} \text{O}_5$, by absorption of water, and finally into common or tribasic acid, $\text{H}_3\text{O}_3\text{PO}_5$; H_3PO_4 ; $\left. \begin{matrix} \text{PO} \\ \text{H}_3 \end{matrix} \right\} \text{O}_3$, these acids being referable respectively to the types of $\left. \begin{matrix} \text{H}_2 \\ \text{H}_2 \end{matrix} \right\} \text{O}_2$, $\left. \begin{matrix} \text{H}_5 \\ \text{H}_5 \end{matrix} \right\} \text{O}_6$, $\left. \begin{matrix} \text{H}_3 \\ \text{H}_3 \end{matrix} \right\} \text{O}_3$. The ordinary distinguishing tests employed are as follows, of course, for the free acids.