

tion was only 0.24° in one hour was a mistake of observation. Careful determinations on this point, made recently, show that it must have been 1.24° instead of the former figure. The error from not taking into account the loss by radiation will amount to from about fifteen to forty calories per gram of metal, the loss depending on the time of solution. Another source of uncertainty, and one for which the author alone is responsible, is the fact that the solution used for dissolving the samples contained about four per cent. of free hydrochloric acid, and consequently the solution of the iron may not in all cases have proceeded according to the equation, $\text{Fe} + \text{CuCl}_2 = \text{FeCl}_2 + \text{Cu}$, and this copper redissolved according to the equation $\text{Cu} + \text{CuCl}_2 = \text{Cu}_2\text{Cl}_2$. Part of the iron may have dissolved directly in the free hydrochloric acid, and, since the heat absorbed in the decomposition of 2HCl is less than that necessary for the reduction of 2CuCl_2 to Cu_2Cl_2 , more heat would be rendered sensible when a good deal of iron was dissolved directly in hydrochloric acid than when solution was effected through cuprous chloride.

The work is being gone over again very carefully with view to eliminating any errors that may exist in the previous work, and I therefore request that judgment be suspended on the previous work until further results may enable us to form a more reliable conclusion than could be drawn from our former data.

E. D. CAMPBELL.

ANN ARBOR, MICH., DECEMBER 14, 1897.

ERRATUM.

On page 942, line 5 (Vol. 19), for "antimony" read "phosphorus."

BOOKS RECEIVED.

A Practical Treatise on Mineral Oils and their By-Products, including a Short History of the Scotch Shale Oil Industry, the Geological and Geographical Distribution of Scotch Shales, Recovery of Acid and Soda used in Oil Refining and a List of Patents Relating to Apparatus and Processes for Obtaining and Refining Mineral Oils. By Iltyd I. Redwood. London: E. & F. N. Spon, Limited. New York: Spon & Chamberlain. 1897. xiv + 336 pp. Price \$6.00.

The Early History of Chlorine. Alembic Club Reprints, No. 13. Papers by Carl Wilhelm Scheele (1774), C. L. Berthollet (1785), Guyton de