

whereby the same effect is produced as by an excess of urea. On adding urea and then nitrate of protoxide of mercury to a solution of sulphate of soda, free from chloride of sodium, the liquor coagulates, even when tolerably dilute, to a gelatinous mass of a snow-white compound, containing sulphuric acid, urea, and protoxide of mercury; it is somewhat less soluble in water and sulphuric acid than the corresponding nitrate.

The method of determining chlorine by means of a silver salt, is so exact that no more exact process could be said to exist; but the method of estimation with nitrate of protoxide of mercury, just described, is not inferior to that with nitrate of silver, as regards precision; it is applicable however only to neutral or very slightly acid or alkaline liquids, because an excess of acid prevents the precipitation of the urea compound.

The following numbers enable us to make a comparison of both methods; they refer to very dilute solutions of chloride of sodium, presenting but very slight difference in the amount of chloride of sodium:—

Amount in 10 cub. cent. of the solution.		Estimated by Nitr. of Ptox. of Mercury.
I.	81.5 milligrammes	81.6
II.	80.2 "	79.8
III.	82.7 "	82.3

We observe readily that these numbers do not differ from each other in a greater degree than in the case of determinations made with standard solutions of nitrate of silver in the usual way.

The only advantage the nitrate of the protoxide of mercury has over the silver salts consists, as I believe, in the circumstance that the termination of the experiment is indicated by the commencement of the reaction. In using nitrate of silver the experimenter is finished when no farther precipitate is perceptible; in this case the cloudiness of the liquor, the difficulty to render it clear in order to observe the end of the experiment, impedes the dispatch of the execution. In using the mercury salt, some dozen analyses may be made in an hour; hence this method is particularly applicable to technical purposes, for the estimation of chloride of sodium in Glauber's salts, and, after previous neutralization, in the soda of commerce.

In order to determine the chloride of sodium in urine, it is not necessary previously to remove the phosphoric acid contained in it. I have found a mixture of one volume of a cold saturated solution of nitrate of baryta, and two volumes of cold saturated baryta water, to answer this purpose very well. To two volumes of the urine to be