TABLE III.

Using 0·2039 N – H_2SO_4, 1 c.c. = 0·0099 gram (SO_4).
,, 0·1101 N – $Ba(NO_3)_2$, 1 ,, = 0·00485 ,, (SO_4).

No. of c.c. of H_2SO_4 taken.	Equal to gram (SO_4).	No. of c.c. of $Ba(NO_3)_2$ taken.	Equal to gram (SO_4).	Error in per cent.
14·75	0·1460	29·95	0·1453	1·0
14·81	0·1466	30·00	0·1455	0·9
17·35	0·1717	34·90	0·1700	0·6
9·90	0·0980	20·10	0·0975	0·5
			Average error.....	0·75

Solutions of coloured sulphates, such as those of copper and nickel. were also tried, the error in these cases ranging from 0·1 to 0·8 per cent. of the theoretical.

From a study of these results it appears that a single titration will come within 1 per cent. of the value found by gravimetric estimation, and, if a sufficient number of titrations are made, the results can be obtained to within 0·5 per cent. of the gravimetric value (compare Table I.). It may be added that the presence of free acid materially aids the precipitation, greatly increasing the rate of precipitation of the turbid liquid in the narrow tube.

The determination of sulphur in iron pyrites by this method gave :

	Gravimetric.	*Volumetric.*
Iron salts present.....	52·13 per cent.	52·20 per cent.
Iron salts absent	52·24 ,,	52·09 ,,

It would seem that this method might be used in cases where speed is of more importance than absolute accuracy. It has this great advantage, that an estimation agreeing within 0·5 per cent. of the best gravimetric method can be made in from three-quarters to one hour ; that is, by taking the mean of four or five volumetric readings.

The Determination of Sucrose by Fehling's Solution.

Experiments with this apparatus were made to determine the best conditions under which the above could be most accurately carried out.