the filtrates; but if (4) and (5) are coupled, the precipitate will have the composition $Ag_5H(PO_4)_2$ which was obtained in the four cases previously quoted, the production of which can be expressed by the equation

(7) $2Na_2HPO_4 + 5AgNO_3 = \overbrace{Ag_3PO_4.Ag_2HPO_4}^{Ag_5H(PO_4)_2} + 4NaNO_3 + 11NO_3.$

For an expression which would account for the presence in the filtrate from the complete (?) precipitation of the silver, of both nitric acid and of phosphoric acid the following is suggested :

(8) $4Na_2HPO_4 + 6AgNO_3 = 2Ag_3PO_4 + 4NaNO_3 + 11NO_3 + H_3PO^4$

It would appear then that the reaction between silver nitrate and disodium orthophosphate takes place in several distinct stages, and that the formation of a phosphate containing about 76 per cent. of silver is the most constant resultant. Also that free nitric acid and phosphoric acid remain in the solution from which no further precipitate can be obtained on the addition of the nitrate. It is our intention to further investigate this matter specially as regards the quantitative composition of these filtrates with a view to determining whether or not the last six equations suggested (Nos. 3 to 8) adequately express the reaction.

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