Composition of carbonate of zinc

Mr. J.D. Smith

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mixed, the former being in excess, the filtered liquor will become slightly turbid on the addition of oxalate of ammonia, and stirring the solution.

In the following experiment, in which 10 grs. of each carbonate were taken, and oxalate substituted for sesquicarbonate of ammonia, the results were chromate of barytes 13.04 grs. = 10 grs. of carbonate, and 11.9 grs. of oxalate = 10 grs. of carbonate of strontia ; thus showing the superiority of oxalate of ammonia as a precipitant for strontia : the only precaution necessary is to have the solution neutral.

Note. Pyroxylic spirit produces a more intense crimson flame with a small quantity of muriate of strontia than alcohol does, and consequently is of greater service as a test for recognising strontia when occurring in minute quantity.

St. Thomas's Hospital,
Feb. 1836.

COMPOSITION OF CARBONATE OF ZINC.—BY MR. J. D. SMITH.

When solutions of sesquicarbonate of ammonia and sulphate of zinc are mixed, a white, bulky, and gelatinous precipitate is produced ; this after repeated washings with hot water, by which carbonic acid gas is plentifully evolved, falls as a white powder. 80 grs. of this powder lost by ignition 22.5 grs., and 80 grs. dissolved in a counterpoised bottle of dilute sulphuric acid, lost 12.5 grs. of carbonic acid. From these experiments it appears that 80 grs. of this powder are composed of 57.5 grs. oxide of zinc, 12.5 grs. of carbonic acid, and 10 grs. of water ; which numbers indicate a compound of $2\frac{1}{2}$ eqs. of oxide of zinc, 2 eqs. of water, and 1 eq. of carbonic acid ; which may be viewed either as a $\frac{2}{3}$ carbonate of zinc with 4 eqs. of water, or as 1 eq. of hydrated subsesquicarbonate of zinc united to 1 eq. of hydrate of zinc. Its equivalent number being in former case 280, in the latter 140,

or $2\frac{1}{2}$ eqs. of oxide of zinc	100
1 eq. of carbonic acid	22
2 eqs. of water.	18—140.

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ON RIOLITE, A SUPPOSED BISELENIURET OF ZINC, AND HERERITE, SUPPOSED TO BE CARBONATE OF TELLURIUM.—BY PROFESSOR DEL RIO.

An account is given by Mr. Del Rio, in vol. iv. of the *Phil. Mag. and Ann.*, p. 113, of two new minerals found in Mexico ; one supposed to be biseleniuret of zinc and sulphuret of mercury, which in honour of Mr. Del Rio I have named Riolite ; the other, considered a biseleniuret of zinc and bisulphuret of mercury, I have named Culebrite, from the place in which it occurs.

By the last mail I have received the following letter from Mr. Del Rio relative to the first of these substances, and to another mineral, supposed to be carbonate of tellurium, which I shall be obliged to the