

consist of two matters; carbonate of zinc, and a peculiar compound of zinc and water, which may be named *hydrate of zinc*.

By the results of the analysis of the Mendip Hill calamine, corrected by the theory, carbonate of zinc appears to consist of,

Carbonic acid	-	-	-	$\frac{1}{3}$
Calx of zinc	-	-	-	$\frac{2}{3}$

Deducting from the calx of zinc in the Bleyberg calamine, that portion which corresponds, on these principles, to its yield of carbonic acid, the remaining quantity of calx of zinc and water ~~is~~ *are* in such proportions as to lead, from the theory, to consider hydrate of zinc as composed of

Calx of zinc	-	-	-	$\frac{3}{4}$
Water, or rather ice	-	-	-	$\frac{1}{4}$

And, from these results, corrected by the theory, I consider Bleyberg calamine as consisting of,

Carbonate of zinc	-	-	-	$\frac{2}{5}$
Hydrate of zinc	-	-	-	$\frac{3}{5}$

The test of this hypothesis, is in the quantities of the remote elements which analysis would obtain from a calamine thus composed.

The following table will show how very insignificantly the calamine compounded by the theory, would differ in this respect from the calamine of nature.

From the calamine, containing, according to the results of the experiments on the Mendip Hill kind, too small a quantity of carbonic acid to saturate the whole of the calx of zinc in it, and from its containing much too large a portion of water to be in it in the state of mere moisture or humidity, it seems to