ing. Bad burettes can be immediately condemned and those of sufficient accuracy for the work in hand selected. In case absolute corrections are demanded the pipette can be standardized by the method of weighing much more easily than one that is not provided with an etched scale on the pipette stem. Of course the pipette must be made scrupulously clean with a chromic-sulphuric acid mixture before it is used.

May 20, 1901.

A RAPID METHOD FOR THE DETERMINATION OF ARSENIOUS OXIDE IN PARIS GREEN.

By S. Avery and H. T. Beans.

Received May 17, 1901.

THE authors have been working for some time on a method for determining the arsenic in Paris green, in the hope that one might be found that would be both more rapid and accurate than any thus far proposed. As a result we offer the following method, which we believe to be new and which has given most excellent results on a considerable number of samples of Paris green examined in this laboratory.

For the determination, sample the Paris green by quartering (as one would an ore for assaying) down to about 1 gram. Pulverize this small sample in an agate mortar and weigh out 0.2 to 0.3 gram into a beaker of about 300 cc. capacity. Add about 25 cc. of water and to the green suspended in water add, with constant stirring, concentrated hydrochloric acid till solution is just effected; from 6 to 10 drops are usually sufficient. Now add to the acid solution sodium carbonate solution till a slight permanent precipitate is formed, and at this point add 2 to 3 grams of sodium potassium tartrate in solution. The tartrate will at once dissolve the precipitated copper and prevent further precipitation during the subsequent titration. Dilute to about 200 cc., add solid sodium bicarbonate and starch solution, and titrate with iodine in the usual way.

The time required for the determination is about ten minutes. The end reaction is sharp and is not in the least obscured by the blue color of the copper solution.

Triplicate determinations on the same sample of a very uniform Paris green were as follows, taking 0.3 gram Paris green for analysis.

Iodine solution. cc.	As_2O_5. Gram.	As_2O_3. Per cent.
34.52	0.17056	56.85
34.59	0.17091	56.97
34.58	0.17086	56.95

To make sure that the presence of copper exerted no influence, several lots of pure arsenious oxide were weighed out. Some of these were titrated as usual and the others were first mixed with about an equal weight of copper sulphate in solution and then with the tartrate according to the method given. No appreciable difference could be observed in the several titrations.

Several other analysts, as well as ourselves, have found that the results, in terms of metallic arsenic, obtained by this method are slightly higher than the results by other methods, even when the latter admit of the determination of arsenic in either stage of oxidation. This fact would seem to indicate that the Paris greens on the market contain arsenic in the lower stage of oxidation only.

Cuprous oxide interferes with the titration, but we have not observed the presence of copper, in this degree of oxidation, in any of the samples examined. It is, of course, possible that adulterants might be added that would affect iodine or iodine salts, but such samples have not as yet been met with, to our knowledge.

In conclusion we would express our obligations to Dr. H. W. Wiley for his kindness in having the literature of the subject thoroughly searched for our guidance.

CHEMICAL LABORATORY, UNIVERSITY OF IDAHO.

NOTE ON THE ANALYSIS OF NUCLEIC ACIDS OBTAINED FROM DIFFERENT SOURCES.

BY P. A. LEVENE.

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THE author has repeated the results of the analysis of several nucleic and paranucleic acids obtained by a method communicated by him at a previous meeting of the Society.

The paranucleic acids analyzed were those of vitellin and of the ichtulin of the cod-fish egg. Their composition was as follows :