

Iodine solution. cc.	As <sub>2</sub> O <sub>3</sub> . Gram.	As <sub>2</sub> O <sub>3</sub> . 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.

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### 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 parannucleic acids obtained by a method communicated by him at a previous meeting of the Society.

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

	Vitellinic acid.	Ichtulinic acid.
Carbon .....	32.31	32.56
Hydrogen .....	5.58	6.00
Nitrogen.....	13.13	14.00
Phosphorus .....	9.88	10.34

Thus these "paranucleic" acids of different origin have a comparatively similar composition. The difference in the nitrogen is easily explained by the fact that the ichtulinic acid was obtained from the ammonium salt, and the vitellinic from the copper salt. If the latter acid is obtained from the ammonium salt it also contains about 14 per cent. of nitrogen.

The nucleic acids analyzed were those of the pancreas of the cod-fish and fish sperm, and of the *Bacillus tuberculosis*.

Their composition was as follows :

	Pancreas.	Cod-fish sperm.	<i>Bacillus tuberculosis</i> .
Carbon.....	36.50	36.73	38.78
Hydrogen.....	4.69	5.12	6.32
Nitrogen.....	16.70	16.78	9.42
Phosphorus pentoxide ..	20.16	20.47	29.40

The acid obtained from the pancreas in distinction from the guanilic acid described by Bang contains in its molecule besides guanin also adenin. This acid as well as that of the cod-fish sperm does not differ much in its composition from the acids described within the last year by Schmideberg, Herlant, Osborne, and obtained from different sources.

The author also remarked that on precipitating the nucleic acids directly from tissues glycogen is precipitated simultaneously. The two can be separated by means of copper chloride. The nucleic acid forms a copper salt insoluble in water, while the copper compound of glycogen is soluble. By this method the author succeeded in obtaining glycogen from the pancreas, and a glycogen-like substance from the *Bacillus tuberculosis*.

## ON THE ELIMINATION AND QUANTITATIVE ESTIMATION OF WATER IN OILS, FATS, AND WAXES.

BY CHARLES B. DAVIS.

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THE difficulty experienced while drying oils, fats, or waxes, (namely, loss by foaming and ejection, due to the contained water becoming overheated, as in the drying of the min-