

with the work on the ash alkalinities and on the malic acid values. The results on malic acid are all his. Acknowledgment is also due to Miss Clara Hillesheim for her faithful and efficient assistance in making a large number of the analyses.

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### NOTES.

*An Experiment Illustrating Osmosis.*—If one places an ordinary hen's egg in concentrated hydrochloric acid for a few minutes, the shell is removed and the egg is left in its original shape, surrounded by an excellent semi-permeable membrane.

If now the egg is placed in a beaker of pure water, it will swell up very markedly. For example, an egg weighing 57.8 grams, shelled as indicated, increased in weight in twenty-four hours to 79.0 grams, and in larger circumference from 15.5 to 18.5 cm.

If the egg is placed in a saturated solution of calcium chloride, it will diminish in size just as strikingly. For example, an egg weighing 50 grams decreased in weight in twenty-four hours to 38.8 grams, and in larger circumference from 15.5 to 13.5 cm.

For lecture purposes a very effective arrangement is to get three eggs as nearly the same size as possible, shell them as indicated and place one of them in a calcium chloride solution and the other in water, reserving the third for comparison. At the next lecture attention is called to the change in appearance. The calcium chloride egg will look as if it were cooked.

A still more striking method is to place an egg in a small beaker so that only half of it is immersed in acid. When the half shell is removed the egg is placed in water and in twenty-four hours the unshelled portion will be expanded amazingly and the portion retaining the shell will serve for comparison.

An interesting fact in this connection is that an egg from which the shell has not been removed will increase in weight very materially if placed in pure water for a few hours, but will remain otherwise unchanged.

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*Preparation of Cyanacetic Ester.*—Although cyanacetic ester is a substance of very considerable importance for synthetical work