

of blood taken or by a method described elsewhere,¹ *i. e.*, by boiling the desired quantity of blood after the addition to each c.c. of blood taken, of 5 c.c. of water, 1 drop of 10 per cent. acetic acid and 2 drops of saturated solution of sodium acetate, cooling and adding a few drops of 5 per cent. colloidal iron and water up to 10 c.c. In either case after filtering, 1 c.c. of water-clear filtrate equivalent to 0.1 c.c. of blood is treated in a micro-Kjeldahl. After the reaction is completed, it is neutralized and water is added up to 5 c.c. The color reaction can then be produced directly in the tube after the addition of the reagents as follows:

1. Add 1 c.c. of phenolate soda solution. (40 gm. phenol, 50 c.c. of 40 per cent. NaOH solution, water up to 100 c.c. mixed in the cold.)

2. Add 1 c.c. of 2 per cent. hypochlorite soda solution. Mix well after addition of each reagent and add simultaneously to a known standard or to each of a set of standards containing 5 c.c. of water with 0.01 mgm., 0.02 mgm., 0.03 mgm., etc., of ammonia nitrogen and place simultaneously with the unknown in boiling water for five minutes. They are then allowed to cool, poured into a graduate, made up to 10 c.c. with water and the unknown compared with the known standard or standards.

In case of ammonia the test is sensitive enough to detect and estimate 1 part of ammonia nitrogen in a dilution of about 10,000,000.

Details of the various methods will be published in the *Journal of Biological Chemistry*.

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Asynchronism of the respiratory movements in lobar pneumonia.

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Asynchronism of the respiratory movements occurs in many severe cases of lobar pneumonia. The phenomenon was first observed by the author some twenty years ago. A careful search

¹ Proc. of A. A. S., Dec., 1916, Theodore Kuttner, "A Modification of Folin's Method for the Estimation of Creatinin in Blood."

of the literature has yielded only two references to the phenomenon, one by Grocco in 1904, the other by Grocco's pupil, Frugoni, in 1910.

The phenomenon consists in the separation of the contractions of the diaphragm and intercostal muscles by a definite, though variable, time-interval. As far as has been observed, the movement of the abdomen precedes that of the thorax. In well-developed types of the phenomenon the abdominal wall may have reached the expiratory phase before the intercostal muscles begin to contract. In other instances, the lower intercostal muscles take up the movement of the abdomen and the contraction spreads as a wave over the thorax.

Asynchronism of the respiratory movements has so far been observed only in lobar pneumonia. It possesses grave prognostic significance. Nearly all patients who develop it die. Usually it appears late in the disease. Though generally associated with other indications of severity, it may give the first intimation that the disease is likely to be fatal.

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A skin reaction to pneumotoxin.

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The work reported is a part of the studies on the properties of pneumotoxin and its probable rôle in the pathology of lobar pneumonia. Previous investigators (Clough, Weil, Steinfeld and Kolmer) working with dried, autolyzed or heat-killed pneumococci failed to elicit any constant, specific reaction in cases of lobar pneumonia. The present authors used the endocellular hemolytic toxin of the pneumococcus freshly prepared for each test by dissolving the washed living organisms (Type I) in solutions of sodium choleate. Guinea pigs previously sensitized with sub-lethal doses of pneumotoxin or with the serum or lung exudate of dogs suffering from experimental lobar pneumonia, reacted to the