

procain when artificial respiration is employed and the similarity in actions of all of the drugs leads one to suppose that it holds true of the other members of the group.

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A bacteriological report of influenza cases at Presbyterian Hospital.

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One hundred forty-five cases have been studied in one or more of the following ways: by naso-pharyngeal cultures, blood cultures, sputum for pneumococcus type or lung cultures post-mortem. *B. influenza* was found to predominate in the naso-pharyngeal cultures, *Pneumococcus III.* in the blood cultures and *Pneumococcus IV.* in sputum and lung cultures. The percentage of naso-pharyngeal cultures containing *B. influenza* was somewhat higher among the uncomplicated cases than among the pneumonia cases. At one period, influenza bacilli were found in 75 per cent. of the naso-pharyngeal cultures. The *Pneumococcus IV.* strains isolated have been found to belong to various groups.

The blood of influenza convalescents has been found to contain agglutinins for strains of influenza bacilli isolated during the recent epidemic. The macroscopic method is used. Incubation at 55° C. gives more satisfactory results than at 37° C.

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Influence of hydrogen ion concentration upon enzymic activity of three typical amylases.

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Pancreatic and malt amylase and the amylase of *Aspergillus oryzae* (prepared from taka-diastrase) have been selected as representative of the starch-splitting enzymes of the higher animals,

higher plants and fungi respectively. Laboratory methods for the purification of each of these amylases have been described in previous papers. The present experiments were performed with enzyme preparations which had been purified in accordance with these methods. The experiments establish for each of the three amylases the limits of hydrogen ion concentration within which any enzymic activity is shown, and the form of the curve representing the activities at all concentrations of hydrogen ion between these limits. The investigation was carried out with the aid of a grant from the Carnegie Institution of Washington.

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Studies on the amylolytic activity of human saliva with a new method.

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Saliva is the one glandular secretion which can be readily obtained in the human subject under relatively constant conditions, and its amylolytic activity has therefore been a time-honored topic of investigation. Nevertheless the methods used for estimating this activity have been rather crude or tedious. A method is described below which is simple, delicate, and, we believe, very accurate. With it a large series of comparable figures may readily be obtained. The method is similar to that which has been employed here in estimating the diastatic activity of the blood.¹

The technique is as follows: A specimen of mixed saliva, obtained by the stimulation of paraffin chewing, is filtered and a small portion accurately diluted 1 to 100 with distilled water, and also another portion with 0.3 per cent. sodium chloride as an activating solution. After thorough mixing 1 c.c. of the diluted saliva is pipetted into a test-tube and the tube placed in a water bath at 40°. After 5 minutes 1 c.c. of 1 per cent. soluble starch solution is added and the mixture allowed to incubate for 30 minutes. At the end of this time 3 c.c. of saturated picric solution and 1 c.c.

¹ Myers and Killian, *Jour. Biol. Chem.*, 1917, **xxix**, 179.