

in vitamins than most of the staples like meats, potatoes, cereals, fats and sugar products, in the diet of man. Therefore they unquestionably contribute largely to the dietary need of the average person.

10 (1385)

**Preliminary report on the behavior of certain local anesthetics.**

By **CARY EGGLESTON** and **ROBERT A. HATCHER.**

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The fatal intravenous dose of each of the several substitutes for cocain varies enormously with differences in the rates of injection. Five or more times the fatal dose for sudden injection can be given in a period of one to two hours without causing death. The subcutaneous doses show even wider variations among the different drugs than the intravenous doses.

All of the local anesthetics tested, including cocain, are mutually and quantitatively synergistic. They are all synergistic with epinephrin in its effect upon the blood pressure in a manner analogous to cocain.

The systemic toxic actions of all of the members of the group are very closely alike and all cause death in cats by combined paralysis of the heart and respiratory center.

Three of the members of the group—procain, stovain and apethesine—have been shown to be destroyed rapidly by the liver. All of the others are rapidly destroyed in the animal body, excepting cocain, and it seems probable that this destruction also takes place in the liver.

Artificial respiration alone, or combined with cardiac massage, does not suffice to permit recovery from the sudden intravenous injection of 125 per cent. of the fatal dose of any of the local anesthetics. Artificial respiration and cardiac massage, combined with the intravenous injection of epinephrin, permit recovery in most cases from 125 to 150 per cent. or more of the fatal vein dose of all of the local anesthetics. The previous administration of ouabain permits recovery from 150 per cent. of the fatal dose of

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.

## 11 (1386)

**A bacteriological report of influenza cases at Presbyterian Hospital.**

By **MIRIAM OLMSTEAD.**

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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.

## 12 (1387)

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

By **H. C. SHERMAN, A. W. THOMAS and M. E. BALDWIN.**

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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,