toms of the botulinus poisoning and it exhibits strict specificity in its neutralization with the homologous antitoxin.

Our studies, thus far, were limited to the toxin produced by a single strain of *Bacillus botulinus*, but the experiments are in progress to determine whether the observation can be extended to toxins produced by other strains of *Bacillus botulinus* as well as to toxins of other bacteria.

This work is a part of the investigation of food poisoning, conducted under the direction of Dr. M. J. Rosenau, professor of preventive medicine and hygiene, Medical School of Harvard University. The investigations are made under the auspices of the Advisory Committee on the Toxicity of Preserved Foods of the National Research Council, and under a grant of the National Canners' Association.

2 (1749)

Some plant sources of vitamins B and C.

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Several plant foods were tested for their content of vitamins B and C. Togi (sprouted mongo), okra, and avocado were found to be comparatively high in vitamin B. One half gram of each of them as daily supplement to the standard vitamin B free diet caused the recovery in weight of rats which had been declining because of lack of this accessory food factor. Mongo, sweet potato leaves and duhat (*Eugenia jambolana*) contain enough vitamin so that one gram of each of them as daily supplement caused the recovery in weight of rats which had been declining due to lack of vitamin B. Artichokes, bilimbi (*Averrhoa carambola*), banana flower bud and bamboo shoots are relatively poor in vitamin B.

The vitamin B in mongo was increased in germination, a fact contrary to the finding of Grijns that the antiberi-beri vitamin is lessened in amount as germination takes place.

Mongo is relatively poor in vitamin C. Togi when fresh is relatively rich in vitamin C; but after it is prepared for culinary use, the vitamin C is destroyed.

The observation of several investigators that vitamin C is increased when peas, lentils, and beans are germinated has been verified in the case of mongo. Ten grams of mongo as daily supplement to the scorbutic diet failed to protect guinea pigs from scurvy, while five grams of fresh togi as supplement to the same scorbutic diet cured three guinea pigs of the disease.

3 (1750)

Observations on pancreatic rennet.

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Pawlow and Parastschuk,[1] Vernon[2] as well as Delezenne[3] have called attention to the presence of rennet in the pancreatic secretion of experimental animals. Wohlgemuth[4] claims to have found it in human pancreatic secretion, but not without some difficulty. Notwithstanding these observations some doubt seems to exist in the minds of a number of investigators in this field. Textbooks on physiology do not class rennet with the other pancreatic ferments.

Fresh or well-preserved dried preparations of pancreatic extract ordinarily do not show any milk coagulating ferment. When solutions of such extracts are permitted to deteriorate the rennet function comes into evidence. While studying the pancreatic ferments I have found that the presence of rennet in extracts of this organ may be demonstrated constantly in a number of different ways.

1. Rennet may be liberated by heating a solution of the extract from 50 to 65° C. for a period of about 10–15 minutes; the most favorable temperature being 60° C. Flocculation usually occurs upon heating, but the ferment remains in solution.

2. The addition of suitable amounts of hydrochloric acids reveals the presence of rennet.

[1] Pawlow, J. P., and Parastschuk, S. W., *Zeitschrift fur Physiologische*, 1904, xlii, 415.

[2] Vernon, H. M., *Journal of Physiology*, 1903, xxix, 302.

[3] Delezenne, *Soc. Biol.*, 1907, lxiii, 98.

[4] Wohlgemuth, *Biochem. Zeitschrift*, 1917, ii, 350.