of propyl, allyl and cinnamyl alcohol, were tested regarding their sperm-stimulating and fertilization promoting effects, and also their susceptibility to oxidizing agents and other chemicals, and were found to exhibit effects corresponding very closely with those exerted by the egg secretions and extracts. The exact constitution of the substance or substances present in the extract, has not yet been determined on account of the paucity of material at the end of the season, but it is proposed to continue this investigation next summer.

57 (1639)

On a method of producing chronic focal lesions in animals.

By HANS ZINSSER and EDWARD H. RAYMOND, Jr.

[*From the Department of Bacteriology, College of Physicians and Surgeons, New York City.*]

Celloidin capsules are made by a method first used, we believe, by Dr. Clarke of the College of Physicians and Surgeons, though we are not sure of this, but certainly not entirely original with us. Small balls or globes of sugar in the form of some of the more commonly purchasable candies, are stuck to small silk threads with a hot forceps. These are dipped three or four times in celloidin, hardened for a short time in alcohol, and thrown into a jar with running water. The sugar diffuses in the course of ten or twelve hours, and a completely closed capsule is left. With a fine needle a hole is punctured through the capsule, the water drained out, and agar, inoculated with streptococci or other organisms desired, is injected into the capsule and allowed to harden. The puncture-hole is left open. The capsule is then dropped into the peritoneal cavity of a rabbit and the rabbit sewed up. In most cases the rabbits live for months. Some of them gradually emaciate, others will develop agglutinins. We have opened a number of rabbits from six weeks to four months after the capsule had been placed into them. In one case a rabbit into which the capsule had been placed in July was opened in the middle of November (over four months) and the capsule was found to contain living streptococci at this time. Apparently the

organisms in the capsule are to some extent protected against phagocytes, and other protective factors. The capsules are usually surrounded by fibrin and strands of connective tissue, and lie in a membrane of tissue that has grown about them.

Incidentally, it has been noticed that in the case where the capsule had remained in place four months, the organisms were, at the end of this time, culturally and morphologically identical with the ones that had been put in, which furnishes some evidence, at least, against the mutations of streptococci in the animal body advocated by Rosenau.

58 (1640)

The effect of temperature and of hydrogen ion concentration upon the rate of destruction of antiscorbutic vitamine.

By V. K. LAMER, H. L. CAMPBELL, and H. C. SHERMAN.

[*From Columbia University, Department of Chemistry, New York City.*]

Experiments were made upon 300 gram guinea pigs fed a new basal diet designed to furnish practically optimum amounts of all nutrients except the antiscorbutic vitamine. The latter was furnished exclusively in the form of filtered canned tomato juice. Relative amounts of this vitamin in the treated and untreated portions of this juice were measured by determining the amounts necessary to prevent scurvy or by a quantitative rating of the severity of the scurvy produced. The technique and the probable degree of precision of the results will be discussed in a later paper.

In the case of tomato juice of natural acidity, P_H 4.2, it was found that boiling for one hour destroyed practically 50 per cent., and for four hours practically 70 per cent. of the antiscorbutic vitamine present. The time curve of the destructive process is therefore much flatter than that of a unimolecular reaction. The latter finding applies also to similar heating experiments at 60° and at 80°. In such experiments at 60° to 100°, the temperature coefficients are relatively low (Q_{10} = 1.1 to 1.3).

In experiments in which the natural acidity was first neutralized in whole or in part, the juice then boiled for one hour and