	Aertrycke Type				Schottmüller Type	
	223 S	223 R	239 S	239 R	210 S	210 R
209 S serum (Schottmüller)	+Fl	+gr	+gr	+gr	+Fl	+gr
209 R serum	0	+gr	+gr	+gr	0	+gr

In one instance, therefore, the alien R → S strain behaves exactly like the homologous S strain, in the other like the generality of R strains.

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The effect of double vagotomy and tracheotomy on the susceptibility of rabbits to cocaine poisoning.

M. H. SEEVERS and A. L. TATUM.

[*From the Laboratory of Pharmacology of the University of Chicago, Chicago, Ill.*]

Acute cocaine poisoning in the rabbit causes significant respiratory derangements in such a way as to lead to death of the animal. Since artificial respiration constitutes a very satisfactory method of treatment in this animal and since Richet[1] and Feinberg[2] found independently that decortication as well as decerebration raised the minimal lethal dosage of cocaine, it was thought that possibly other parts of the nervous system might contribute to the harmful effects of cocaine. This report, therefore, involves a study of the possibility of vagus involvement.

Rabbits were anesthetized with ether, double vagotomy and tracheotomy performed. After recovery from the anesthetic the animals were poisoned by subcutaneous injections of cocaine hydrochloride. It was found that this procedure raised the average minimal fatal dose from 100 to 125 mg. per kilogram in the intact animal to approximately 175 mg. per kilogram in the operated animal. Tracheotomy alone was sufficient to be equally

[1] Richet, C., *Arch. Int. Pharmacol.*, 1898, iv, 299.

[2] Feinberg, I., *Berl. Klin. wachnschr.*, 1887, xxiv, 166.

efficacious, whereas vagotomy alone was without effect in modifying the average minimal fatal dose.

These facts are interpreted to mean that in the intact rabbit, respiratory embarrassment must exist, either through spasm of the glottis or other obstruction, in such a way that the asphyxial element thereby induced very markedly contributed to the central injury produced by cocaine.

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Sulphur metabolism in yeast.

F. C. KOCH and H. SUGATA.

[*From the Department of Physiological Chemistry, University of Chicago, Chicago, Ill.*]

The studies of Swoboda[1] in this laboratory indicate that cystin added to certain media stimulates yeast growth. This suggested a more intensive study on the actual utilization of various forms of sulphur in yeast growth.

The forms of sulphur studied were sulphate, sulphide, cystine, cystein, cysteinic acid, taurine and taurocholic acid. These were added to the usual synthetic medium as employed by Williams,[2] Miller,[3] and Swoboda,[1] with and without the "biose vitamine" and without the usual sulphate content. The yield of yeast was determined by weighing the yeast obtained after a growth period of eighteen hours. The saccharose and asparagin used in the media were purified to remove sulphur containing substances as completely as possible.

The results obtained were as follows:

1. Inorganic sulphate is the best form of sulphur for yeast growth, especially if magnesium is present with an ample amount of the biose vitamine. Neither magnesium nor sulphate could be substituted for the biose vitamine.

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[1] Swoboda, F. K., *J. Biol. Chem.*, 1922, lii, 91.

[2] Williams, R. J., *J. Biol. Chem.*, 1920, xlii, 259.

[3] Miller, Elizabeth M., *J. Biol. Chem.*, 1921, xlviii, 329.