blood pressure falling to a third, even to a quarter, of the normal arterial pressure within two minutes.

The intestine, therefore, is not the dominant site of the extra-hepatic vascular reactions in canine anaphylaxis, as currently assumed.

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The action of glycerol on the virus of experimental typhus fever and on Proteus bacilli.

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Glycerol was employed as a preliminary to the study of an agent capable of destroying the infective but not the immunizing property of the virus of experimental typhus fever in the guinea pig.

Fragments of brain removed from typhus-infected guinea pigs on the second day of the fever were immersed in 1, 5, 10, 25 and 50 per cent sterile glycerol, and placed at a temperature of about 6° C. After a period varying from 7 to 22 days in the case of the lower dilutions, and from 7 to 58 days in the case of the 50 per cent dilution, approximately 2,000 minimal infecting doses of the virus contained in the washed glycerolated brain tissue were injected intraperitoneally into normal guinea pigs. The results in all cases showed that the brain was deprived not only of its infective but also of its immunizing action.

The etiological significance in typhus fever, lately ascribed to *Bacillus proteus* X_{19} by several investigators, suggested a test of the influence of glycerol on this micro-organism. Accordingly, 24 hour agar slant cultures of *Bacillus proteus* X_2 and X_{19} were washed off with the same dilutions of glycerol as had been used in the case of the typhus virus, and the glycerolated cultures were kept in the ice-box. At weekly intervals sub-plants were made on agar plates of 0.2 cc. of the glycerol suspensions. After 3½ months an infinite number of colonies was noted in the case of both strains, and in all dilutions, except that of 50 per cent, from which no growth could be obtained after one month.

The resistance of the bacilli contained in the brain was tested by injecting cultures of X_2 and X_{19} strains intraperitoneally into normal guinea pigs. The animals died in 24 to 48 hours, having developed septicemia, fibrinopurulent peritonitis and hemorrhagic splenitis—a pathological picture wholly different from that induced by the pure typhus virus. The brain, which yielded cultures of *Proteus bacilli,* was cut into fragments, immersed in 1 and 50 per cent glycerol and kept in the ice-box. Interval cultures of this glycerolated brain showed profuse growths of the *Bacillus proteus* for as long as 3 weeks. After one month the material in the 1 per cent glycerol yielded a sparse growth of *Bacillus proteus,* and that in the 50 per cent glycerol gave no growth.

In conclusion, *Bacillus proteus* X_2 and X_{19}, either in culture or in the brain of *Proteus*-infected guinea pigs, is quite resistant to the action of glycerol, and differs markedly in this respect from the typhus virus. Under these experimental conditions the infective and immunizing properties of the pure virus are very susceptible to the destructive action of glycerol.

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The effect of the scorbutic state upon the production and maintenance of intercellular substances.

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Guinea pigs in the condition of absolute scorbutus, *i. e.,* complete deprivation of anti-scorbutic substances in the diet, have been studied, and the effects of the administration of anti-scorbutics noted. The diet employed was: Soy beans, 50 grams; rolled oats, 28 grams; dried skimmed milk (Klim), 10 grams; yeast, 4 grams; butter, 5 grams; calcium carbonate, 1 gram; sodium chloride, 1 gram. For roughage, the guinea pigs were liberally supplied with filter paper. Control guinea pigs, which received the same diet, with the liberal administration of orange-juice, or green vegetables, remained healthy.

The effects have been studied in growing guinea pigs and in the repair of lesions of bone experimentally made. The earliest