

each meal has been made and these results bear out the result for the entire meal as indicated in the table below. It was thought that this part of the meal might give a more exact measure of hunger, its attractiveness being less subject to variation than the meats and desserts.

TABLE III.

Series.	Per Cent, Excess Bread and Butter Eaten on Ventilation Days.
III.....	5.2
VII.....	5.7
X.....	5.3
XI.....	—2.2
XII.....	6.1

These experiments seem to warrant the conclusion that there are substances present in the air of an unventilated occupied room (even when its temperature and humidity are controlled) which in some way, and without producing conscious discomfort or detectable physiological symptoms, diminish the appetite for food. The effect of such an influence might in time be very important and it seems possible that the observed beneficial effects of fresh air may to some extent be connected with this phenomenon.

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### Protective inoculation against mumps.

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In view of the fact that mumps confers a marked immunity on the person who has had the disease, that a second attack is rare, the blood of convalescents was used in a prophylactic way. Six to eight c.c. of blood was injected intramuscularly in 17 cases. These children were in wards where there had been cases of mumps for the past month and where it continued to appear for a month following these inoculations. In no case did one of the inoculated children develop mumps, whereas one third to one half of the non-inoculated cases developed the disease. The blood was taken from children who had just recovered or had been well for about ten days.

It would seem that this procedure could be made use of in the institution as well as in the home, and that this type of therapy could be adapted in the case of measles and other infectious diseases.

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**A theory of internal disinfection with nascent formaldehyd.**

By **WILLIAM N. BERG.**

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The works of a large number of investigators have shown that under ordinary conditions the cleavage of urotropin into its components, formaldehyd and ammonia, takes place only in the urinary tract and in other acid media. In the neutral tissue fluids this cleavage does not take place.

During their work on infectious abortion in cattle, Mohler and Traum<sup>1</sup> fed urotropin to cows for the purpose of ascertaining whether this substance would pass into the udder as formaldehyd as stated by Klein.<sup>2</sup> In a number of tests on 5 cows that received from 10 to 80 grams of urotropin per day, the milk contained urotropin but no formaldehyd.

In his studies on acid intoxication, Szili<sup>3</sup> found that the alkalinity of the blood of rabbits, dogs and sheep could be appreciably lowered by the intravenous injection of 0.6 per cent. hydrochloric acid. Insofar as the cleavage of urotropin in the urinary tract is probably brought about or assisted by the acid phosphates present it seemed reasonable to suppose that this cleavage might also be brought about in the neutral tissue fluids if the alkalinity of these fluids were slightly lowered by the administration of acid.

In the work now in progress, cows receive large doses of urotropin by mouth (up to 3 grams per kilo of body weight) followed immediately by the intravenous injection of several liters of 0.6 per cent. ( $n/6$ ) or 0.9 per cent. ( $n/4$ ) hydrochloric acid, in Ringer solution. Samples of milk are obtained and tested for formaldehyd.

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<sup>1</sup> Bureau of Animal Industry Circular 216.

<sup>2</sup> *Proc. Amer. Vet. Med. Assn.*, 1913, p. 395.

<sup>3</sup> *Arch. f. d. ges. Physiol.*, Bd. 115, p. 82, 1906.