It will be seen from Table I that the rate of absorption of glucose and galactose is considerably reduced if both sugars are absorbed simultaneously. We may speak of a mutual inhibition. The absorption of glucose taking place simultaneously with the absorption of galactose, inhibits the rate of absorption of the latter sugar and *vice versa*. If such an inhibition did not exist, the organisms would be flooded with sugar, whenever a mixture of two or more sugars is fed. If glucose alone is fed 0.178 gm. are absorbed per 100 gm. per hour; if galactose alone is fed 0.196 gm. are absorbed per 100 gm. per hour. This would make a total amount of 0.374 gm. sugar, if the same rate would prevail during the simultaneous absorption of these two sugars. However, Table I shows that the total amount of sugar absorbed is only 0.182 gm.

It is very striking that glucose is absorbed faster from the mixture than galactose, since the opposite is true if each of these two sugars is fed separately. In the case of the absorption of the mixture, if the rate of absorption of glucose is taken as 100, the ratio glucose to galactose is of the order 100:68.5. In the case of the separate absorption the ratio is of the order 100:110.

Summary.

When glucose and galactose are absorbed from a mixture of equal parts of these two sugars, the rate of absorption of both sugars is reduced to such an extent, that the total amount of sugar absorbed is not greater than if glucose alone or galactose alone were being absorbed.

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Toxin production of the streptococcus erysipelatis.

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The toxins employed in these studies were prepared in Douglas' tryptic medium inoculated with cultures of *Streptococcus erysipelatis*, which were isolated from the erysipelatous lesions of patients ill with erysipelas. Among thirty-four strains grown at

37° C. for periods varying from six to ninety-six hours, the maximum toxin production was obtained in lots incubated for about 48 hours. Each of the 34 strains studied were found to yield uniformly toxic filtrates. A skin test dose of 0.1 cc. of a 1:1000 dilution of erysipelas toxic filtrate produced in the skin of susceptible persons a lesion, similar in nature to that obtained in the Schick and Dick tests, which measured more than 1.5 cm. in diameter. Complete neutralization of one skin test dose of the erysipelas toxin was obtained by mixing it with an equal amount of convalescent erysipelas serum, or with 0.001 cc. of erysipelas streptococcic rabbit or donkey sera. Neutralization of the erysipelas streptococcic toxin was not accomplished by Dochez' scarlatinal antistreptococcic serum, nor by normal rabbit or donkey sera. During the acute stages of erysipelas the patient's blood serum and urine contained a toxic substance which was completely neutralized by convalescent erysipelas serum and which disappeared from the patient's blood serum and urine as soon as twelve hours after the administration intramuscularly of 25 to 100 cc. of erysipelas antistreptococcic rabbit or donkey sera. If the disease persisted unchecked by the serum therapy, the skin reaction remained positive until defervescence and definite regression of the erysipelatous lesion occurred.

Positive skin reactions were obtained by one skin test dose of erysipelas streptococcic toxin in 27 per cent of apparently normal adults and in 21 per cent of normal school children. Among 19 persons with definite histories of single and recurrent attacks of erysipelas, 4 persons gave positive reactions with one skin test dose of the erysipelas streptococcic toxin. These findings add further evidence to our previous reports that a specific relationship exists between *Streptococcus erysipelatis* and erysipelas.