the loop became obviously cyanosed, and at that pressure only did an uncomfortable sensation of fullness ("like gas") occur. The peristaltic movements of the loop, occurring with each change in pressure, were never excessive, and did not prevent accurate centralization of the meniscus. The pulse beat was transmitted to the fluid in the system.

The curve of absorption in these experiments was a straight line in agreement with the observations of Wells,[2] who found that absorption of saline from closed loops was directly proportional to the intra-intestinal pressure. Wells's studies, however, included pressures up to 160 mm. water only.

The same patient at an earlier stage of her treatment presented a jejunal fistula. This fistula was efficiently drained by a tube which bore an inflatable balloon collar identical with that described for the experiments in dogs. By attaching this drainage tube to a manometer, a record was made of the spontaneous changes in intra-intestinal pressure. The pressure base line was 20 to 40 mm. throughout the course of the experiment. On 3 occasions, during 30 minutes, the pressure rose rapidly to 150, 250 and 275 mm. of water. Each of these excursions lasted 30 to 60 seconds. Minor waves up to 60 or 70 mm. were twice as frequent. With nearly all these upward excursions of the manometer, there was a complaint of mild hypogastric discomfort. Moderately intense umbilical colic was experienced whenever the pressure reached 200 mm. of water, this threshold level being exceedingly constant throughout the whole course of the experiment, and also observed on several other occasions in the same patient. These excursions were more frequent and more pronounced after the ingestion of water and of light food, reaching a peak on one occasion of 350 mm. of water.

8203 P

Dissimilation of Pyruvic Acid by Lactobacillus lycopersici.

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In view of the intermediary rôle assigned to pyruvic acid in bacterial metabolism, the mechanism of its breakdown by *Lactobacillus*

[2] Wells, H. S., *Am. J. Physiol.*, 1931, **99**, 209.

lycopersici is of importance to an understanding of the dissimilation of carbohydrates by the heterofermentative lactic acid bacteria.

A medium containing pyruvic acid, peptone, yeast extract and K_2HPO_4 adjusted to pH 6.2 was fermented anaerobically at 30°C. by *L. lycopersici.* Formation of the 3 final products in equimolar quantities (Table I) indicates a dissimilation involving oxidation of

TABLE I.
Dissimilation of Pyruvic Acid by *Lactobacillus lycopersici.**

	Exp. 1	Exp. 2
	mm. per liter	mm. per liter
Pyruvic acid, fermented	70.5	46.7
Lactic acid	37.7	22.8
Acetic acid	35.1	22.6
CO_2	38.8	23.8

*Millimols per liter.

one molecule of pyruvic acid and the simultaneous reduction of a second. Decarboxylation of pyruvic acid does not appear to occur since fixation of acetaldehyde by dimedon or bisulphite was repeatedly unsuccessful. The close relationship of the lactic bacteria to the propionic bacteria and the failure of van Niel[1] and Wood and Werkman[2] to detect acetaldehyde in fermentations by the latter suggests application of the proposal of these investigators to the lactic acid bacteria, *i. e.,* breakdown of pyruvic acid according to equation (1). The active hydrogen serves to reduce a second molecule to lactic acid.

$$CH_3.CO.COOH + H_2O \rightarrow CH_3C(OH)(OH)COOH \rightarrow CH_3COOH + CO_2 + 2H \quad (1)$$

8204 P

Effect of a Deficient Diet, Amytal and Amidopyrine on Blood Picture of the Albino Rat.

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Madison and Squier[1] in a discussion of the etiology of primary granulocytopenia report that in their series of 14 patients the onset

1 van Niel, C. B., The Propionic Acid Bacteria, Thesis, Delft, 1928.
2 Wood, H. G. and Werkman, C. H., *Biochem. J.,* 1934, **28**, 745.
1 Madison, F. W., Squier, T. L., *J. Am. Med. Assn.,* 1934, **102**, 755.