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Rotation of Lactic Acid Produced by *L. acidophilus*.

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L. acidophilus has been found to produce dextro-rotary lactic acid from lactose when grown in pure culture in casein-digest broth. After an acidity equivalent to 0.6 cc. of tenth normal sodium hydroxide per cc. had developed, it was neutralized by calcium oxide, evaporated under reduced pressure (not heating over 60° C.) to a syrupy consistency, strongly acidulated with concentrated sulfuric acid, filtered and extracted with ether in a continuous extractor. The ether was evaporated under reduced pressure and the syrup neutralized with zinc carbonate to form zinc lactate. This was precipitated with alcohol, filtered, dissolved in water and subjected to fractional crystallization.

Using a 5 per cent solution, a polariscope examination of three different fermentations, independently determined by each of us, gave a specific rotation of -2.5° for the second crop of zinc lactate. Therefore the lactic acid, which bears the opposite sign from its zinc salt, is dextro-rotary.

The work is still in progress.

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Influence of Peptic Digestion on Protective Colloid Value of Gelatin.

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Occasional allusion is made to the rôle of "protective colloids" in physiological processes. Commonly these are evaluated according to their "gold number", on which basis gelatins are conceded to be particularly powerful protective colloids (gold number 0.005 to 0.01).¹

In connection with a series of digestion experiments we have had an opportunity to observe the influence of peptic digestion on the protective power of gelatin, as measured by gold number. These included both *in vitro* peptic digestion experiments, and observations

upon gastric samples removed periodically from human subjects following gelatin meals.

The beaker experiments indicated that digestion with pepsin has no influence on the protective colloid value of gelatin. That digestion actually occurred was determined by precipitation with trichloroacetic acid and subsequent determination of non-precipitable nitrogen, as well as by observing the gradual loss of viscosity and power to form gels. The digestion of a 10 per cent gelatin solution furnishes a striking example. The blank upon cooling set to a firm gel, while the digested mixture remained completely fluid. The gold number of the unchanged gelatin was 0.007, while that of the digested gelatin was 0.006. Evidently the peptic digestion products of gelatin possess essentially the same protective value as does the original gelatin.

In the *in vivo* experiments, the protective value of the gastric contents suffered a progressive decrease, due to the dilution caused by secretion and evacuation. However, the rate of diminution of protective colloid value together with the *in vitro* observations above noted would suggest that gelatin reaches the duodenum with its gold number essentially unchanged.

This is a preliminary report

¹ Taylor, W. W., "The Chemistry of Colloids," p. 129.

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Rôle of Viscosity in Milk Modification.

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A few years ago Brennemann¹ reported a notable study concerning the coagulation of cows milk in the stomach, in the course of which he had occasion to study the influence on curd formation of a number of different types of milk modifications. He states "that nearly all of the numerous devices that are used in infant feeding in adapting cow's milk to the infant are directed, consciously or unconsciously to modifying this curd so that it will be fine, soft, and flocculent as is that of breast milk." Brennemann¹ found "that starch concoctions very radically influence the coagulation of milk in the stomach, and that the soluble carbohydrates, dextrans, milk sugar, cane sugar, and maltose have no appreciable influence." Col-