

and the passage from the stomach into the small intestines. The presence of such cabbage would make it very uncertain as to how long before the food would pass out of the stomach. I couldn't say, and I don't think anybody could say, how long cabbage and wheat bread in such condition would stay in the stomach. As far as wheat bread and water are concerned the acidity of the stomach with reference to hydrochloric acid may go between 40 and 60 degrees, which is the average height of the acidity. With wheat bread in the same shape of biscuit it would take the acidity about an hour to reach that height. With cabbage we don't know how long it would take it to reach that height. The acidity may rise very quickly and decline slowly. It would not necessarily take it one-half of the 4 1-2 hours necessary for digestion. When the acidity reaches a certain height it begins to descend. The longer it stays in the stomach it decreases. If you find 32 degrees in the body of a corpse you cannot tell whether it is on the ascending or decreasing scale. There is no data on how long it would take the acidity to reach its height in case of cabbage. If a gallon of the juices of a corpse are taken from the body and a gallon of embalming fluid, which is 8 per cent. formalin, is put in, it would destroy the ferments in the pancreatic juices. There would be no way to tell by testing such a body whether any of that pancreatic juice had been in the lower intestine or not, for the only way to tell that is to find the action of the ferment, and if the formalin has destroyed it you can't tell anything about that at all. After formalin has been in the body it is difficult to tell how long food has been in the stomach. Formalin destroys the pepsin in the stomach. I never heard of hydrochloric acid being measured by drops before, because it is vapor. If I investigated a stomach and found wheat bread and cabbage, some of which was in that condition (State's Exhibit G) and approximately a drop and a half or two drops of combined hydrochloric acid, the stomach being taken out during a post mortem on a subject that has been interred nine of ten days, a gallon of the liquids of the body having been taken out and a gallon of embalming fluid put in it, and if I further found the acidity of the stomach to be 32 degrees and practically no pepsin, and practically nothing in the lower intestine, the body having been embalmed with formaldehyde, it would be impossible for me or any other chemist or physician to tell anything about the time it had been in the stomach. The acidity of the stomach does not suffice to show it, because it may have been higher than that. There may have been considerable free hydrochloric acid, and that may have disappeared after the body had been embalmed, or even before that some of it will combine with the walls of the body and some passes out. Not finding anything in the lower intestine would be of no value at all, because the ferments would be destroyed entirely.

CROSS EXAMINATION.

If I took the contents of an absolutely normal stomach and made a positive test and found starch there, and there was nothing to indicate that anything was stopped up, and the intestines six feet below were absolutely clear,