cent. alcoholic solution of phenolphthalein as an indicator. We place the measured gastric contents in a capsule with several drops of the indicator and add drop by drop from a burette our Na OH solution till our solution becomes and remains uniformly red. Each 1 cc. of the Na OH solution used equals .00365 gramme of acid calculated as hydrochloric acid. Normally from 2 to 3.25 cc. are required to neutralize our 5 cc. contents used.

3. We next determine if the acidity is due to free acids. Normally HCl is the only acid present, but in diseased states fermentative acids may be found. A brick red solution of Congo red in water is perhaps the best test. To a drop of Congo red add a drop of the filtrate. If free acid is present, the red changes to dark blue.

4. If free acids are present, we next determine whether free HCl is the acid giving the acidity. The most common test is that of Gunzburg whose solution consists of Phloroglucin 2 grammes, Vanillin 1 gramme, Absolute Alcohol 30 cc. To a drop of the filtrate add a drop of this solution and then very carefully evaporate. A rose red ring forms at margin of evaporating drop if free HCl is present. This test will determine the presence of HCl down to .05 parts per mille. Gunzburg's solution darkens on exposure to light and should be kept in the dark, and in a dark bottle. Free HCl should always be present in normal gastric contents after the test meal.

There is another test solution which gives good results and which will indicate even smaller quantities of HCl than the above, and has the added advantage that it can be employed to determine quantitatively the amount of free HCl present. This test solution consists of a ·5 per cent. alcoholic solution of dimethyl-amido-azo-benzol. This gives a red coloration at once with free HCl. To determine the amount of free HCl we simply place several drops of this test solution in a measured quantity of the gastric contents and add our decinormal Na OH solution till the red color disappears. (Of course care is taken to keep the solutions intimately mixed during titration.)

5. In cases where great accuracy is desired we may require to determine whether any HCl exists in a combined state. For normally the albuminous constituents of the food require to be saturated before HCl appears in the free state. Dr. Simon, in