That the medium was free from those proteins generally agreed to be antigenic is indicated by the following negative tests: biuret reaction (after removal of ammonium salts), sulfosalicylic acid, picric acid and trichloracetic acid. No precipitate appeared when the solution was half saturated or completely saturated with ammonium sulfate.

The following organisms have multiplied on the medium herein described; gonococcus, *Staphylococcus aureus, B. coli, B. paratyphosus A, B. paratyphosus B, B. fecalis alkaligines,* pneumococcus, *B. typhosus, B. abortus, B. melitensis, B. dysenteriae, B. anthracis, B. diphtheria,* meningococcus, and others. Some of these organisms have exhibited a luxuriant growth. Others have multiplied to a lesser extent.

5319

Effect of Various Stomach Preparations in Pernicious Anemia.

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This work was started in April, 1929, under the direction of Dr. Ivy on the principle that the active constituent of liver effective in pernicious anemia might be produced by the gastric mucosa and stored in the liver. Very soon after starting our work articles appeared showing that desiccated whole stomach is effective,[1, 2] that gastric mucosa is slightly effective, whereas gastric muscle is ineffective,[1] that a normal *in vivo* digest of meat is effective,[3] that pepsin is ineffective,[3] and that gastric juice is ineffective.[4, 5] Our report is simply to record a confirmation of some of these findings.

We have fed to pernicious anemia patients fresh hog's gastric mucosa (300 gm. daily) brought to a boil within 20 minutes, pepsin (75 gm. of scale pepsin daily), desiccated mucosa (prepared by the method of Sturgis, Isaacs and Sharp, 75 gm. daily or the equivalent of 450 gm. of fresh mucosa), desiccated gastric muscle (120 gm. daily or the equivalent of 450 gm.) and desiccated whole stom-

[1] Sturgis and Isaacs, *J. Am. Med. Assn.*, 1929, **93**, 747.

[2] Sharp, *J. Am. Med. Assn.*, 1929, **93**, 10.

[3] Castle, *Brit. Med. J.*, 1929, **1**, 1120.

[4] Castle and Townsend, *Am. J. Med. Sci.*, 1929, **178**, 748.

[5] Coggeshall, PROC. SOC. EXP. BIOL. AND MED., 1930, **27**, 1044.

ach (120 gm. daily or the equivalent of 450 gm.). It should be pointed out that the preparation of our material (except pepsin) was started within one hour after death of the hog, and that during the process of desiccation there is a considerable opportunity for autolysis to occur which was not the case in the preparation of the fresh hog's mucosa in which the enzymes were destroyed with heat.

Three patients did not respond to the fresh hog's mucosa, but did to liver. Two patients did not respond to pepsin, but did to liver. Of 4 patients on desiccated mucosa, one responded definitely but slowly; 3 did not respond, but stated that they felt better, and later responded to liver. One patient on desiccated gastric muscle remained stationary for 2 months. Three patients responded definitely and typically to desiccated whole stomach. (By response we mean a definite increase in reticulocytes and red cells within 2 weeks after the institution of therapy.)

Our observations confirm those of Sturgis and Isaacs, namely, that a small amount of the anti-pernicious anemia principle is present in gastric mucosa, very little, if any, is present in gastric muscle, and that when the whole stomach is ground and desiccated, a considerable quantity of the active principle is produced or liberated, most probably by autolysis.

5320

Influence of Gastric Acid Secretion upon the Bactericidal Power of the Gastro-Intestinal Tract.

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The bactericidal power of the free H-ion of the gastric contents has been thought to be the principal disinfecting agent. We have used *B. prodigiosus* as the test bacteria. Suspensions of one agar plate growth in 100 cc. saline were administered to dogs by stomach tube. Alcohol was used to stimulate gastric secretion. Fifty cc. of a 7% ethyl alcohol were administered by stomach tube. Ninety-six dogs were used for these experiments. The number were equally divided in each experiment as nearly as possible. All animals were without food for 24 hours before the experiments began. The accompanying table shows the results. All animals were killed 2