tends to markedly lower intragastric conductance as well as acidity. Conductance, however, rises relative to free hydrochloric acid on account of the higher salt content of these regurgitated secretions. After the ingestion of mineral acid, neutralization is brought about in the same manner as during digestion.

In achylias where intragastric digestion was mainly pancreatic in character, the conductance was found to parallel the concentration of pancreatic juice as measured by the tryptic index.

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The calcium content of the blood serum in certain pathological conditions.

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The calcium content of human blood serum was determined in several normal cases and in a number of pathological conditions. In the normal cases values lying between 9 and 11 mg. of calcium per 100 c.c. were obtained. In nearly all of the pathological conditions studied, including cases where the blood clotted with extreme slowness, a similar range was observed, indicating a great constancy of this element in the blood serum. Distinct decreases were noted in cases of hematogenous jaundice, eclampsia, pneumonia, and particularly uremia. In several cases of uremia increases in serum calcium were noted on improvement in the clinical condition and following administration of calcium lactate. The urinary calcium excretion in severe nephritis was found to be low and calcium lactate administration brought about but slight absolute increases. Where marked general edema occurred, with or without nephritis, the excretion of calcium was unaffected by increased ingestion. In a case of pernicious vomiting of pregnancy with severe acidosis, alkali administration decreased calcium excretion to eight per cent. of its original value.

It is pointed out that as the red corpuscles are nearly free from calcium, determinations of this element in whole blood are of

little value, unless the relative volumes of plasma and corpuscles are known. It appears probable that the wide variations in the calcium content of whole blood in apparently normal individuals and variations for sex as reported by Lyman[1] may represent variations in corpuscular volume rather than in the calcium content of the plasma in these conditions.

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Circulatory effects of tyramin.

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The subcutaneous injection of 0.06 to 0.08 gm. tyramin into normal individuals usually produces the following circulatory changes:

1. The systolic blood pressure increases markedly.
2. The diastolic blood pressure increases to a much less extent.
3. The pulse pressure is therefore increased.
4. The volume pulse in the arm becomes larger.
5. The heart rate is usually slowed.
6. The T wave in the electrocardiogram becomes notably larger with no constant change in the other waves. This alteration is most constant and is usually most marked in Lead II.

The changes in blood pressure and in the volume pulse in the arm indicate that the systolic output from the heart is increased. The changes in the electrocardiogram suggest those described by Rothberger and Winterberg after stimulating the right stellate (accelerator) ganglion.

Where epinephrin produces marked circulatory effects after subcutaneous injection these appear to be of a similar nature to

[1] Lyman, H., *Jour. Biol. Chem.*, 1917, XXX, 1.