She does not show any ill effects as yet. Two adults, a boy 5 years old, and two dogs, fed milk of this cow the first week of the experiment, developed diarrhea. Two dogs fed the milk the second week did not show any ill effects. A two-day-old calf began sucking this cow 15 days after the experiment was started. He gained weight steadily and showed no apparent ill effects. The calf was killed by bleeding from carotid at the age of 5 weeks. Autopsy showed œdema of the perirenal fat and of the omentum. In the peritoneal cavity, there was about 600 c.c. reddish liquid that gelatinized on standing, similarly to the ascitic liquid found in the pigs. All the other organs appeared normal.

211 (1958)

A comparison of the alkaline tide in urine with the results of fractional gastric analysis.

By ROGER S. HUBBARD and SAMUEL A. MUNFORD.

[*From the Clifton Springs Sanitarium, New York.*]

The fact that the acidity of the urine decreases after meals is well known, and this decrease has been commonly attributed to the secretion of hydrochloric acid by the stomach during the process of digestion, but there are comparatively few experiments recorded in which direct comparison between urine studies and analyses of the acid content of the stomach by the newer methods have been made. In the series of cases presented determinations of hydrogen-ion concentration, titratable acidity, ammonia, and in some instances, total nitrogen, were made on urine collected at two-hour intervals through the day from patients who had been studied for hyperacidity or anacidity of the stomach by the usual method of fractional gastric analysis. Those cases which showed free hydrochloric acid in the stomach showed the "alkaline tide" in the morning, and usually in the afternoon as well, while the cases which did not show hydrochloric acid, with one possible exception, did not show the tide.

The depth and duration of the alkaline tide did not correspond with the relative amounts of hydrochloric acid found in the gas-

tric contents, or with the form of the acid curve. Determination of the alkaline tide furnished a method for checking the findings in the gastric juice, and has been found useful in establishing a possible anacidity in cases where satisfactory gastric analyses could not be obtained.

212 (1959)

The blood chemistry of thyroidectomized sheep.

By **AARON BODANSKY** (by invitation).

[*From the Biochemical Laboratory, Department of Physiology and Biochemistry, Cornell University Medical College, Ithaca, N. Y.*]

A study of the blood chemistry of Dr. Sutherland Simpson's experimental flock has been undertaken as a part of a larger study of the metabolism of thyroidectomized sheep.

The flock consists of thyroidectomized individuals and normal controls. The thyroidectomized sheep were operated on at different ages, and to some of them were later administered thyroxin, thyroid gland or sodium iodide in the course of other experimental work. These administrations were discontinued about 10 months before the beginning of this series of analyses.

Some of the animals were withdrawn from the author's use for shorter or longer periods, and others were used simultaneously for other experimental work involving increased exercise. In the preliminary tests no attempt was made to control the diet of the animals in any manner. Later the uniform practice was adopted of taking the blood after a night of enforced rest in the sheep pens before the sheep were given their morning meal. Greater uniformity of results was then obtained and it became possible to observe certain broad distinctions between the normal and operated groups.

The blood was drawn from the jugular vein directly into tubes containing finely powdered potassium oxalate, which were kept in ice water until used for analyses. Folin and Wu's procedure was employed.

At this time enough determinations are available only for sugar and N. P. N. Sugar was found to range between 0.06 and 0.07