1-1,000 were rapidly destroyed by the meat fragments so that practically no inhibition was noticed in subcultures. Subcultures from tubes in which the meat fragments had been visibly bleached by the peroxide grew readily.

In plain bouillon, however, distinct inhibition was noticeable. Hydrogen peroxide in dilutions of 1-10,000 and 1-100,000 was added to 24 hour cultures. In the 1-100,000 dilution, some lag was noted in subcultures, this period being in proportion to the length of time the organism was subjected to the action of the peroxide. All subcultures, made at intervals up to 6 hours, were growing at 48 hours. In the 1-10,000 dilution the lag period extended from 24 hours to 96 hours, the longer lag periods being in those cultures which were made after longer contact with the peroxide.

In the previous paper a record of the behavior of fluid cultures of this organism after exposure to air in shallow layers was made. This behavior was practically duplicated by those cultures which were in contact with a 1-10,000 dilution of hydrogen peroxide.

287 (2819)

The effect of thyroxin on the cutaneous system in the sheep.

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On January 11th, of this year, a thyroidectomized lamb, about eight months old, showed great muscular depression and in order to save its life the subcutaneous administration of thyroxin was begun. Half a milligram was injected every second day for one week; then as recovery began the dose was reduced to ¼ mg. and later to ⅛ mg. In about ten days the animal showed great improvement as was anticipated but after about a month's treatment it was observed that the wool was beginning to fall out in patches and this effect was not expected. The shedding of the wool was first noticed on February 7th; photographs were taken every second or third day to show the progress of the denudation and

by February 27th—in about 20 days—the whole animal was bare to the skin with the exception of the head and neck. Considerably later the wool from this area also was shed.

To find out whether thyroxin would have the same effect on the normal sheep, two were selected and each received ¼ mg. subcutaneously every second day beginning on February 13th. In about a month one of these reacted as the thyroidectomized lamb had done, although the shedding of the wool was not so extensive, but the other showed no effect, although later the dose for this animal was increased to 1 mg. every second day and continued till April 27th.

Following thyroidectomy the fleece becomes coarse and ragged giving the animal a tattered, unkempt appearance but the complete and rapid denudation produced by the subcutaneous injection of thyroxin has not been observed in our flock to follow removal of the thyroids. A more detailed statement will follow.

ABSTRACTS OF COMMUNICATIONS.

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Some new observations concerning the effects of dilute acids and alkalies on proteins.

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Although it has been long known that proteins are subject to changes commonly called denaturation whereby their solubility is altered, our knowledge of the nature and the products of these changes is very limited.

The present study of the effects of dilute acids and alkalies on proteins originated from an observation made by one of us[1] some

[1] Wu, H., *J. Biol. Chem.*, 1922, li, 33.