(d) Main limbs of the apple trees used in experiment (c) treated in same way as the limbs of pears in experiment (b).

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Result.-Not one of these inoculations resulted in a development of the disease.

EXPERIMENT 2.—April 17th. Cut a cankered limb (see fig. 49) from a Bartlett pear tree. Washed the exterior with HgCl₂, 1-1000, and with sterile knife obtained small portions of the inner bark from the cankered area and also from the discoloured area two inches from the crack marking the limits of the canker. This tissue was macerated in small quantities of sterile water, and three plate cultures of varying dilutions were made from each in beef-extract agar and gelatin; agar plates incubated at 25 deg. C. and the gelatin plates at 20 deg. C.

In twenty-four hours numerous minute colonies were seen on the agar plates made from the tissue taken from outside the cankered area, and in forty-eight hours similar colonies appeared in the gelatin plates made from the same material.



Fig. 52. Agar plate culture of *B. amylovorus* from inner bark of blighted apple twig. (Natural size.)

These all subsequently proved to be pure cultures of B. amylovorus. (Fig. 50.)

No colonies of *B. amylovorus* were obtained from the tissue taken from the cankered area. This tissue was dark brown, dry, tough, and evidently dead, while the tissue taken from outside the cankered area was moist and living, although it also was discoloured brown.

These experiments were subsequently duplicated after the limb had remained drying in the laboratory for six weeks, and similar results were obtained.

Conclusions.—The blight organisms live over winter, not in the dead cankered tissue. but in the living bark immediately surrounding the cankered area. This bark is usually discoloured purplish or dark brown. Many such cases were observed.