

if they had passed through a hot flame and causing a morbid matter to exude from the pores of the bark."

From 1817 until 1878-80, when Burrill discovered the specific cause of the disease, many and varied were the theories advanced as to the cause. Among these may be mentioned, 1, electricity or atmospheric influence; 2, stroke of the sun; 3, old age or a long duration of varieties; 4, sudden freezing of the bark; 5, freezing of the roots whereby absorption is prevented, supply of moisture cut off and the evaporation of moisture from the branches, so causing the blight; 6, too high culture; 7, absence of certain mineral matters from the soil; 8, insects; 9, fungi; and 10, epidemic transmitted from place to place by air. Some of these theories still have their champions among fruit growers.

Harrison, in Bulletin 136, O. A. C., quoting other authorities, says

"In the early days of fruit growing in the Niagara district we had no pear tree blight nor apple tree blight. With the advent of what people

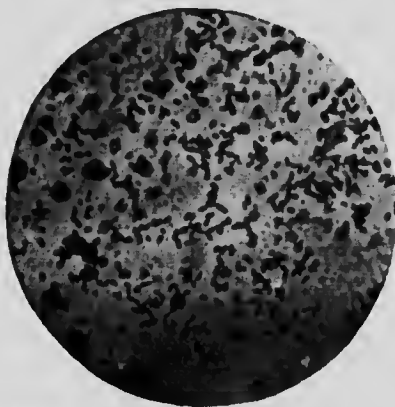


Fig. 1. *B. amylovorus*, a smear preparation made by macerating a little of the inner bark of a diseased apple twig from which the viscid liquid was oozing.

Stained carbol fuchsin X 1000.

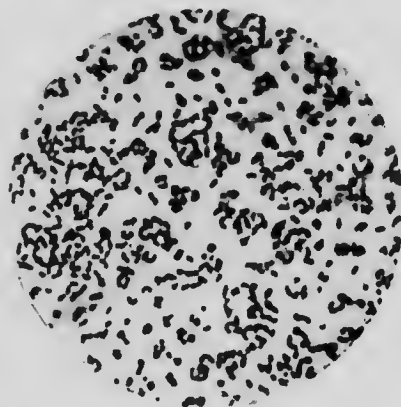


Fig. 2. *B. amylovorus*, smear stained from colony on agar four days old. Stained carbol fuchsin. X 1000

termed grafted fruit, there came, after a few years, 'blight' on the pear tree. By the year 1840 it had spread considerably. N. J. Clinton, of Essex County; S. Hunter, of Oxford; E. D. Smith, of Wentworth; Stone and Wellington, of Welland, and R. Hamilton, of Argenteuil, reported its presence in their respective counties about thirty-five years ago. The colder parts of the province have suffered from the disease as well as the more favoured districts. The orchard of the Dominion Experimental Farm, at Ottawa, has been attacked, and the 140 Russian variety of apples cultivated there have suffered severely. In warmer districts, however, the disease has been more severe. Whole orchards have been completely destroyed in the State of Texas and certain pear growing districts in that State have been practically ruined by this parasite.