

semble stagnant water. No relation exists between "Chilled" and "Foul Brood," although many writers have mistaken the one for the other, or they have stated that "Chilled Brood" turns to "Foul Brood." Schirach, as long ago as 1769, clearly distinguished between the two. In fact, he said that "Chilled Brood" is no disease at all. "Chilled Brood" is caused by putrefactive bacteria which attack the larvae after death. In "Foul Brood" and other infectious bee diseases the micro-organisms attack the living brood and cause their death.

"Starved Brood."—Occasionally instances of the starving of a brood have been noticed. This occurrence can probably be explained by an abundant honey flow having induced the bees to encourage a large brood deposit, when, after a severe extracting of honey, the bees were suddenly checked in the gathering of food for some time through bad weather. The brood do not die suddenly, but become emaciated and dry up rather than putrefy. This affection is of rare occurrence, but it is curious and interesting to note that Virgil, in his *Georgic* on the husbandry of bees, mentions starvation and the cure for it. The lines are as follows:

"When sickness reigns (for they, as well as we,
Feel all the effects of frail mortality)
By certain marks the new disease is seen,
Their color changes and their looks are thin;
Their funeral rites are formed, and every bee
With grief attends the sad solemnity:
The few diseased survivors hang before
Their sickly cells or droop about the door,
Or slowly in their hives their limbs unfold,
Shrunk up with hunger and benumbed with cold.
Now lay fresh honey near their empty rooms
In troughs of hollow reeds, whilst frying gums,

Cast round a mist of spicy fumes,
Thus kindly tempt the famished swarm to eat,
And gently reconcile them to their meat."

Treatment and Remedies.—"Remove the cause and the effect ceases." Practically all the various methods of cure of the infectious diseases of bees adopt this maxim more or less thoroughly. The various starvation methods aim at getting rid of the infected honey and infected combs. The method of conquering the disease by feeding medicated syrups aims at the destruction of the vegetating bacteria, or preventing them from growing and the spores from developing. At the same time, the action of the medicine may in some way exercise a tonic effect upon the bees. Treatment by means of disinfection by formalin, or other vapor, destroys the greater amount of infecting material which is present in the hives and comb, relying upon the natural resistance of the bees to get rid of any micro-organisms that may be present in or upon them. The beneficial results obtained from any of these methods depend upon the thoroughness with which they are carried out. Thus we have numerous instances of the starvation method failing, because of failure to disinfect the hive. Medicated syrups often fail because of faulty methods of application, the use of weak or feeble drugs and not using the medicine for a sufficiently long period at a time. We have also occasional instances of the failure of the formalin treatment, perhaps due to improper methods of application, not using strong enough formalin, or not disinfecting the combs and hives in an airtight box. These failures should not be counted against the methods of treatment, for I am convinced that any of these methods, if properly and conscientiously carried out, will cure even the worst case of "Foul Brood," which, of all the infectious bee diseases, is the most difficult disease to deal with.

It remains for each bee-keeper to decide for himself as to the method of treatment he intends to follow, and, having made up his mind, he should carry out that treatment intelligently and thoroughly.