

GENERAL.

FOR THE CANADIAN BEE JOURNAL.

Bacillus Alvei.

IN his reply, page 717, Mr. Doolittle intimates that I am remiss in the discharge of my duty as a Director of the O. B. K. A. because I do not insist that the Foul-brood Inspector shall cure by the Cheshire plan. In answer to this charge I have to say that the Board of Directors have no more control over the teachings of the Inspector, as a "foul-brood curer," than they have over the teachings of Mr. Doolittle himself. The duty of the Inspector is to see that diseased stocks are either cured or destroyed. If he chooses to give advice as to how they may be cured, he does so as a private individual; it is no part of his duty as a public officer, and the directors have no responsibility in the matter. Mr. Doolittle's error is a pardonable one, because it is well known that the Inspector takes great pains to show bee-keepers how to cure their bees of foul-brood.

Mr. Doolittle's "position against Cheshire on the foul-brood matter," as stated by himself, is as follows: "If Cheshire is no more correct as to the name of the disease than he is in his diagnosis of the same, there can be little dependence placed on what he says regarding the matter." Diagnosis is defined as the art of distinguishing diseases, that branch of medicine which discriminates diseases, the determination of disease by distinctive marks and characteristics. From these definitions it will be seen that the diagnosis of foul-brood has nothing whatever to do with the means by which it is propagated, or with the method of treatment. As I previously stated the charge substantially is, that Cheshire does not know foul-brood when he sees it, and I repeat that there has not been the slightest attempt to show that there is any ground for making the accusation.

From his reply it is evident that Mr. Doolittle understands the term, diagnosis, to include methods of cure, and the means by which a disease is spread. After writing about the Quinby method of cure he says "If I have made no attempt to justify my position, all right; I am willing to abide by the judgment of the general reader," and in regard to the means of spreading the disease he says "Well, if proving that honey is the chief, if not the only way that foul-brood is spread, in the United States or the whole of North America, while Mr. Cheshire says that only occasionally can honey convey it, is no attempt to justify my position, then I am no judge of logic." I believe those who are skilled in logic are very particular about

using terms according to their definitions. As I understand the case, Mr. Doolittle, through mistake, makes a charge he does not intend, and proceeds to discuss entirely different matters.

Mr. Doolittle says "No one respects or prizes scientific research more than I do, but to be of value to me that 'research' must not run right squarely up against *positive known facts*." This is only another version of what he wrote in GLEANINGS in 1886. I shall now show that some of Mr. Doolittle's "*positive known facts*" may, after all, be only imaginary ones. I take his supposed fact that "where no foul-broody honey goes no disease goes." It is known, on the testimony of more than one reliable observer, that bacilli are very plentiful in the chyle stomach of diseased worker bees, that is, in the stomach in which honey and pollen are digested and changed into brood-food. A glance at page 122 of Mr. Cowan's new work, THE HONEY BEE, shows, that, by means of a prolongation of the stomach mouth, reaching entirely through the honey sac, food is conveyed into the gullet, and is driven directly into the cells, without being mixed with honey which may still be contained in the honey sac. The reader will see that since bacilli swarm in the chyle stomach, it is exceedingly unlikely that the honey and pollen could be digested there, and regurgitated and placed in the combs with the larvae, without carrying with it some of the microbes. As a matter of fact "Schoenfeld has proved that the food which is given to the young larvae contains, in a foul-broody hive, a large quantity of these microbes." Thus we see that whether the honey taken into the honey sac contains the infection or not, the brood-food prepared from it, by diseased nurse-bees will almost certainly contain germs which will give the disease to the larvae. To the ordinary observer, the disease would seem to come from the honey. This shows how mistakes may be made, when "we go by practical experience," instead of being guided by experience gained by observation with the microscope.

Mr. Doolittle will probably call this hair-splitting, as he did in his reply, when referring to a somewhat similar matter. If an astronomer states that by the aid of his telescope he sees stars and planets, which to the unaided eye are invisible, all well informed persons will believe him, provided he is veracious, and skillful in the use of his instruments, but when the most skillful and veracious observers turn their lenses upon the microbe of the foul-brood instead of distant worlds, Mr. Doolittle discredits their statements, if he finds their observations are not in accord with his opinions, formed from