

consider the almost insuperable difficulties in the case.

Thus, to the present day, and, although volume after volume has been published on the honey-bee, we still admire the bee in the field, with only the limited knowledge to guide us possessed by our forefathers, who were quite unable to unravel the manifold and mysterious movements of that marvellous insect, as it flies from flower to flower.

The writer has, for several seasons past, made a special study of the formation of the pollen pellets, and has followed the bee closely while it has worked on various flowers, until he has been enabled to clear away doubts and uncertainties, and reduce to a system the various movements of the bee while gathering pollen, or on the wing in passing from flower to flower, and to determine the exact purpose of each movement made.

He believes that a knowledge of his system will be indispensable as well to the botanist as to the bee-keeper who desires to know the meaning or import of each movement of the bee.

Before presenting the system and initiating the reader into facts which have so far remained unknown, it becomes necessary to point out the incorrectness of a few of the prevailing ideas on the subject of pollen-gathering. Some of these ideas are not only incorrect, but opposed to actual facts. In drawing the attention of readers to the false ideas prevailing on the subject under discussion, a few passages will be quoted from popular works on bee-keeping, and the writer hopes it will not be taken as lessening the real value of those works, if he points to a little dross among so many grains of gold which they contain.

Two of the terms which will be often used in this essay would prove ambiguous to the reader if the meaning of each was not explained at the outset. Allusion is made to the terms "dry pollen" and "prepared pollen." Prepared pollen will always mean that pollen which has been mixed with the saliva of the bee; and dry pollen, that which has not received such an addition of saliva.

A common belief prevails, particularly among beginners in bee keeping, that "bees do nothing invariably," because, among other reasons, of their inability to make their bees amenable to complete control in such things as prevention of swarming, etc. If we admit the possession of intelligence in the honey-bee at all, we must allow that it has an object in each of its actions, and that it is actuated at all times by cause and purpose. This is the belief of the writer, and

to prove his position he would state that he has the care of about one hundred colonies each season, the whole of which are not only prevented from swarming, but no hive has the slightest inclination or desire to do so, even if the queen is removed at any time during the swarming season, from the fact that the bees are maintained in the non-swarming condition throughout. So that while—to those who have not mastered all the facts they involve—the two conditions seem to merge into each other, it is really possible to maintain a wide gap between them.

Another popular error is that the bee actually rolls itself in the pollen, and comes back to the hive white as a miller. Of course, the bee works among pollen dust just as the miller works among that from flour, but the bee never rolls itself among pollen for the purpose of carrying a load of it to the hive. It does exactly the reverse; and if it had plenty of time at its disposal it would not carry in any loose pollen at all while at work forming the pellets. But the demands for prepared pollen are so great, during the busy breeding season, that the bee has no time to care for fine clothing, and so, like the miller, it carries the sign of its calling with it. It is as absurd to suppose that bees roll themselves in pollen for the purpose of carrying it home on their backs, as that a coal-heaver rolls himself in the coal-heap to fill his coal-bags!

(To be Continued).

An Easy Method of Measuring Out Naphthol Beta.

PUT a drachm of naphthol beta into a one-ounce phial, and fill up to the shoulder with rectified spirit. Gum a piece of paper (postage-stamp bordering will answer) along the phial from the bottom to the shoulder, and by the aid of a foot rule divide the paper by a pencil mark at each one-eighth inch. As the whole phial contains sufficient to medicate twenty pounds of sugar, and as the phial is two and a half (or twenty-eight eighths) inches in depth, each one eighth inch will show the depth of liquid required for one pound of sugar. A pair of toy scales may be adjusted to do the weighing, and a drachm of gum, purposely bought at a druggist's shop, will do for a weight.—E. B. in British Bee Journal.

The recent slight frost reminds us that "The harvest is past and the summer is ended," and the time has come to remove surplus honey from the hives.—Ex.