fullness; wax, as I have before stated, is made from honey and works out through the pores or scales of the bee's body, somewhat in the manner as perspiration on the human body, and with this wax, a powerful pair of jaws, the tongue and feet, all helping each other, the wonderful construction of the comb takes place. Bees have been known to fly five or six miles for "pastures new" crossing rivers and lakes in their search after honey secreting plants or flowers, but if the search may have proved long the return home is very rapid, owing to their wonderful powers of location and their peculiarly gifted instincts of *direct flight* to their own hive though it may be amongst a hundred or more of others; I have seen a good sized hole made in a piece of comb just before dark and the next morning have seen the same comb nicely built out again, proving pretty satisfactorily if anyone doubted it that the bee is no sluggard: very few bee-keepers I believe have ever been stung by a queen bee, as instinct seems to tell her to suffer much before retaliating, which would mean her death, as the *queen* and *worker* bees die from the effects of stinging, while the *drone* has poor chance of proving his angry feelings as he has no sting at all.

Trusting I have, in my feeble way, brought before some of the numerous readers of this thriving little magazine a few of the peculiar characteristics and instincts of the honey bee, and that it may prove of some interest to them, I will conclude with the good old French saying that permits of the thought of our perhaps meeting again in these friendly pages. *Au revoir.*

A. VEASEY.

From the American Bee Journal.

LIGHT IN CELLARS,

THINKING that some of the readers, in the near future, may have a few colonies of bees to winter, and for which they do not wish to spend much money to make a cellar or cave, not even to render their ordinary cellar dark and unpleasant to use for the ordinary family purposes, I have decided to state a few points perhaps overlooked by bee-keepers, in regard to light in the cellar as a means to the paramount purpose of healthfully wintering bees.

In this article it is not the intent to exhaust the evidence, neither to establish the theory thus far among scientific bee-keepers not mentioned as a possible factor to successful wintering. I shall simply state that I have been in the habit of wintering part of my bees in cellars at various times and in various places, according to circumstances. However radical I may have been, only in one instance has the ordinary stereotyped rule been disregarded by me so far as darkness was concerned. I have in all cases absolutely excluded light from my cellars except in one case, when I wintered successfully a few colonies in Allegan, Mich., in a very light cellar, where vegetables were kept for the daily use of a large family, composed mostly of children, who went when they pleased into the cellar for apples, etc.

The point that I wish to bring out conspicuously is, that light is essential to the welfare of all warm-blooded animals, to which rule bees are in no wise an exception; neither are plants. It will of course be at once assumed that in order that bees may be quiet, human ingenuity must exclude from them all light as the first and prime essential.

"Habit," the lamented Artemus Ward said "is a bad habit." While in a certain sense his statement is correct, I shall not presume that the many gifted bee-keepers and writers who have, and now do advocate wintering bees in dark cellars and caves, do so simply out of respect to the time-honored custom, without giving all the accessories which they so explicitly explain due thought and consideration. No; but on the contrary, their articles seem exhaustive, and so far as a recapitulation of the accidents and purposes which have come under their consideration goes, the evidence and conditions given leave little room for reasonable difference of opinion.

The fact still stands out boldly, that perhaps the one most important factor entering into the proper statement of the wintering problem has been hitherto omitted, viz:—Light. Light in the cellar; light in the hive; and light in the swaying trees.

Having so far outlined what I wish to be understood, allow me to give a pen-and-ink sketch of the few of my bees now in the cellar, to illustrate what has been written:

My cellar is 6½ feet high and thirty feet square, and under my house where we live. This cellar has three ordinary three-pane double windows, one on the east side, one on the south, and one on the west side. These windows render the entire cellar comparatively light. The walls are of stone, plastered with hydraulic cement mortar. Around the cellar on all sides a row of two-inch drain tile are laid a few inches below the level of the cellar, and leading out below the house, to drain the cellar (which is nicely accomplished.)

The cellar bottom is covered about two inches deep with dry sand. This sand is used in preference to cement, as I regard it as being more healthful to the family and the bees. Every spring this coat of sand is removed, and a new coat returned in its place. Of course the cellar is sweet. It is also cool in summer, and warm in winter, as the entire bottom plays its part in radiating and absorbing the heat.

On the east side of the cellar, facing the east window, and about ten feet from it, are three rows of hives, six hives in each row, piled one above the other, three high. Eighteen colonies of bees stand facing the east window squarely. Each hive has an entrance twenty-three inches long facing the window. The bees are at liberty to take in all the light there is, and the light is ample to read by.

They have all the daylight and brilliant light in the morning when the sun shines obliquely through the window into the cellar. The bees