

without these fancy qualities—queens which are every whit as good, yes, generally much better as honey-producers.

We are fast degenerating into the condition of the poultry fraternity. With them, feathers fix the price of the chicken; but we err with far less temptation, for bees can never be made popular pets with which to please the eye and tickle the fancy of our uninitiated visitors. I would that all breeders of fancy bees would heartily seek with us for the bee that can produce the most; we cannot go with them, for, to use the slang of the period, we must have a bee for "business." But we who can so far liberate ourselves from the flavor of classic things as to think "American" as pretty a name as "Ligurian," and can see the most beauty in what does the most, what hope have we for the improvement of the bee?

All honey-producers, I suppose, harbor more or less hope that the honeybee will be found capable of marked improvement; but our hopes undoubtedly are of all degrees of vigor and stability, according to each individual's clearness of knowledge and comprehension of the facts touching the subject, as well as to his manner of looking at these facts. Whatever improvement is possible can without questions be most quickly reached or approximated by unity of effort, for everywhere there is strength in union. It is desirable, then, that this subject be discussed until we may, if possible, come to stand on some common ground.

As my time will permit me to set forth only an outline of my thoughts on this subject, let us take at the out-set a brief view of what nature had done for the bee before it came to the hands of man. We must not forget that in a state of nature the rule of the survival of the fittest is a very different thing from what it is when guided by the hand of man. In a wild state the chief quality required by the bees to fit it to survive—to persist in living—is the ability to provide under the severest stress of circumstances sufficient food to supply its wants during the ensuing period of repose; in the ox it is not good beef, nor rich milk, but horns, strength, courage and agility to enable him to overcome or to escape his enemies and to master his mates that are not so highly gifted with these qualities.

During the roll of unnumbered centuries nature has been training the bee in the gathering of honey, and the greater the stress of circumstances under which the bee has existed, the more thorough has been its education. With the ox most of the qualities that fit him to survive in a wild state, specially fit him in domestication to die early. To fit him for man's

use, all these qualities must be changed, and to effect the change the rule of the survival of the fittest must in its application be entirely changed. Now the qualities that make fitness to survive are, the most and the best beef and milk. But note that nature's education of the bee has all been precisely in the line calculated to produce the character and qualities which man so much desires it to possess, so much does the constitution of things favor the bee-keeper. Of the ox, man gets from nature little but a germ; of the bee, the well-nigh ripened fruit.

But on the other hand, in the domesticated state the bee runs great risk of positive deterioration. The ox naturally improves under the hand of man, because selections for breeding will be made almost without thought, and his better food and protection will favorably affect the growth and development; but with the bee better pasturage and better protection too often prolong the existence of the poorest, and so their blood is perpetuated in subsequent stock. This would be true under what is known as an old method of bee-keeping, but with how much greater force does it apply to bee-keeping under our new methods, with our feeders, and packing, and cellars, and the ready means which the moveable comb furnishes us of preserving the lives of queens which are ready to perish on account of a lack of attendants.

Queens have a market value, and everything having a market value must be saved without regard to its intrinsic worth? Many complaints have been made on account of the low price at which queens must be sold, but I sometimes think it would be immeasurably better, since we cannot well fix their quality, if their value were so much lower than it is that there would be no temptation to preserve the lives of inferior ones.

So we have in our favor the mighty hand of Nature, which with one finger supplied the sparse pasturage of the wilderness and the mountain, and with another inexorably destroyed such colonies as did not from such pasturage lay up a sufficient supply for their wants. And on what a high vantage ground this places us! Then we have the wonderful rapidity with which we may get increase from superior stock, and we must not forget to thank our stern winters that destroy the bees of those who are careless of the comfort, and so of the qualities of their honey-producing stock.

But on the other hand, we have much to contend with. The rich pasturage of our cultivated lands generally enables bees of the poorest quality to get enough for their wants; and what an army we have of those who are careful of their