

either of comb or extracted honey may be safely asserted. The prevalent popular belief to the contrary may be accounted for in two ways—by the prevalent ignorance of the character and what I might call the habits of honey, and by the erroneous teachings and misleading reports of the authorities under review. While it may be said, in general terms, that honey chemically consists of sugar and water, in the proportion usually of about seventy-five per cent. of the former to twenty-five of the latter,* these elements vary so much in their proportions in different grades of honey gathered from so many different flowers at different seasons of the year that there is no sure test, chemical or other, of honey. Even the polariscope, but recently considered a certain test of its purity, and still so considered by some analysts, is found to be uncertain and unreliable. While generally in pure honey the ray of light is turned to the left, some samples, equally pure, though perhaps stored rapidly and capped prematurely, may contain so much cane sugar that the ray is turned to the right. Hence the mistakes of chemists, relying upon the integrity of the polariscope, in passing upon the purity or impurity of honey. They have pronounced samples adulterated which were known to be the pure products of the flowers gathered by the bees. Every apiarian specialist knows that during the course of one good honey season, beginning with the early spring bloom of willow, maple, fruit, etc., and ending with the fall bloom of golden-rod, buck-wheat, etc., he can get nearly a dozen different grades or kinds of honey—in color from the very light, almost transparent linden to the turgid and black buckwheat, and in flavor from the mild and delicious sweet to that which is strong, rank, and quite unpalatable to some tastes. Let a person with no special knowledge of honey be presented with the former for his sight and palate, and then with the latter, and, ten to one, he will declare that the one sample is not honey at all, but a vile imitation. Then, again, good, pure honey, through mismanagement, may become so deteriorated in quality and altered in taste as to at once provoke suspicion of adulteration.

Granulation was also regarded as a sure test of the purity of honey, but it is not so, as some pure grades, containing only the non-crystallizable sugar, will not granulate; while other samples mixed with glucose will granulate.

* According to C. Tomlinson, F.R.S., F. C. S., dextrose thirty-eight per cent, levulose thirty six, water twenty-two, and the remaining four, salts, wax, pollen, gluten, aromatic and coloring matters.

The light-colored and best grades of honey will be fine-grained in granulation, while other grades will be coarse-grained and present the appearance of sugar for certain to the uninitiated.

When an honest man falls into an error, he is always willing to correct it as soon as it is pointed out to him and proved to be such. Prof. Wiley was expected to do that much at least toward repairing the injury he had wittingly or unwittingly done the whole fraternity of beekeepers. But Prof. Wiley failed to do so, so far as the public knows. He neglected—I may safely say refused—to make the *amende honorable*. The apiarists became incensed, indignant, and demanded proof of his assertion or a retraction. The professor of science vouchsafed neither the one nor the other. Finally, after years had elapsed, being still hotly pursued by the apiarists and bee journals, especially the American Bee Journal, Prof. Wiley did manage to make an explanation or "statement"; which, however, in no way improved his position before the public either as an honorable man or a professor of science. About seven years after uttering the slander to the world, he speaks, and makes this astounding admission:

"At the time, I repeated this statement more in the light of a pleasantry than as a commercial reality, for I did not believe that it was possible commercially to imitate the comb." (Letter dated Washington, D. C., May 29, 1888, addressed to W. M. Evans, and published in the American Bee Journal of June 13, 1888.)

In this attempted justification of himself Prof. Wiley says he had heard from a friend of his (now deceased) that comb-honey was manufactured in Boston as stated above. On the strength of that, and that alone, he made the deliberate assertion which I have quoted from The Popular Science Monthly.

Now, after reading and re-reading the context in The Popular Science Monthly article, I find not a shadow of evidence that this statement was meant for a fiction and not for a fact. It is given seriously and deliberately, along with other alleged scientific facts, with no intimation or indication whatever of its spurious character. The readers (and no doubt the publishers) of The Popular Science Monthly accepted the statement in good faith as a fact. The newspapers, of course, accepted it as true from so respectable an authority as The Popular Science Monthly, and even the encyclopædias finally took it in. Indeed, nobody, it seems, took it as a fictitious "pleasantry," or even dreamed it was meant for one, till the exigen-