

high pressure of steam and you convert that into different sugars; you have added nothing to it; you have broken one molecule up into two molecules, so that it would not be right to say that the bees had added something to it. There is a presence in this infinitesimal principle of diastase, which affects the conversion of it. It breaks down the constitution of it and converts it into a new compound.

Mr. Hall—I find that during the latter part of the season, no matter what they are gathering from, they make a heavier comb and put heavier capping on than they do earlier in the season. I mean that the comb all through is heavier.

Prof. Shutt—We have taken these three years in succession.

Mr. Hall—Buckwheat comes in the latter part of the season.

Prof. Shutt—I am aware of that, but that is a point that has not been brought to my attention and I do not know that we have any flowers to come in that will allow us to compare them, but I think there is something more than that. We might take comb honey formed in the early part of the season and take it as late as possible with clover. I can't say what the result would be; I don't think the difference would be as much as between clover and buckwheat.

Mr. Frith—In regard to the ductility, did you not use the term "elasticity"?

Prof. Shutt—It is really more a physical than a chemical term. I used it to show the relative ease with which the bees could draw out the foundation and I expressed it in the word "ductility." Elasticity means going back into the same form again.

Mr. Frith—A number of practical bee-keepers have found, as Mr. Hall has said, that if in pure wax the grains are destroyed and worked up until broken, that is leaving out foreign matter, it will break very easily. My experience was that the bees would draw that out much thinner and make far nicer comb honey. I am speaking strictly of the producing of comb honey, but where it is worked in milling or in any other process these grains are destroyed and the bees do not seem to draw that out and utilize. I did not go into experiments, but I found the honey was more like the natural honey.

Mr. Heise—It is possible to get the comb foundation so brittle that you dare not handle it.

Mr. McKnight—Have you ever had submitted to you for analysis a sample of what is popularly known amongst bee-

keepers as sugar honey? What we popularly understand by sugar honey is sugar syrup made from cane sugar fed to the bees and stored in their combs.

Prof. Shutt—The Inland Revenue Department looks after that matter. Our province is not to look after fraudulent properties, but it is to carry on, in the interests of agriculture, in its various branches, any investigations, and necessarily and naturally such would not be submitted to me for examination.

Mr. McKnight—What I have to say would be interesting to you in a way, because it has been ascertained that it is impossible for even a chemist to distinguish between pure honey and what, as I said, is popularly known as sugar honey. That sugar in the nectar and the sugar in syrup being chemically identical and that they undergo some process of fermentation, as you say, or whatever influence is brought to bear to bring about a transformation, that same effect is produced upon syrup so taken up and handled by the bees. I may tell you that it is of record and well known by most bee-keepers that sugar syrup has been fed to bees, they have stored it in combs, sealed it over, that that so-called sugar honey was sent to the chief chemist at Washington and that he pronounced it pure honey, and that up to that time it was said, that it was not in the chemists power to distinguish between the two. It is said since that it is easily enough discovered now and can be discovered. What I would like to ask you is, do you think there is anything in that statement? Do you think that the transformation that that syrup undergoes is chemically the same as the transformation that nectar undergoes and that the product is chemically alike?

Prof. Shutt—Could the difference in the honey be detected by a practical bee-keeper.

Mr. McKnight—Oh yes, any bee-keeper would detect it, the sugar honey would be entirely without aroma, and all other honey has more or less of that in it; the practical bee-keeper could tell by that.

Mr. Gemmell—And he could tell by the taste, too.

Mr. McEvoy—By the taste every time.

Prof. Shutt—And has it been decided by a court of law that a bee-keeper could take an oath that he could tell it by that method?

I must decline to discuss that point. I know it has been a matter that has been hedged about with great difficulty, and if I were in possession