

is cane sugar, the same kind of sugar that we use at the table. If this be taken as the true composition of nectar, and it is correct so far as chemistry can ascertain, then it should be perfectly easy to manufacture a nectar in imitation of clover flower nectar. At least, the problem is a simple one so far as the sugars, water and mineral matters are concerned. The aromatic substances are present in such minute quantity as to elude the attempts of the analyst to separate and exactly define or describe them. May they be regarded as of little importance, or of such slight importance that somewhat similar flavors such as the chemist can produce may be substituted for them? If this be granted, then we should be able to place before our bees an artificial nectar, quite similar, so far as chemical methods can detect, to naturally occurring nectar, and therefore "such as bees gather from natural sources," and perfectly fulfilling the terms of Sec. 30 of the Adulteration Act.

Now I am not to be taken as advising such a violation of the evident intent and spirit of the Act, while meeting its verbal requirements, as would be involved in the supplying bees with artificial nectar. The moral of my argument is this: We should have such a positive definition of honey as shall clearly exclude an article made by bees from any other than the actual nectar of flowers. It is not enough to say what honey is not; we must seek to define it positively. This requires a statement to the effect that honey must be made by bees from the nectar of flowers, and it seems to me that we have already arrived at two positive statements which must enter into our definitions, viz.:

1. Honey made by bees.
2. Honey is made by bees from the nectar of flowers.

Careful observation has proved that bees obtain material for honey-making from other sources than floral nectar. Many plant juices contain sugar in solution. This is particularly true of sorghum, sugar cane, Indian corn, maple sap,

etc. These plants, when wounded or broken, exude a sweet juice, which is eagerly sought by the bees. Perhaps more important is the so-called **honey-dew**, a sweet liquid exuded by the leaves of many plants, particularly such as are affected by aphides, or plant-lice. The maple, poplar, birch, mountain ash, and some plants of the cress family, are specially noted as producing honey-dew. Cone-bearing trees provide, in some cases, a raw material for honey-making quite different from ordinary nectar, and the resultant honey often has a strong dextrorotation, whereas ordinary honey is always levo-rotatory. It is apparent that such natural materials as are referred to must be included in our definition of honey, and our second term may now read: "Honey is made by bees from the nectar and saccharine exudations of plants."

(Continued on Page 471)

#### THE YOUTH'S COMPANION FOR 1909

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The Youth's Companion, 144 Berkeley Street, Boston, Mass.

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