MAPLE SUGAR: A BIBLIOGRAPHY OF EARLY RECORDS. II.*

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ACKNOWLEDGMENT

Grateful acknowledgment is made to Yale University Press and the authors for permission to quote verbatim from "Sketches of Eighteenth Century America."

A continuation of the search of early American narratives of travel and books on natural history, inclusive of diaries, journals and official communications, in the rich collection of the State Historical Society of Wisconsin has uncovered sufficient material to warrant publication of another communication on the subject of a typically American food. It is quite apparent that a chronology of maple sugar records as observed in the voyages of exploration, missionary activities, colonization with its economic problems, the botanizing travels of Bartram, Nuthall, Michaux, and Kalm, Indian lore, the Lewis and Clark expedition, the slavery issue, technological advancement, and the rise of food adulteration, is in a sense a segment of North American history itself.

Observation of maple trees in Canada during the sixteenth century is attributed to Cartier (1540), discoverer of the St. Lawrence river. Champlain (1603) unquestionably observed these trees and Hariot reported them in Virginia in 1590.

The fact that maple trees were tapped for their sap was mentioned early in the seventeenth century but the production of sugar was not recorded until much later in the century. The question of whether the Indians made sugar or even syrup is controversial. The writings of Thornton (1684), an anonymous author (1685), Beverly (1722), Keating (1824), Lahontan (1703), and Verwyst (1744) permit the assumption that sugar-making was probably a native art. Charlevoix (1721), on the

* For Part I see *Trans. Wisconsin Acad. Sci.* 29:1935, 209–236.

other hand, contended that while they made constant use of the sap, the Indians learned from the white man how to make sugar. If this is true the knowledge certainly spread among the natives with great rapidity as did modifications in the process of concentrating sap, such as freezing or the addition of hot stones.

Interest in maple sap as a significant source of supply of sugar was particularly marked around 1800. The production of maple sugar was encouraged as a means of freeing the country of the need to import cane sugar from the West Indies. As the slavery issue became acute maple sugar production was cited as a means of combatting slavery.

Chemical interest is first noted in the records of Boyle (1664), but not until late in the ninteenth century do chemical analyses appear. Scientific investigation became necessary at this time when food adulteration became so flagrant that control legislation became essential.

73. Cartier, Jacques 1535

Bref recit, & succincte narration, de la nauigation faicte es yles de Canada, Hochelage & Saguenay & autres, auec particulieres meuers, langaige, & cerimonies des habitans d'icelles: fort delectable â veoir. Paris, 1545, (a) p. 14; Richard Hakluyt, The Principal Navigations, Voyages, Traffiques, and Discoveries of the English Nation. London, 1600. Reimpression verbatim by Edmund Goldsmid. Edinburgh, 1889, Vol. XIII ii, (b) p. 109; J. P. Baxter, A. Memoir of Jacques Cartier, Sieur de Limoilou. His Voyages to the St. Lawrence. New York, 1906, (c) p. 145; H. P. Biggar, The Voyages of Jacques Cartier. Publications Public Archives Canada, No. 11, 1924, (d) p. 123.

a. (No mention of the maple in Cartier's book)

". . . Nous nommasmes ledict lieu saincte Croix, par ce que ledict iour y arrivasmes. Aupres d'iceluy lieu ya ung peuple, dont est seigneur ledict Donnacona, & y est sa demeurance qui se nomme Stadacone, qui est aussi bonne terre qui'l soit possible de veoir & bien fructiferete, pleine de fort beaulx arbres de la nature & sorte de France. Comme chesnes, ormes, fresnes, noyers, yfz, cedres, vignes, aubespines, qui portent le fruict aussi gros que prunes de damas, aultres arbres; . . ."

b. (The maple mentioned in Hakluyt's English version of Cartier's second voyage)[1]

". . . we named it the holy Crosse, for on that day we came thither. Neere vnto it, there is a village, whereof Donnacona is Lord, and there he keepeth his abode: it is called Stadacona, as goodly a plot of ground as possibly may be seene, and therewithall very fruitfull, full of goodly trees euen as in France, as Okes, Elmes, Ashes, Walnut trees, Maple tres, Cydrons, Vines, and white Thornes, that bring foorth fruit as bigge as any damsons, . . ."

c. (Occurrence of the maple in Canada revealed in a contemporary Cartier manuscript)

". . . We named the said place St. Croix because we arrived there the said day. Near this place there is a people of whom the said Donnacona is lord, and there is his dwelling place, which is called Stadacone, which is as good land as it is possible to behold, and very fruitful, full of exceeding fair trees of the nature and kinds of France, as oaks, elms, ashes, nuts, plum-trees, maples, cedars, vines, white thorns, which bear fruit as big as damson plums."

d. (Occurrence of maple not revealed in copy of original Cartier manuscript)

". . . Nous nommasmes ledict lieu *saincte Croix* pource que ledict jour y arrivasmes. Aupres d'icelluy lieu y a vng peuple dont est seigneur ledict Donnacona, et y est sa demeurance, lequel se nomme Stadacone, qui est aussi bonne terre qu'il soit possible de veoyr, et bien fructifferante, plaine de moult beaulx arbres, de la nature et sorte de France, comme chaisnes, hourmes, frennes, noyers, prunyers, yfz, seddrez, vignes, aubespines, qui portent

[1] The accounts of Cartier's first voyage to Canada, in 1534, all fail to record observation of the maple tree (érable, arable). An account of the second voyage, made a year later, was first published in book form in 1545 under the title *Bref recit.* This was translated into Italian and published, along with an account of the first voyage, in Ramusio's *Navigationi et Viaggi* (Venice, 1556). *Bref recit* apparently disappeared from circulation about this time. The only known existing copy was discovered in the British Museum more than two centuries later.

The source for Hakluyt's version of the first two voyages appears to be an English translation of Ramusio's book which he induced John Florio to make in 1580.

Baxter had access to three manuscripts, believed to be Cartier originals, in the Bibliothèque Nationale in Paris. He found none of them in exact agreement with *Bref recit* which he believed was printed from the one numbered 5653. He translated the one numbered 5589. Biggar used these same manuscripts, publishing a verbatim copy of 5589 as well as a translation. At the same time he collated the manuscript with 5653, 5644, and *Bref recit.* His work indicates that the maple tree was not mentioned in any of these works by Cartier.

fruict aussi groz que prunes de Damas, et aultre arbres, . . ."

74. Cartier, Jacques 1540

The third voyage of discouery made by Captaine Iaques Cartier, 1540. unto the Countreys of Canada, Hochelaga, and Saguenay. Richard Hakluyt. *Ibid.*, p. 149; H. S. Burrage, Editor. Early English and French Voyages. Chiefly from Hakluyt. 1534–1608. New York, 1906, p. 97.

(Earliest existing version of the third voyage records the maple in Canada)[2]

". . . Moreover there are great store of Okes the most excellent that ever I saw in my life, which were so laden with Mast that they cracked againe: besides this there are fairer Arables, Cedars, Beeches, and other trees than grow in France."

75. Alphonse of Xanctoigne, Jean 1542

Richard Hakluyt. *Ibid.*, p. 163. Here followeth the course from Belle Isle, Carpont, and the Grand Bay in Newfoundland vp the Riuer of Canada for the space of 230. leagues, obserued by Iohn Alphonse of Xanctoigne chiefe Pilote to Monsieur Roberval, 1542.

(The chief pilot of a colonizing party reports arables in Cartier's Canada)

". . . and in all these Countreys there are okes, and bortz, ashes elmes, arables, trees of life, prusse trees, ceders, great wall nut trees, and wilde nuts, hasel-trees, wilde peare trees, wilde grapes, and there have been found redde plummes."

76. Thévet, André 1575

La cosmographie universelle. Paris, 1575, pp. 1008–1016.

(Maple trees noted in Canada)

"Entre autres s'en trouve un, qu'ils nomment *Cotony*,[3] lequel est de la grosseur d'un gros noyer pardeçà. Cest arbre a esté long temps inutile & sans aucun proffit, iusques à ce que quelcun des nostres le voulans coupper, dés

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2 Cartier's third voyage of 1540 and the records of Jean Alphonse, chief pilot of Roberval's colonizing expedition in 1542, have come down to the present only through the English version of Hakluyt. He was chaplain to the British Ambassador in Paris in 1583 and, according to Biggar, possibly had access to original French manuscripts which have since been lost.

3 Rousseau from whose monograph, La Botanique canadienne à l'époque de Jacques Cartier, (*Contributions du Laboratoire de Botanique de l'Universite de Montreal*, No. 28:1937, p. 29) these lines are quoted, opines that Thévet refers to the sugar maple.

tité; laquelle estant goustee, fut trouvee de si bon goust, que plusieurs l'esgalloient à la bonté du goust de vin, de sorte que plusieurs recueillerent de ceste liqueur en abondance, & ayda à rafraischir les nostres: Et pour voir & experimenter dont procedoit la source de ceste boisson, ledit arbre fut scié, le tronc duquel estant par terre, fut trouvé comme chose miraculeuse au coeur de l'arbre, une Fleur de lys bien effigiee. . . Les Canadeens n'oubliront pas l'excellence de ceste liqueur, & se souviendront tousiours de ceux qui en trouverent l'usage, veu la bonté de ce breuvage, meilleur pour vray, que celuy duquel auparavant ils usoient, comme plusieurs de leurs voisins."

77. Hariot, Thomas 1590

A briefe and true report of the new found land of Virginia. Franckfort, 1590, p. 23.

Of commodities for building and other necessary vses

"*Maple,* and also *Wich-hazle,* whereof the inhabitants vse to make their bowes."

78. Champlain, Samuel de 1603

Des Savvages, ou, Voyage de Samvel Champlain, de Brovage, fait en la France novvelle l'an mil six cens trois. Paris, 1603, Vol. I, Chap. VIII; H. P. Biggar, Editor, The Works of Samuel de Champlain. Toronto, 1922, Vol. I, p. 144.

(Maple trees observed in Richelieu River region)

". . . I went in a canoe to the south Shore, where I saw a number of islands, very productive of fruits, such as grapes, walnuts, hazelnuts, and a kind of fruit like chestnuts, cherries, oaks, aspens, poplars, hops, ash, maple, beech, cypress, very few pines and fir trees."

79. Smith, John 1616

A Description of New England: or the Observations, and Discoveries, of Captain *Iohn Smith* (Admirall of that Country) in the North of *America,* in the year *of our Lord* 1614: *with the successe of sixe Ships, that went the next yeare* 1615; *and the* accidents befell him among the *French men of warre.* London, 1616. *Coll. Mass Hist. Soc.,* [3] 6, 120 (1837).

(Maple tree not noticed)

Oak is the chief wood, of which there is great difference in regard of the soil where it groweth, fir, pine, walnut, chestnut, birch, ash, elm, cypress, cedar, mulberry, plum-tree, hazel, sassafras, and many other sorts.

80. Lescarbot, Marc 1617

Histoire de la Nouvelle-France. Paris, 1866, new ed., Vol. III, (a) p. 750, (b) p. 815; W. L. Grant, The History of New France. Toronto, 1914, Vol. III, (a) p. 194, (b) 256.

a. (Sap as thirst-quencher)

". . . And we in France are troubled when we have lost our way ever so little in some great forest. If they are tormented with thirst, they have the skill to suck certain trees, whence tricles a sweet and very pleasant liquor, as I myself have sometimes proved."

b. (Forest trees)

"As for the trees of the forests, the most common in Port Royal be oaks, elms, ashes, birch (very good for joiner's-work), maples, sycamores, pine-trees, fir-trees, whitethorns, hazel-trees, willows, bay-trees, and some others besides which I have not yet marked."

81. Sagard, Gabriel 1632

Le Grand voyage du pays des Hurons situé en l'Amerique vers la mer douce, ès derniers confins de la Nouvelle France dite Canada. Paris, 1632, pp. 102 and 331; W. F. Ganong. The Long Journey to the Country of the Hurons. Toronto, 1930, (a) p. 82, (b) p. 240.

a. (Beech sap as a tonic)

". . . In the season when sap is rising in the trees we would sometimes make an incision into the bark of some big beech, and holding a bowl underneath get the juice and liquid which dropped from it; this served us as a tonic for the digestion whenever we were indisposed in that way. It is, however, a very crude remedy and of little effect, which sickens rather than strengthens, and the reason we employed it was the lack of any other substance more suitable and better. . . ."

b. (Forest trees)

"In the woods there are many cedars, called *Asquata,* very fine large oaks, beeches, maples, wild cherry trees, and a great number of other trees of the same species as ours, . . ."

82. Boucher, Pierre 1664

Histoire véritable et natvrelle des moevrs et Prodvctions dv pays de la Novvelle-France vvlgairement dite le Canada. Paris, 1664; B. Sulte, 1896. Pierre Boucher et son livre. *Proc. Trans. Roy. Soc.* Canada, [2] 2 i, 134.

(Water from the maple)

"Il'y a vne autre esspece d'arbre, qu'on apelle Herable, qui vient fort gros & haut: le bois en est fort beau, nonobftant quoy on ne s'en fert à rien qu'a brüler, ou pour emmancher des outils, à quoy il est trespropre, à cause qu'il est extremémet doux & fort. Quand on entaille ces Herables au Printeps, il en dequote quantité d'eau, qui est plus douce que de l'eau détemplée dans du sucre; du moins plus agreable à boire."

83. Boyle, Honourable Robert 1664

Some considerations Touching the Vsefvlness of Experimental Natural Philosophy. Oxford, 1664, 2 ed. p. 102.

(Sugar from trees in Massachusetts)

"Since the writing of these last lines, being visited by an ancient *Virtuoso,* Governour to a considerable Colony in the Northern *America,* and inquiring of him, among other particularities touching his *Countrey,* something in relation to the thoughts I had about the making of several kinds of Sugar, he assured me, upon his own Experience, that there is in some parts of *New England,* a kind of Tree, so like our Walnut-trees, that it is there so called; whose juice, that weeps out of its Incision &c. if it be permitted slowly to exhale away the superfluous moisture, doth congeal into a sweet and saccharine substance: and the like was confirmed to me, upon his own knowledge, by the Agent of the great and populous Colony of the Masathusets."

84. Hubbard, William 1680

A General History of New England from the discovery to MDCLXXX. Boston, 1815. *Coll. Mass. Hist. Soc.*, [2] 5, 24 (1815).

(Maple trees in colonial New England)

". . . the same trees, plants and 'shrubs', roots, herbs and fruits being found either naturally growing here that are known to do in the northern countries of the like climate of Europe, and upon trial have been found as effectual in their operation, and do thrive as well when transplanted; as the oak, walnut, ash, elm, maple. . . ."

85. Hennepin, Louis 1698

A Continuation of the New Discovery of a Vast Country in America, Extending above Four Thousand Miles, between New France and New Mexico with a Description qu'il l'eut touché au vif, en feit sortir une liqueur en quan- of the Great *Lakes, Cataracts, Rivers, Plants,* and *Animals.* London, 1698, (a) Bon ed., p. 147; (b) Tonson ed., p. 153.

a. (Maple sap a sovereign remedy)

". . . Our common Drink was fair Water, which we took out of the Springs, Rivers or Lakes; but if any of us were indisposed at the time when the Trees were in Sap, more especially if he were afflicted with an Oppression or Weakness of the Stomach, we usually made a Cleft in the Bark of a Maple-Tree; out of which issued forth a kind of sweet Liquor, which was receiv'd into a Dish made of Birch-Tree Bark: This Liquor was drank as a Sovereign Remedy, altho in reality the effects of it were not very considerable. There are great store of Maple-Trees growing in the Vast Forests of those Countries, and Distill'd Waters may be drawn from them: Insomuch that having caus'd them to boil for along time, we made a Reddish sort of Sugar, much better than that which is taken from the ordinary Canes in the *Islands* of *America.*"

b. (A kind of reddish sugar from maple sap)

". . . Our ordinary Drink was Water. If any of us was indisposed, while the Sap was up in the Trees, we

made a hole in the Bark of a Maple, and there dropt out a sweet Sugar-like Juice, which we saved in a Platter made of the Bark of a Birch-tree; we drank it as a Souvereign Remedy, tho it had but small effects. There are in the Vallies of those Forests great store of Maples, from whence may be drawn distill'd Waters. After a long boiling, we made of it a kind of reddish Sugar, much better than that which is drawn from the ordinary Cane in the Isles of *America.*"

86. Penicaut 1701

Relation de Penicaut. Pierre Margry, Decouvertes et Etablissements des Francais dans l'ouest et dans le sud du L'Amerique Septentrionale (1614–1754) Memoires et Documents Originaux. Paris, 1883, Vol. V, p. 417; R. G. Thwaites, Editor, The French Regime in Wisconsin. 1634–1729. *Wisconsin Hist. Coll.*, 16, 196 (1902).

(Maples near Le Seuer's fort on the Mississippi)

"There are also more different species of trees than are found on the lower river—for instance, of the wild cherry, maple, and *plaine,* (red or swamp maple, *Acer rubrum.* ed.) and of the poplar, a tree which grows so large that some specimens of it are five brasses in circumference. As for the trees called "maple" and *plaine,* incisions are made in them early in March, and a tube is placed in each incision to catch the sap; this passes through the tube and falls into a vessel, which is placed underneath to receive it. These trees flow abundantly during three months, from the first of March to the end of May; the Water which they distill is very sweet; to preserve it, this is boiled until it becomes a syrup, and if it is boiled longer it turns to sugar."

87. Neville, Ella H., Sarah G. Martin, and Deborah B. Martin 1703

Historic Green Bay. Green Bay, 1893, p. 70.

(Louis baron de Lahontan honored)

"A marvelous banquet was served by the Indians in the baron's honor, at which the guests were seated in oriental fashion on the green sward, under the lofty trees.

Successively they partook of whitefish boiled in water, cutlets of the tongue of buck, followed by hazel hen—a fowl fattened on nuts—a bear's paw, and, greatest delicacy of all, the tail of a bear. Then came a bouillon prepared from a variety of meats, the whole washed down by what the baron calls a most delicious liquor, made of maple sugar, beaten up with water."

88. Dièreville 1708

Relation du Voyage du Port Royal de L'Acadie ou de Lanouvelle France. Rouen, pp. 108–110; L. U. Fontaine, Voyage du Sieur de Diéreville en Acadia. Quebec, 1885, p. 61; John C. Webster, Relation of the Voyage to Port Royal in Acadia or New France. Toronto, 1933, pp. 117 and 270.

(Strawberries and maple sugar)

". . . Strawberries are no less plentiful in the fields everywhere, one has the pleasure of eating them with a Sugar produced in the Country.

Instead of Canes, whose Pores secrete
White Sugar, brought from afar,
Nature, for the Acadian, with kind
Forethought, has put some in the Sycamore.[4]
When Springtime comes, this tree gives forth
A sweetish liquor from its bark,
And this, in each vicinity,
The Settlers all collect with care.
This seemed a pleasant brew to me
In copious draughts I drank it down;
And Lemons only did we need
To make it into Lemonade.

To obtain this sweet Liquor, which is as clear as Spring water, a hole, fairly deep, shaped like a trough, is made in the tree with an axe, a frame of bark is joined to this reservoir, so that the sap, as it flows, may drop into it. When it is full, which occurs quickly enough, for the sap at this time is in its greatest vigour, the fluid runs by means of a little scupper attached to the trough,

[4] This is an incorrect designation as the true sycamore did not grow in Acadia. Dièreville means the sugar maple. Europeans used the term sycamore maple, to designate a native species, *Acer psuedo-platanus.*

into a vessel at the base of the tree. Several trees are treated in this way at the same time, so that a quantity of fluid is obtained, which is carefully collected each day as long as it is forthcoming. It is boiled in a large cauldron until the drying point is reached; as it condenses little by little, it becomes a Syrup, & then a reddish Sugar which is very good."

89. Byrd Family, Member of 1729

Letters of the Byrd Family. *Virginia Mag. Hist.*, **36**, 117 (1928).

(The sugar tree in Virginia)

"To Mr. Warner in England July, 1729 (Virginia)

"As it was our Fortune to pass over all sorts of ground, we saw many new plants, the most remarkable of which was, the Sugar Tree, which grows as tall, as an Elm, and big in proportion. By Tapping this Tree in the Spring, a Liquor issues out of it, which may be boiled into good sugar. I shall endeavor to get you one of these, against the return of the Ships, and every thing else, that I believe may be agreeable."

90. Anon. 1730

Observations Botaniques III.

Histoire de l'Academie Royale des sciences, Paris, 1730, 65; l'Abbé Laflamme, Michael Sarrazin: Matériaux pour servir à l'histoire de la science en Canada. *Proc. Trans. Roy. Soc. Canada*, 5, iv, 21 (1887).

(A report on the maple tree)

"M. Sarrazin, Medecin de Quebec, Correspondant de l'Academie, a trouve dans l'Amerique Septentrionale quatre especes d'Erable qu'il a envoyees au Jardin Royal, apres leur avoir impose des noms. La 4me qu'il appelle *Acer Canadense Sacchariferum, fructu minori. D. Sarrazin,* est un arbre qui s'élève de 60 à 80 pieds, dont la sève qui monte depuis les premiers jours d'Avril jusqu'a la moitié de Mai est assez souvent sucrée, ainsi que l'ont aisément reconnu les Sauvages & les François. On fait à l'arbre une ouverture, d'ou elle sort dans un vase qui la reçoit, & en la laissant évaporer, on a environ la 20me partie de son poids, qui est de véritable sucre propre à

être employé en confitures, en sirops, &c. Un de ces arbres qui aura 3 ou 4 pieds de circonférence, donnera dans un printemps, sans rien perdre de sa vigueur, 60 à 80 livres de seve. Si on en voulait tirer davantage, comme on le pourrait, il est bien clair qu'on affoibliroit l'arbre, & quo'on avanceroit sa vieillesse.

"Cette sève pour être sucrée demande des circonstances singulières, qu'on ne devineroit pas, & que M. Sarrazin a remarquées par ses expériences. 1°. It faut que dans le temps qu'on la tire, le pied de l'arbre soit couvert de neige, & il y en faudroit apporter, s'il n'y en avait pas. 2°. Il faut qu'ensuite cette neige soit fondue par le soleil, & non par un air doux. 3°. Il faut qu'il ait gelé la nuit précédente. Cette espèce de manipulation, dont la nature se sert pour faire le sucre d'Erable, ressemble assez à quelques opérations délicates de Chymie, où l'on fait des choses qui paroissent opposées, où celles qui paroissent le plus semblables ne sont pas équivalentes pour l'effet.

"Encore une remarque curieuse de M. Sarrazin, c'est que le sève de tel Érable qui ne sera point bonne à faire du sucre, le deviendra une demi-heure, ou tout au plus une heure après que de la neige, dont on aura couvert le pied de l'arbre, aura commencé à fondre. Cette neige s'est donc portée dans les tuyaux de l'Érable, & y a opéré avec une grande vîtesse."

91. Bartram, John 1743

Observations on the Inhabitants, Climate, Soil, Rivers, Productions, Animals, and other Matter Worthy of Notice in his Travels from Pensilvania to Onondago, Oswego and the Lake Ontario. London, 1751, (a) p. 28, (b) p. 39, (c) p. 71.

a. (Sugar maple in Pennsylvania)

"The 15th, we set out a N.E. course, and passed by very thick and tall timber of beach, chestnut, linden ash, great magnolia, sugar-birch, sugar-maple, poplar, . . ."

b. (Sugar maples along the Susquehanah river)

". . . we descended easily for several miles, over good land producing sugar-maples many of which the *Indians* had tapped to make sugar of the sap, . . ."

c. (Parched corn and maple sugar)

". . . They take the corn and parch it in hot ashes, till it becomes brown, then clean it, pound it in a mortar and sift it, this powder is mixt with sugar."

92. Verwyst, Chrysoston 1744

Historic sites on Chequamegon Bay. *Wisconsin Hist. Coll.*, 13, 429 (1895).

(Maple sugar made by Indians along the Swamp River)

"Mashki-Sibi (Swamp River, misnamed Bad River): About two miles up this river are pictured rocks, now mostly covered with earth, on which in former times Indians engraved in the soft stone the images of their dreams, or the likenesses of their tutelary manitous. Along this river are many maple groves, where from time immemorial they have made maple-sugar."

93. Kalm, Peter 1749

Travels into North America. J. R. Forster, trans. London, 1772, Vol. II, 2 ed., p. 411.

(Sugar from the juice of the maples and the sugar-birch)

They boil a good deal of sugar in *Canada* of the juice running out of the incisions in the sugar-maple, the red maple, and the sugar-birch; but that of the first tree is most commonly made use of. The way of preparing it has been more minutely described by me in the Memoirs of the Royal Swedish Academy of Sciences.

94. B., J. C. 1751–1761

Voyage au Canada, dans le nord de l'Amerique Septentrionale, fait depuis l'an 1751 a 1761; H. R. Casgrain, Editor. Quebec, 1887; Travels in New France, S. K. Stevens, D. H. Kent, Emma F. Woods, Editors. Pennsylvania Historical Survey, Harrisburg, 1941, p. 93.

(A most remarkable tree in the Ohio Country)

"The maple is the most remarkable of all these trees, because every year, in February and March, there exudes from this tree an abundant flow of a delicious, sweet and clear liquid which is fragrant and very wholesome. The tree will die, however, if it is used too often.

"Maple sap can be drawn from the same tree for five or six consecutive days, if care is taken to make new grooves every day always on the side toward the noonday sun. This must be, too, when it has been cold the night before, and when there is bright sunshine without a cold, fierce wind. It can be determined that the tree contains no more sap when the sap appears whitish and runs slowly.

"When it is at that stage, vinegar or a drink like cider can be made from it, if you go on extracting, but it still must be boiled down into sugar.

"Maple sap must be cooked for two full hours to make syrup, and two more hours to make sugar, which is always brown. It is very good for the lungs and never causes heartburn. Maple sugar is made into small cakes like chocolate so that it can more easily be carried on trips. It keeps a long time if dry, otherwise becoming moldy, spoiling because of dampness. Maple trees usually have large growths on them, which are cut and dried in the sun, making a sort of touchwood which Canadians call *tondre.*

"The plane-tree, the wild cherry, the ash, and the walnut, also produce sap which yields sugar. But as the flow is much less and the sugar not so good, it is almost never made. Maple sugar, therefore, is most used in Canada, as much as white sugar is used. . . . Maple sugar is very easily digested."

95. Barney, George 1755

The history of the Town of Swanton in Franklin County. Vermont Historical Gazetteer, Vol. IV, p. 957 (1882).

(Indians made maple sugar at Missisqoi)

". . . From Dr. Belknap's History of New Hampshire we learn that in 1755, the Indians in the vicinity of Missisqoi were in the habit of tapping the maples in spring, and making sugar. This perhaps was no more than they had been accustomed to do for many years. . . ."

96. Dodge, J. R. 1755

Red Men of the Ohio Valley. Springfield, O., 1860, (a) p. 30, (b) p. 85.

a. Their Character and Customs

"Impelled by hunger, a supply of wild fowl, fat raccoons, deer and bears, was secured; at the proper season, a quantity of maple sugar made; then, with hominy, which became a luxury with a dressing of bear's fat and sugar, the feast would be prolonged, day after day, till all was gone; . . ."

b. Narrative of Colonel James Smith

"This Wyandot encampment consisted of eight hunters, and thirteen squaws, boys and children. . . . In February, they commenced sugar making. First, the squaws, finding an elm that would strip at this season, cut it down, and with a crooked stick, broad and sharp at the end, took the bark from the tree, and of this bark curiously wrought vessels holding about two gallons each, making more than a hundred in number. In the sugar-tree, they cut a sloping notch, at the lower extremity of which they struck a tomahawk, and, in the cut, drove a long chip to convey the sap to the vessels. They notched only the trees of two feet or more in diameter, so plenty and large were they. They had bark vessels of four gallons each, two brass kettles of fifteen gallons each, and, as they could not boil the sap as fast as collected, they had large vessels of bark, holding about one hundred gallons each.

"Their mode of using sugar was by putting it on bear's fat, until the fat was almost as sweet as the sugar itself, and in this was dipped the roasted venison—by no means an unpalatable morsel."

97. Gautier, Jean François 1755

Histoire du sucre d'érable. *Acad. Roy. Sciences, Mem. math. phys.*, 2, 378–392 (1755).

(Adulterated maple sugar)

Described is not only the preparation of syrup and sugar in Canada from the sap of the maple (*Acer canadense, folio tridenato*) but also experiments in support of the observations that the optimum meteorological conditions for the flow of sap are warm, sunny days with the wind blowing from the southwest, on which side of its trunk the tree should be tapped.

The addition of wheat flour to the syrup or sugar is a frequently practiced form of adulteration. Because the syrup prepared from the sap obtained at the end of the season is of poor quality, it is often flavored with an extract of maiden hair fern.

Maple sugar is used in the preparation of foods in the home; as a medicine it is deemed to be pectoral and emollient.

98. Alden, Timothy 1756

An Account of the Captivity of Hugh Gibson among the Delaware Indians of the Big Beaver and the Muskingum, from the latter part of July 1756, to the beginning of April, 1759. Boston, 1837. *Coll. Mass. Hist. Soc.*, [3] 6, 147 (1837).

(Indian Sugar Camp)

"Gibson and a little boy, of twelve years of age, went on a hunting expedition, were absent three days, killed two turkeys, and returned; but Bisquittam, whether suspecting the plan or not is unknown, was still at the place. He, with the little boy, again took a tour into the woods. They reached an Indian sugar camp the first evening, stole a horse and a bag of corn, rode several miles to a cranberry swamp, tarried there seven days, parched and ate their corn, threw away their bag, killed one turkey, and returned to the sugar camp."

99. Henry, Alexander 1760+

Travel and Adventures in Canada and the Indian Territories between the Years 1760-1765. New York, 1809, (a) p. 68, (b) p. 216, (c) p. 217.

a. (Sugar-making near the Sault de Sainte-Marie)

"The lands, between the Bay of Boutchitaouy and the Sault, are generally swampy, excepting so much of them as compose a ridge, or mountain, running east and west, and which is rocky, and covered with the rock or sugar maple, or sugar-wood (*Acer saccharinum*). The season for making maple-sugar was now at hand; and, shortly after my arrival at the Sault, I removed, with some other inhabitants, to the place at which we were to perform the manufacture. . . .

"The next day was employed in gathering the bark of white birch-trees, with which to make vessels to catch the wine or sap. The trees were now cut or tapped, and spouts or ducts introduced into the wound. The bark vessels were placed under the ducts; and, as they filled, the liquor was taken out in buckets and conveyed into reservoirs or vats of moose-skin, each vat containing a hundred gallons. From these, we supplied the boilers, of which we had twelve, of from twelve to twenty gallons each, with fires constantly under them, day and night. While the women collected the sap, boiled it, and completed the sugar, the men were not less busy in cutting wood, making fires, and in hunting and fishing, in part of our supply of food.

"The earlier part of the spring is that best adapted to making maple-sugar. The sap runs only in the day; and it will not run unless there has been a frost the night before. When in the morning there is a clear sun, and the night has left ice of the thickness of a dollar, the greatest quantity is produced.

". . . we hunted and fished, yet sugar was our principal food, during the whole month of April. I have known Indians to live wholly upon the same, and become fat."

b. (Sugar maples at Michipicoten)

"The country, immediately contiguous to my wintering-ground, was mountainous in every direction; . . . On the summits of some of the mountains there were sugar-maple trees; but, with these exceptions, the uplands had no other growth than spruce-firs and pines, nor the low-lands than birch and poplar."

c. Maple-sugar making

"In the beginning of April, I prepared to make maple-sugar, building for this purpose a house, in a hollow dug out of the snow, the house was seven feet high, but yet was lower than the snow.

"On the twenty-fourth, I began my manufacture. On the twenty-eighth, the lands below were covered with a thick fog. All was calm, and from the top of the mountain

not a cloud was to be discovered in the horizon. Descending the next day, I found half a foot of new-fallen snow, and learned that it had blown hard in the valleys the day before; so that I perceived I had been making sugar in a region above the clouds.

"Sugar-making continued till the twelfth of May. On the mountain, we eat nothing but sugar, during the whole period. Each man consumed a pound a day, desired no other food, and was visibly nourished by it."

100. Anon. 1765

The Annual Register, or a View of the History, Politics, and Literature for the Year 1765. London, 1778, 2 ed., Vol. VIII, Chronicles, p. 141.

(New method of obtaining sugar and melasses)

"A very singular method of obtaining sugar and melasses has been lately introduced in New England, especially at a place called Bernardston, almost twenty miles from Athol; and as the vegetable, from which that valuable article may be obtained by this new method, grows in the coldest climates, it promises great advantages to mankind, especially in those countries, which, like New England, are already plentifully stocked with it by the hand of nature. This vegetable is no other than the maple-tree. The process in Bernardston is as follows. Having chosen out a large tree, suitable for the purpose, they with an axe box it, much after the same manner, that they box that kind of fir, which produces turpentine. This being done, they prepare a kind of trough, extending from the trunk of the tree on each side, in order to retain the sap as it runs down. By this means they have obtained upwards of thirty gallons from one tree in a day; which, being treated like the syrup proceeding from the sugar cane, produces a sugar equal in fineness of grain to the Jamaica sugar, and as pleasant to the taste; and the makers insist that it is a medicinal, and very popular to give children for the chin-cough, at this time very prevalent in New England. This sugar produces melasses, or treacle, very little, if anything, inferior to West Indian melasses. Of this sugar, above 600 lb. was made by one man during the last season, that is, from February last to April last

inclusive; and several hundred weight of it were in July last brought for sale to Boston in New England, from various towns situated on the eastern and western parts of that province."

101. Pond, Mrs. Nathan G. *ca.* 1765

Journal of "Sir" Peter Pond. *The Conn. Magazine,* 10, (a) 244, (b) 245 (1906).

a. (Maple sugar traded at Mackinac)

". . . Hear I Met with a Grate meney Hundred People of all Denominations . . . Sum trading with the tribes that Came a Grate Distans with thare furs, Skins & Mapel Suga &c to Market."

b. (Maple sugar made near Mackinac)

". . . Most of the frenchmens wives are white women. In the spring they made a Grate Quantity of Maple Suga for the youse of thare families & for sale som of them."

102. Rogers, Robert 1765

A Concise Account of North America. London, 1765, p. 251.

(Loaf sugar from maple sap)

"The Indians, in the months of February and March, extract the juice from the maple-tree; which is wholesome and delicious to the palate. The way they extract it is by cutting a notch in the body of the tree, and by means of a piece of wood or quill, convey the juice from the tree to a vessel placed to receive it. The same tree may be tapped for several years successively. The liquor is as clear as spring-water, and is very refreshing. It is accounted a very good pectoral; and was never known to hurt any one, tho' he drank ever so freely of it. The liquor will not freeze; but, when kept any time, becomes excellent vinegar. The Indians, by boiling it, make from it a kind of sugar, but is milder, and answers all the ends of sugar for sweetening; and, no doubt, was it properly manufactured, might be rendered equal to that extracted from sugar-cane. A manufactory is begun in the Province of New York, near South Bay; which, I am told, answers very well; and produces considerable quantities of powder and loaf sugar."

103. Grignon, Augustin 1766–1816

Seventy-two years' recollections of Wisconsin. *Wisconsin Hist. Coll.*, 3, 255 (1857).

(Maple sugar used in fur trade at Green Bay)

"The early commerce of the country deserves a passing notice. . . . There was some considerable quantity of deer's tallow, saved by the Indians and sold to the traders, taken to Mackinaw, and some maple sugar; . . . But as there was much sugar manufactured around Mackinaw, not much was sent there to market; the Indians made large quantities as far back as I can remember. To the traders passing into the Indian country, cattle for beef were sold, sugar and tallow, potatoes and other vegetables. . . ."

104. Anon 1767

A New Collection of Voyages, Discoveries and Travels, etc. London, 1767, Vol. II, (a) p. 138, (b) p. 179.

a. (Beverage of the Souties or Attawawas)

"They, as yet, make very little use of spiritous liquors, nor do they manufacture any kind of drink, except the juice of the maple-tree, of which they likewise make sugar."

b. (Properties of maple sap)

"The Indians, in the months of February and March, extract the juice from the maple-tree, which is wholesome and delicious to the palate. The way they extract it is by cutting a notch in the body of the tree, and, by means of a piece of wood or quill, convey the juice from the tree to a vessel placed to receive it. The liquor is as clear as spring-water, and is very refreshing. It is accounted a very good pectoral, and was never known to hurt any one, though he drank ever so freely of it. The liquor will not freeze, but, when kept any time, becomes excellent vinegar. The Indians, by boiling it, make from it a kind of sugar, which has a taste very much like honey, but is milder: A manufactory of this kind of sugar is begun in the province of New York, near South Bay, which is said to answer very well; and produces considerable quantities of powder and loaf-sugar.

105. Crevecoeur, St. John de 1770–1774

Henri L. Bourdin, Ralph H. Gabriel and Stanley T. Williams, Editors. Sketches of Eighteenth Century America. More "Letters from an American Farmer," by St. John de Crevecoeur. New Haven, 1925, p. 98.

(Careful "bleeding" prolongs life of the tree.)

"In clearing his farm my father very prudently saved all the maple trees he found, which fortunately are all placed together in the middle of our woodland; and by his particular caution in bleeding them, they yield sap as plentifully as ever. The common method is to notch them with an axe. This operation, after a few years, destroys the tree entirely. That which my father followed is much easier, and gives these trees wounds which are almost imperceptible. The best time to make this sugar is between the months of March and April, according to the season. There must be snow on the ground, and it must freeze at night and thaw in the day. These three circumstances are absolutely requisite to make the sap run in abundance. But as my trees are but a little way from my house, I now and then go out and try them, and, as soon as the time is come, then I bring all my hands, and we go to work. Nothing can be simpler than this operation. I previously provide myself with as many trays as I have trees. These I bore with a large gimlet. I then fix a spile made of elder through which the sap runs into the trays. From them it is carried into the boiler which is already fixed on the fire. If the evaporation is slow, we are provided with barrels to receive it. In a little time it becomes of the consistency of syrup. Then it is put into another vessel and made to granulate. When in that state we cast it into little moulds made according to the fancy of the farmer. Some persons know how to purify it, and I am told that there are some people at Montreal who excel in this branch. For my part, I am perfectly well satisfied with the colour and taste which Nature has given it. When the trees have ceased to run we stop the holes with pegs made of the same wood. We cut them close to the bark, and in a little time the cicatrice becomes imperceptible. By these simple means our trees will afford sugar for a long time, nor

have I ever observed that it impaired their growth in the least degree. They will run every year, according to the seasons, from six to fifteen days until their buds fill. They do not yield every year the same quantity, but as I regularly bleed two hundred trees, which are all I have, I have commonly received six barrels of sap in twenty-four hours which have yielded me from twelve to eighteen (pounds of sugar).

"Thus without the assistance of the West Indes, by the help of my trees and of my bees, we yearly procure the sweetening we want, and it is not a small quantity, you know, that satisfies the wants of a tolerable American family."

106. Le Page du Pratz 1774

The History of Louisiana or of the Western Parts of Virginia and Carolina. T. Becket, translator. London, 1774, new ed., p. 240.

(An excellent stomachic)

"The maple grows upon declevities in cold climates, and is much more plentiful in the northern than southern parts of the colony. By boring it they draw from it a sweet syrup which I have drunk of, and which they allege is an excellent stomachic."

107. Buchanan, James *ca.* 1775

Sketches of the History, Manners, and Customs of the North American Indians. New York, 1824, Vol. I, p. 163.

(An episode at an Indian sugar-camp)

". . . One hope, however, still remained. The sugar-making season was at hand, and they were shortly to remove to their sugar camps, where he flattered himself his wife would not be followed by the disturber of his peace, whose residence was about ten miles from thence. But this hope was of short duration. They had hardly been a fortnight in their new habitation, when, as he returned one day from a morning's hunt, he found the unwelcome visiter at his home, in close conversation with his faithless wife. This last stroke was more than he could bear; without saying a single word, he took off a large cake of his sugar, and with it came to my house,

which was at the distance of eight miles from his temporary residence."

108. Ansbury, Thomas 1776

Travels through the Interior Parts of America; in a Series of Letters. London, 1791, new ed., Vol. I, p. 80.

(Maple sugar used as a pectoral)

QUEBEC, November 5th 1776

"MY DEAR FRIEND,

. . .

"The maple tree yields in great quantities a liquor which is cool and refreshing, with an agreeable flavor. The Canadians make a sugar of it, a very good pectoral, and used for coughs. There are many trees that yield a liquor they can convert into sugar, but none in such abundance as the maple. You will, no doubt, be surprised to find, in Canada, what Virgil predicted of the Golden Age, *Et durae quercus subabunt roscida mella.*"

109. Askin, John 1778

Fur-trade on the upper lakes – 1778–1815. *Wisconsin Hist. Coll.*, 19, p. 243 (1910).

(Letter to Benjamin Frobisher mentions sugar)

"St. Cir arrived last night. I have delivered him the Canoes, all your Corn, Sugar, Gum, Bark & Watap now remaining here shall be delivered him to Day, all the rum coming up in the Canoes he shall also have. . . ."

110. Broadhead, Daniel 1780

Letters from Col. Daniel Broadhead. Pennsylvania Archives, Vol. XII, p. 212 (1856).

(Murders at sugar camp)

FORT PITT, March 8th, 1780

"DEAR GENERAL,

The savages have already begun their hostilities—last Sunday they killed five men at a Sugar Camp on Racoon Creek, Youghaghany County, and took prisoners three girls and three lads. It is generally conjectured that the Delawares perpetrated this Murder, but it is possible that it may have been Done by other Indians. . . .

Most Obed't Serv't.

DANIEL BROADHEAD

Directed
To His Excellency General Washington
By Mr. D. Duncan"

111. Alexander, M.T.C. 1784

Vermont Historical Gazetteer. Burlington, 1876, Vol. I, (a) p. 313, col. 1; (b) col. 2

a. Danville – to 1860

In recalling the activities of Capt. Charles Sias, a pioneer settler, the author states:

". . . In three days more the effects were all removed, and the lone family began their hard labors upon the wilderness. They commenced by tapping the maples, which stood thick around them in the most beautiful groves, affording them sugar in abundance, and supplied, in a great degree, the lack of other food."

b. (Maple sugar an emergency food)

A too rapid increase in population caused a scarcity of provisions in 1789. In describing the conditions existing at that time, the author states:

"The sufferings of that time were very severe. Maple sugar formed the chief article of food. Like the manna of the ancient Hebrews, it was really a providence in the time of hunger and famine. No doubt, those stern old fathers blessed the forest trees that gave them food and life."

112. Brissot de Warville, J. P. 1788

Nouveau Voyage dans les Etats-Unis de L'Amerique Septentrionale, fait en 1788. Paris, 1791, Vol. II, p. 41; New Travels in the United States of America, including the Commerce of America. London, 1792, p. 301.

On replacing the Sugar of the Cane by the Sugar of the Maple

"On this continent, my friend, so polluted and tormented with slavery, Providence has placed two powerful and infallible means of destroying this evil. The means are, the societies of which we have been speaking, and the sugar-maple.

"Of all vegetables containing sugar, this maple, after the sugar-cane, contains the greatest quantity. It grows

naturally in the United States, and may be propagated with great facility. All America seems covered with it, from Canada to Virginia; it becomes more rare at the southward, on the east of the mountains; but it is found in abundance in the back country.

"Such is the beneficent tree which has, for a long time, recompensed the happy colonists, whose position deprived them of the delicate sugar of our islands.

"They have till lately contented themselves with bestowing very little labour on the manufacture, only bringing it to a state of common coarse sugar; but since the Quakers have discerned in this production, the means of destroying slavery, they have felt the necessity of carrying it to perfection; and success has crowned their endeavors.

"You know, my friend, all the difficulties attending the cultivation of the cane. It is a tender plant, it has many enemies, and requires constant care and labour to defend it from numerous accidents: add to these, the painful efforts that the preparation and manufacture costs to the wretched Africans; and, on comparing these to the advantages of the maple, you will be convinced, by a new argument, that much pains are often taken to commit unprofitable crimes. The maple is produced by nature; the sap to be extracted, requires no preparatory labour; it runs in February and March, a season unsuitable for other rural operations. Each tree, without injury to itself, gives twelve or fifteen gallons, which will produce at least five pounds of sugar. A man aided by four children, may easily, during four weeks running of the sap, make fifteen hundred pounds of sugar.

"Advantages, like these, have not failed to excite the attention of the friends of humanity; so that, besides the societies formed for the abolition of slavery, another is formed, whose express object is to perfect this valuable production.

"Whenever these shall form from North to South a firm coalition, an ardent emulation to multiply the produce of this divine tree, and especially when it shall be deemed an impiety to destroy it, not only America may supply herself, but she may fill the markets of Europe

with a sugar, the low price of which will ruin the sale of that of the islands—a produce washed with the tears and blood of slaves.

"What an astonishing effect it would produce, to naturalize this tree through all Europe! In France we might plant them at twenty feet distance, in a kind of orchard, which would at the same time produce pasture, fruits. and other vegetables. In this manner an acre would contain 140 trees, which, even when young, would produce three pounds of sugar a-year. This would give 420 pounds the acre, which, at threepence sterling the pound, and deducting one half for the labour, would yield annually 52 £. 6s. sterling, clear profit; besides other productions, which these trees would not impede. . . .

"Thus we should obtain a profitable production in Europe, and diminish so many strokes of the whip, which our luxury draws upon the blacks. Why is it, that, in our capital where the delicacy of sentiment is sometimes equal to that of sensation, no societies are formed, whose object should be to sweeten their coffee with a sugar not embittered by the idea of the excessive tears, cruelties and crimes, without which these productions have not been hitherto procured?—an idea which cannot fail to present itself to the imagination of every humane and enlightened man. Our devotees, our ignorant and inhuman priests, who never fail to be great lovers of coffee and sugar, would, by these means, be saved from the horrible part which they take in the most enormous crime on which the sun ever shown. In consuming these articles, do they not encourage those whose guilt is more direct in the operation of producing them? and yet, with what coldness, with what culpable indifference, do these pious men look upon our Society of the Friends of the Blacks."

113. Anon. 1792

A plan for moderating the price of sugar. *The Bee, or Literary Weekly Intelligencer,* 7, 330.

(Sugar from the maple for Britain?)

"The present extravagent price of sugar has attracted the attention of every class of persons in this island, and has brought forward many plans for remedying that

evil, some of which will no doubt take effect at some *future* period; but there is reason to suspect, that the nation must submit to the hardship for a good while, before things can be brought to bear.

"Among the first plans that was suggested for this purpose, was that of manufacturing sugar from the maple tree, in America. It has been long known, that the juice of one kind of maple, common in most of the American states, can afford a grained sugar, without any other process than that of evaporating the watery parts by boiling; but the quantity of water that requires to be dissipated, renders that process so tedious and expensive, in a country where labour is very high, as gives reasons to fear the assistance that can be derived from thence will be but very inconsiderable."

114. Biggs, Benj. 1793

Calendar of Virginia State Papers. Sherwin McRae, Editor. Richmond, 1886, Vol. VI, p. 307.

(Sugar making near Marietta, Ohio)

"I just Received authentick Intelligence of the capture of Major Goodall by the Savage, which happened near Bellspray on the Ohio, a small distance below Muskingum. About seven days previous to the capture a number of Kittles were taken from the Sugar Camp, within a small distance of Mariatta."

115. Allen, William 1794

The History of Norridgewock. Norridgewock, 1849, p. 99.

(Rum and maple sugar)

"In the summer of 1794, the meeting house was erected, and among other things preparatory to the raising, it was 'Voted to get one barrel of good W. I. Rum, and one-hundred pounds of maple sugar, to be used at the raising of the meeting house'."

116. Coxe, Tench 1794

A View of the United States of America, in a Series of Papers, Written at Various Times, between the Years 1787 and 1794. Philadelphia, 1794, (a) p. 65, (b) p. 77, (c) p. 453, (d) p. 455; Dublin, 1795, (a) p. 54, (b) p. 65, (c) p. 386, (d) p. 388.

a. (Sugar from the maple trees of Pennsylvania)

". . . A new article is added to the list of our productions, which is a well-tested and wholesome sugar, made of the maple tree. It has been proved, by many fair and careful experiments, that it is in the power of a substantial farmer, who has a family about him, easily to make twelve hundred weight of this sugar every season, without hiring any additional hands, or utensils, but those which are necessary for his family, and farm use. The time, in which it can be made, is from the middle of February to the end of March, when farmers in this country have very little to do, as it is too early to plough or dig. The price of sugar being lower here than in Europe, this article may be reckoned at one hundred and fifty dollars per annum, to every careful and skilful farmer, who owns land bearing the sugar maple. Of these there are some millions of acres in Pennsylvania and the adjacent states. It seems also highly probable, that this valuable tree may be transplanted, and thus be obtained by almost any farmer in the state; and that men of property, who will purchase kettles, and hire hands for the above short period, may make larger quantities."

b. (The possible value of maple sugar in certain parts of the United States)

". . . The easy and profitable practice of making sugar from the sap or juice of the maple tree, had prevailed for many years in the northern and eastern states. The facility and advantages of this pleasing branch of husbandry, had attracted little attention in Pennsylvania, though a few of its inhabitants were in the habit of manufacturing small quantities of this kind of sugar. In the year 1790, it became more generally known to the Pennsylvanians that their brethern in the eastern and northern parts of the union, had long made considerable quantities, with their family utensils, and without the expense of hiring assistance, that the same tree might be carefully tapped without injury for many successive years; that the process was simple and very easy, and only required to be carried on between the middle of February and the end of March when the farmer has little to do, and that

a very large proportion of the unsettled lands of the state abound with this valuable tree. The great and increasing dislike to negro slavery, and to the African trade among the people of that state, occasioned this new prospect of obtaining a sugar, not made by the unhappy blacks, to be particularly interesting to them. The following estimate, which was founded on the best materials obtainable at that time, was published among other things to elucidate the subject."

c. A method of clearing a farm lot of new woodland, easily practicable by persons having no more money or provisions than are sufficient to provide the food and clothing of their families, during the first year of their settlement.

". . . If he has sugar maple trees on his land, he may also obtain money, by making sugar in February and March, and felling or bartering, it for cash, or goods to be laid out in like manner, in hiring hands the next season. If money is scarce in a new settlement, and he barters pot ash or maple sugar, for strong trowsers, shirts, hats or jackets, he will find it easy to procure laborers for such necessaries."

d. (The valuable maple)

"The United States have been brought, by slow degrees, to their present knowledge of the value of their wood and timber. The value of the maple sugar tree is not yet universally known. . . ."

117. Wansey, Henry 1794

An Excursion to the United States of America. Salisbury, 1798, 2 ed., (a) p. 43, (b) p. 47, (c) p. 47, (d) p. 262.

a. (Maple sugar served in Hartford, Conn.)

"At Frederick Bull's tavern, where I lodged, we had excellent provisions: beef, mutton, and veal, as good as in England; tea and coffee of the best kind; three sorts of sugar brought always to the table;—the muscovado, the fine lump sugar, and the maple; from the novelty of it, I preferred the last, though I could not find much difference in the taste of it."

b. (England forbids importation of maple sugar)

"At breakfast I was offered by one of the passengers five hundred weight of it, for fourpence halfpenny sterling per pound, but it is contrary to the laws of England to import it."

c. (Maple groves in Dunham township, Conn.)

"Under many of the maple trees, I observed many of the wooden troughs remaining, and the taps still in the trunks, although the sap season had been over about six weeks, being only while the sap is rising. A frosty night always makes a plentiful distillation next morning. A passenger told me that a barrel of juice made six quarts of molasses, which produces ten or eleven pounds of sugar."

d. (Granulated maple sugar)

"The sugar maple, is a tree that I should suppose would grow in this country as well as in many parts of Europe. In Connecticut, it is exposed to as severe winters as any in this island. I have a tree in my garden, seven feet high, that has stood the severe winter of 1794. The chief thing to attend to, is to see it planted in good rich soil. Those settlers in America, who clear the lands, always begin with cutting down the sugar maples, because they are generally found on the richest and best land.—This is one reason why America will not be sufficient to supply its own sugar.

"I was given the following as the method in which they make it: Draw off the sap into wooden vessels, by wooden taps fixed in the bark, seven feet from the ground. Boil it away next day;—provide three kettles of different sizes—say, of fifty, sixty, and seventy gallons; boil it first in the large kettle, adding as much lime as will make the liquor granulate; as it boils, take off the scum, encreasing the heat, till it evaporates to sixty gallons; then strain it through a woolen cloth into the sixty gallon kettle. This must be boiled and skimmed in the same manner, till it is reduced to fifty, and then be strained into the fifty gallon kettle. And each kettle must be continued in succession, till you have boiled your whole quantity—say two hundred gallons.

"When it is boiled enough, which is known by its becoming ropy between the finger and thumb, it is turned out into a wooden cooler, and stirred with a kind of wooden paddle, till it granulates; and then it is put into earthen moulds, in the same manner as the West-Indian planters practice."

118. La Rochefoucault-Liancourt, Duke de 1795
Travels through the United States of North America, the Country of the Iroquois, and Upper Canada in the Years 1795, 1796, and 1797. London, 1799, Vol. I, (a) p. 79, (b) p. 96, (c) p. 107, (d) p. 125, (e) p. 153, (f) p. 283.

a. (Maple sugar at Fishing Creek, Penn.)

". . . This was the first place, where we used maple sugar, which we found excellent. Abraham Miller sells yearly about five or six barrels of this sugar. He buys it at thirteen pence a pound, and sells it at fifteen; the brown moist sugar of the colonies he sells at fourteen pence."

b. (Maple Sugar made at Asylum, Penn.)

". . . Maple-sugar is made here in great abundance. Each tree is computed to yield, upon an average, from two pounds and half to three a year. Melasses and vinegar are also prepared here. I have seen Messrs. De Vilaine and Dandelot make sugar in this place, which much surpasses any of the same kind, which has hitherto come under my observation."

c. (Price of maple sugar at Painted Post, N. Y.)

". . . There are however few sugar-maple trees. The price of this sugar at the beginning of last spring was one shilling per pound."

d. (Maple sugar production at Genessee)

"The whole country abounds in sugar-maple trees (*Acer saccharinum,* Lin. called by the Indians Ozeketa. – *Trans.*), and very considerable quantities of this sugar are made here. The following is the substance of the information, which we were able to procure on this head:

"1. The medium produce of a tree, standing in the midst of a wood, is three pounds of sugar.

"2. The average produce of trees, standing on ground which has been cleared of all other wood, is from five to seven pounds per tree.

"3. A barrel of the first juice, which comes from the maple-tree, will yield seven pounds of sugar, if the tree stand single, and four, if it stand in the midst of other wood. This sugar is sold at one shilling per pound.

"4. A barrel of the second juice will yield three gallons and a half of treacle.

"5. Four or five barrels of the third juice will yield one barrel of a good and pleasant vinegar.

"6. The vinegar is found to be better, in proportion as it is more concentrated. This is the case with Robinson's vinegar, who, from ten barrels of the third juice, brews but one barrel of vinegar.

"7. To clarify the vinegar, it must be boiled with leaven.

"8. The third juice, which is not used for vinegar, yields cyder of an excellent flavour, when mixed with an equal quantity of water.

"9. The longer the first juice is boiled, the better and finer the sugar will become.

"10. In order that the trees may continue productive, they require to be tapped with extraordinary care; i.e. the fissures must be neither too deep, nor too wide, so that no water may settle in them, after the juice is extracted, and that the wood may close again in the space of a twelvemonth.

"11. During the time the juice is flowing out, which lasts about six weeks, and generally begins on the 1st of February, all the days on which it freezes or rains are lost, so that the number of days on which the business can be pursued to advantage is frequently, from these circumstances, much diminished.

"12. Maple sugar, however, is already obtained in sufficient quantities, to form a respectable article of trade, as during the above time two persons can frequently make from five to six hundred pounds of it, and this quantity will be increased in proportion to the number of workmen

employed. As the maple-tree, wherever it goes, multiplies with astonishing rapidity, we found, almost everywhere on our journey, no want of excellent sugar. At Robinson's it was better and finer than we had met with any where else; although in general it was not so white here as at Asylum, where Messrs. de Villaine and D'Andlau refine it with the yolks of eggs. . . ."

e. (Maple sugar production at Genessee Flats)

". . . Maple-sugar, of which great quantities are usually obtained in this neighbourhood, has not answered this year, from the uncommon wetness of the season. It is sold for one schilling a pound."

f. (Production neglected at Kingston, Canada)

". . . The farmers make but little maple-sugar, though the woods abound with the trees, from which it is produced. The Indians import about two or three thousand pounds, and sell it to the retail traders for one shilling a pound. Maple-sugar is prepared in much larger quantities in Lower Canada. The Canadians eat it here on bread, or make cakes of it, mixed up with flour of wheat, or Indian corn. . . ."

119. Weld, Isaac, Jr. 1795

Travels through the States of North America, and the Provinces of Upper and Lower Canada, during the years 1795, 1796 and 1797. London, 1799, pp. 219–224.

Observations on the Manufacture of Sugar from the Maple-tree

"The variety of trees found in the forests of Canada is prodigious, . . . ; the sugar maple tree is also found in almost every part of the country, a tree never seen but upon good ground. There are two kinds of this very valuable tree in Canada; the one called the swamp maple, from its being generally found upon low lands; the other, the mountain or curled maple, from growing upon high dry ground, and from the grain of the wood being very beautifully variegated with little stripes and curls. The former yields a much greater quantity of sap, in proportion to its size, than the other, but this sap does not afford so much sugar as that of the curled maple. A

pound of sugar is frequently procured from two or three gallons of the sap of the curled maple, whereas no more than the same quantity can be had from six or seven gallons of that of the swamp. . . .

"The maple is the only sort of raw sugar made use of in the country parts of Canada; it is very generally used also by the inhabitants of towns, whither it is brought for sale by the country people who attend the markets, just the same as any other kind of country produce. The most common form in which it is seen is in loaves or thick round cakes, precisely as it comes from the vessel where it is boiled down from the sap. These cakes are of a very dark colour in general, and very hard; as they are wanted they are scraped down with a knife, and when thus reduced into powder, the sugar appears of a much lighter cast and not unlike West Indian muscovada or grained sugar. If the maple sugar be carefully boiled with lime, whites of eggs, blood, or any of the other articles usually employed for clarifying sugar, and properly granulated, by the draining off of the melasses, it is by no means inferior, either in the point of strength, flavour, or appearance to the eye, to any West Indian sugar whatsoever: simply boiled down into cakes with milk or whites of eggs it is very pleasing to the taste. . . ."

120. Winterbotham, W. 1795

An Historical, Geographical, Commercial, and Philosophical view of the American United States, and of the European Settlements in America and the West Indies. London, 1795, Vol. III, (a) p. 498, (b) p. 500.

An extended report on maple sugar in America. The first part deals with the occurrence of the maple tree in New York and Pennsylvania. The tree is described. Factors which influence the flow of sap are discussed along with methods of concentrating the sap by freezing, spontaneous evaporation and boiling. The possibility of large scale manufacture is considered.

a. (Maple sugar is clean and not made by slaves.)

"The quality of this sugar is necessarily better than that which is made in the West-Indies. It is prepared in a season when not a single insect exists to feed upon

it, or to mix its excrements with it, and before a particle of dust or of the pollen of plants can float in the air. The same observation can not be applied to the West-India sugar. The insects and worms which prey upon it, and of course mix with it, compose a page in the nomenclature of natural history. We shall say nothing of the hands that are employed in making sugar in the West-Indies, but that men who work for the exclusive benefit of others are not under the same obligations to keep their persons clean while they are employed in this work, that men, women and children are, who work exclusively for the benefit of themselves, and who have been educated in the habits of cleanliness. The superior purity of the maple sugar is farther proved by its leaving a less sediment when dissolved in water than the West-India sugar.

"It has been supposed that the maple sugar is inferior to the West-India sugar in strength. The experiments which led to this opinion we suspect to have been inaccurate, or have been made with maple sugar prepared in a slovenly manner. Dr. Rush examined equal quantities by weight of both the grained and loaf sugar, in hyson tea, and in coffee, made in every respect equal by the minutest circumstances that could affect the quality of taste of either of them, and could perceive no inferiority in the strength of the maple sugar. The liquors which decided this question were examined at the same time by Alexander Hamilton, Esq. secretary of the treasury of the United States, Mr. Henry Drinker, and several ladies, who all concurred in the above opinion."

b. (Maple sugar in relation to alcoholic liquor)

". . . The sap of the maple is moreover capable of affording a spirit, but we hope this precious juice will never be prostituted by American citizens to this ignoble purpose. Should the use of sugar diet become more general in America, it may tend to lessen the inclination or supposed necessity for spirits, for a relish for sugar in diet is seldom accompanied by a love of strong drink. It is the sugar which is mixed with tea which makes it so generally disagreeable to drunkards."

121. Thwaites, R. G. 1797–98

Narrative of Andrew J. Vieau, Sr. *Wisconsin Hist. Coll.*, 11, (a) 223, (b) 231 (1898).

a. (Maple sugar at Milwaukee, Wisconsin)

". . . Each spring, after packing up the winter's peltries and buying all the maple sugar available from the Indians, father would start out with his family and goods on his return to Mackinaw. . . . Upon his return down the lake, father would stop at his various jack-knife posts and collect their furs and maple sugar. . . ."

b. (A venture in maple sugar)

"In the spring of 1839, I closed up my post, bought a lot of sugar from the Indians, loaded up a boat with the sugar and furs that I had collected and went up to Milwaukee, where I disposed of my venture, having had an excellent winter's trade."

122. Adams, George *ca.* 1798

History of Enosburgh, Franklin County. Vermont Historical Gazetteer, Vol. II, p. 135 (1871).

(Wooden faucets for drawing off sap)

"Sugar is something of an article of revenue. Since the high prices occasioned by the war, great improvements have been made in the process of manufacture. Two considerable sugar orchards are in use: one by Virgil Bogue, and one by James Kidder, where grain was once grown. Among all the improvements in this business, whether in theory or practice, the most novel is in that of tapping, proposed by one of our first settlers, Isaac B. Farrar, who settled on the lot on which V. Bogue lives. Mr. Farrar was a son of Priest Farrar, of New Ipswich, N. H. — had a liberal education, and doubtless thought it best to bring his knowledge to bear on his business, and pursue a kind of 'scientific farming.' He brought with him a large quantity of wooden faucets. When inquired of what he designed these for, said 'he had formed a favorable opinion of the manufacture of maple sugar; and, upon inquiry, thought the method then pursued of tapping with an axe, gouge and split spouts, must occasion great waste, as well as hurry in gathering and boiling, when it run rapidly.'

Said his 'plan was to obviate both difficulties, by tapping with an auger, and putting in a faucet; and when he wanted sap, to draw a pailful, and take it leisurely.' He afterwards moved to Fairfax, and established himself in the pottery business. Whether his improved manner of tapping was generally introduced, I have never learned."

123. Stuart, John 1798

Narrative of Col. John Stuart, of Greenbrier. *William and Mary College Quart. Hist. Mag.*, 22, 234 (1914).

(Sugar trees in Virginia)

"I here hazard a conjecture that has often occurred to me since I inhabited this place, that nature has designed this part of the world a peaceable retreat for some of her favorite children, . . . mines pragnant with saltpeter, & forrests of sugar trees so amply provided and so easily acquired . . ."

124. French, Samuel 1799

History of the Town of Hardwick, Caledonia County. Vermont Historical Gazetteer, Vol. I, p. 325 (1876).

(Sugaring at Hardwick)

"The last of March the snow lay 4 feet deep on a level, but the weather was mild, and we prepared for sugaring; but there came two feet more of snow, and not a tree was tapped until the 15th of April. We gathered our buckets the 15th of May. Snow-banks were visible the 9th of June."

125. Smith, James 1799

An Account of the Remarkable Occurrences in the Life and Travels of Col. James Smith, during his Captivity with the Indians, in the Years 1755, '57, '58 and '59. Lexington, 1799, (a) p. 15, (b) p. 16, (c) p. 22, (d) p. 23, (e) p. 27, (f) p. 39, (g) p. 41, (h) p. 45.

a. (Sugar maples in Pennsylvania)

"On the head waters of this branch, and from thence to the waters of Canesadooharie, there is a large body of rich, well lying land—the timber is ash, walnut, sugar-tree, buckeye, honey-locust and cherry, intermixed with some oak, hickory, . . ."

b. (Results of the winter hunt)

"As the Indians on their return from their winter hunt, bring in with them large quantities of bear's oil, sugar, dried venison, &c. at this time they have plenty, and do not spare eating or giving . . . thus they make way with their provision as quick as possible. . . ."

c. (Sugar tubs of elm bark)

See Drake. (Pt. I, ref. 42a of this bibliography)

d. (A load of maple sugar)

"When all things were ready we moved back to the falls of Canesadooharie. In this route the land is chiefly first and second rate, but too much meadow ground, in proportion to the up land. The timber is white ash, elm, black-oak, cherry, buckeye, sugar-tree, lynn, mulberry, beech, white-oak, hickory, wild apple-tree, red-haw, black-haw, and spicewood bushes. There is in some places, spots of beech timber, which spots may be called third rate land. Buckeye, sugar-tree and spice wood, are common in the woods here. . . .

"On our arrival at the falls, (as we had brought with us on horse back about two hundred weight of sugar, a large quantity of bears oil, skins, . . .) the canoe we had buried was not sufficient to carry all, therefore we were obliged to make another one of elm bark. . . ."

e. (Homony, bear's oil and maple sugar)

"At this time homony plentifully mixed with bears' oil and sugar; or dried venison, bears oil and sugar, is what they offer to every one who comes in any time of the day; and so they go on until their sugar, bears oil and venison, is all gone. . . ."

f. (Concentration of maple sap by freezing)

See Drake. (*Ibid.*, 42b)

g. (Sugar camp on Big Beaver Creek)

"From our sugar camp on the head waters of Big Beaver creek, to this place is not hilly, and some places the woods are tolerably clear: but in most places exceeding brushy. . . ."

h. (Forest trees near Fort Detroit)

"There is plenty of good meadow ground here, and a great many marshes that are overspread with water. . . . The timber is elm, sugar-tree, black-ash, white-ash, abundance of water-ash, oak, hickory, and some walnut."

126. Draper, Lyman C. 1800–1809
Antoine Le Clair's statement. *Wisconsin Hist. Coll.*, **11**, 241 (1888).

(Maple sugar made in Milwaukee)

"The Indians at Milwaukee had no fruit trees, except wild plums, which were plenty; there were blackberries, grapes and strawberries, but no raspberries. There were no nuts,—no pecans, no persimmons. The Indians manufactured large quantities of maple sugar for their own use, and for sale; they would live on it fast, and sell to the traders,—the rule in this, as in other things, being first a feast, then a famine. . . ."

127. Sumner, Samuel *ca.* 1800
History of the Town of Troy, Orleans County. Vermont Historical Gazetteer, Vol. III, p. 319 (1877).

(Sugar maples yield a luxury)

"The sugar maple was a blessing to the early settlers of Vermont. Those beautiful groves yielded an abundant supply of sugar, affording to the indigent settler a necessary and luxury of life which the wealthy in older countries could scarce afford, whilst the cheerful fires of this wood, which, in our infancy, we saw blazing in the old stone-backed chimneys, call up recollections of an enjoyment we cannot now find in the dull invisible warmth of an air-tight stove, and the ashes of this generous tree, when manufactured into potash or pearlash, furnished an article for exportation, and almost the only one which would warrant the expense in transporting it to the then distant markets."

128. Michaux, F. A. 1802
Travels to the Westward of the Allegany Mountains. London, 1805, Vol. II, p. 81.

(The sugar maple in southwestern Pennsylvania)

"The sugar maple is very common in all that part of Pennsylvania, which is watered by the Monogahela and the Allegany. This tree thrives best in cold, humid, and mountainous countries, and its sap is more abundant, as the winter has been more severe. The sugar obtained from it has as dark a colour as that of the clayed sugar of the first boiling, it is sold in loaves of 6, 8, or 10 pounds, at seven pence per pound. The inhabitants only make it for their own use, most of them have tea or coffee every day, but they only use it in the state in which it is obtained from the first evaporation of the sap: they do not refine it because of the great loss which it sustains in this operation."

129. Curot, Michel 1804

A Wisconsin fur-trader's journal, 1803-04. *Wisconsin Hist. Coll.*, 20, (a) 449, (b) 457 (1911).

a. (Sugar made by Indians near Jaune, or Yellow, River)

"Friday 9. (March) Mr. Sayer sent his wife this morning to the Savages' lodges to make sugar. 4 Men went with her to carry her Baggage and provisions."

b. "Tuesday 27th. (March) Mr. Sayer sent yesterday with Kitchinimiscoutte, & Payechgigue who brought him a Mocock of about 30 lbs. of sugar, two of his men and a 3 Gallon Keg of Pure H. W. . . . His wife (Savoiard's) went to the Lodges to make sugar with her sister. Ataowabe came to the fort with them bringing nothing but about Two Livres of sugar that he gave me."

130. Lewis, Merriweather, and George Rogers Clark 1804

Original Journals of the Lewis and Clark Expedition, 1804-1806. R. A. Thwaites, Editor. New York, 1904, (a) Vol. I, p. 8; (b) p. 291; (c) Vol. VI, p. 169.

a. (Extra ration of whiskey for sugar makers)

"DETACHMENT ORDERS

CAMP RIVER DUBOIS, Febr. 20th, 1804

"LEWIS:

"The four men who are engaged in making sugar will continue in that employment untill further orders, and

will receive each a half a gill of extra whiskey p^{r}. day and be exempt from guard duty.

MERRIWEATHER LEWIS CAP^{t}.
1st. U. S. Reg^{t}. Infty."

b. (Maple in bud – Mandan to Yellowstone)

"9th of April Tuesday 1805.

"Set out this morning verry early under a gentle breeze from the S.E. at Brackfast the Indian deturmined to return to his nation. I saw a Musquetor to day great numbers of Brant flying up the river, the Maple, & Elm has buded & cotton and arrow wood beginning to bud. . . ."

c. (Meteorological observation for February, 1804)

"11th. The Sugar Maple runs freely, Swans pass from the North."

131. Malhiot, François Victor 1804

A Wisconsin fur-trader's journal – 1804–05. *Wisconsin Hist. Coll.*, 19, (a) 174, (b) 232 (1910).

a. (Maple sugar exchanged for a gum)

"He did me the favor of giving me a keg of sugar for a keg of gum, which had been given me at Kamanaitiquoya instead of a keg of sugar."

b. (Mococks of maple sugar sold)

"1 A Mocock of Sugar. . . ."

132. Pike, Zebulon Montgomery 1805–1806

An Account of a Voyage up the Mississippi River, from St. Louis to its Source. Compiled from Mr. Pike's journal. (Washington, 1807 ?), (a) p. 49. Elliott Coues, Editor. The Expeditions of Zebulon Montgomery Pike, To Headwaters of the Mississippi River, through Louisiana Territory, and in New Spain, During the years 1805–6–7. New York, 1895, new ed., (b) Vol. I, pp. 184–186.

a. (Visit to camp of Thomas, the Fols Avoine chief)

". . . The camp was situated in one of the finest sugar groves imaginable. They were received in a truly patriarchal style: the chief pulled off Mr. Pike's moccasins, assigned him the best place in the lodge, and offered dry cloths. After being presented with the syrup of the

maple to drink, the chief asked his guest which he preferred, beaver, swan, elk or deer, to eat. . . . they were presented with something to eat; at one a bowl of sugar,—at another the tail of a beaver: generally, with what was esteemed a delicacy by their Indian friends.

"The next morning Mr. Pike purchased two baskets of sugar; . . ."

b. (Visit to Thomas sugar camp)

"*Mar. 18th.* We marched (up Spunk river), determined to find the (Menomonee) lodges. Met an Indian whose track we pursued through almost impenetrable woods for about 2 1/2 miles to the camp. Here there was one of the finest sugar-camps I almost ever saw, the whole of the timber being sugar-tree. . . . He then presented us with syrup of the maple to drink, and asked whether I preferred eating beaver, swan, elk, or deer; . . . We were presented with something to eat; by some, with a bowl of sugar: . . ."

"*March 19th.* This morning purchased two baskets of sugar. . . ."

133. Dubuque, J. 1807

Fur-trade on upper lakes. 1778–1815. Operations of Dubuque. *Wisconsin Hist. Coll.*, 19, 319 (1910).

(Sugar at Prairie du Chien)

"As for the Accounting that you ask me for, I make it the same as to what I owe as you and every one does. But there are some small differences in regard to the price made on sugar, rum, and powder; and after these are settled I will adjust the Balance whenever you wish."

134. Grignon, Pierre 1807

Fur-trade on the upper lakes – 1778–1815. Grignon accounts 1806–1807. *Wisconsin Hist. Coll.*, 19, 321 (1910).

A typical invoice

"1807 Rentree de L'envoice Oliva
Par diverses agrets
1000 lvs de Sucre .10 500"

135. Askin, Jno., Jr. 1808

Fur-trade on the upper lakes – 1778–1815. *Wisconsin Hist. Coll.*, 19, 325 (1910).

(Son sends father maple sugar from St. Joseph's Island)

"I send Mr. J. & Mrs. Barthe Sen^{r} a Mocouts of sugar addressed to your Care. One for Mr. Badishon w^{h} Madelain & my comp^{s}, a Mocouts marked I P for Mr Peltier & a Bundle. You'll receive One Mocouts Sugar, a Bundle of Mats, & a mocout of dryed Huckleberrys which you'll please accept of. The sugar is very clean I believe having received it from a clean woman."

136. Smith, J. P. *ca.* 1810

History of the Town of Newark, Caledonia County. Vermont Historical Gazetteer, Vol. I, p. 357.

(Maple sugar production in Newark)

"This town is also celebrated for its large productions of maple sugar. The original growth of timber upon two-thirds of its area, consisted of maple, beech and birch, maple being in the excess; many beautiful groves of this usefull tree have been cut down, but many yet remain. The eastern slope of a mountain which extends from East Haven to the centre of the town (a distance of three miles), is covered for two miles or more with a continuous forest of sugar-maple. Many tons of sugar are made here annually."

137. Tyrrel, J. B. *ca.* 1810

David Thompson's Narrative of his Explorations in Western America. 1784-1812. Toronto, 1916, (a) p. 274, (b) p. 275, (c) p. 283.

a. (Diet of wild rice and maple sugar)

". . . Proceeding five miles over the Lake we came to the trading house of Mr. John Sayer, a Partner of the North West Company, and in charge of this Department, . . . Mr. Sayer and his Men has passed the whole winter on wild rice and maple sugar, which keeps them alive, but poor in flesh: . . ."

b. (Indian family property rights to maple groves)

"In the Spring the Natives employ themselves in making Sugar from Maple Trees, the process of doing which is well known. The old trees give a stronger sap than the young trees; The Canadians also make a great quantity,

which when the sap is boiled to a proper consistence, they run into moulds where it hardens. But the Indians prefer making it like Muscovado sugar, this is done simply by stirring it quickly about with a small paddle. The Plane Tree also makes a good sugar, the sap is abundant, and the sugar whiter, but not so strong. Both sugars have a taste, which soon becomes agreeable, and as fine white loaf sugar can be made from it as from that of the West Indies. The natives would make far more than they do if they could find a Market. . . . The Natives here call themselves 'Oochepoys' and for some years have begun to give something like a right of property to each family on the maple sugar groves, and which right continues in the family to the exclusion of others. But as this appropriated space is small in comparison of the whole extent; any, and every person is free to make sugar on the vacant grounds. The appropriation was made by them in a council, in order to give to each family a full extent of ground for making sugar, and to prevent disputes that would arise where all claim an equal right to the soil and its productions. And as in the making of sugar, several kettles and many small vessels of wood and birch rind for collecting and boiling the sap are required, which are not wanted for any other purpose, (they) are thus left in safety on their own grounds for future use."

c. (Sugar from the juice of the ash-leaved maple)

"He had traded 16 Cwt. of Maple Sugar from the Natives; this was packed in baskets of birch rind of 28 to 68 lbs. each. The Sugar appeared clean and well made; that of the Plane Trees, looked like the East India Sugars, and (was) much the same in taste: In this article I have always noticed the supply is greater than the demand."

138. Wakefield, Priscilla. 1810

Excursions in North America, described in Letters from a Gentleman and his Young Companion, to their Friends in England. London, 1806, 2 ed., (a) p. 56, (b) p. 191, (c) p. 295.

a. (Maple trees in Virginia)

". . . Virginia is intersected by numerous rivers and creeks, and in many parts covered with forests of maples, pines, cedars, the climbing trumpet-flower tree, the Carolinian allspice, cornel trees, walnuts, laurels, bay-trees, tulip trees, poplars, oaks, sumachs, acacias, and many others: . . ."

b. (The red maple in Maine)

". . . The black fir, the Weymouth pine, the red cedar, the common fir, the red maple, the Pennsylvania ash, the black birch, and the dwarf birch, are also common. . . ."

c. (The sugar maple in Canada)

". . . The sugar maple grows in all parts of the country, and is a very useful tree; as not only sugar may be made from it, but vinegar, table beer, and an excellent spirit. The country people pierce these trees with an augur, and put a vessel beneath, to catch the sap as it falls, which they refine by boiling till it is converted into sugar, and a sufficient quantity is procured to nearly supply the inhabitants, who seldom use any other."

139. Lambert, John 1814

Travels through Canada and the United States. London, 1814, p. 83.

(Quality of Canadian maple sugar)

"Large quantities of maple sugar are sold at about half the price of the West India sugar. The manufacturing of this article takes place early in the spring, when the sap or juice rises in the maple trees. It is very laborious work, as at that time the snow is just melting, and the Canadians suffer great hardships in procuring the liquor from an immense number of trees dispersed over many hundred acres of land. The liquor is boiled down and often adulterated with flour, which thickens, and renders it heavy: after it is boiled a sufficient time, it is poured into tureens, and, when cold, forms a thick hard cake of the shape of the vessel. These cakes are of a dark brown colour, for the Canadians do not trouble themselves about refining it. The people in Upper Canada

make it very white; and it may be easily clarified equal to the finest loaf sugar made in England.

"It is very hard, and requires to be scraped with a knife when used for tea, otherwise the lumps would be a considerable time dissolving. Its flavour strongly resembles the candied horehound sold by the druggists in England, and the Canadians say that it possesses medicinal qualities, for which they eat it in large lumps. It very possibly acts as a corrective to the vast quantity of fat pork which they consume, as it possesses a greater degree of acidity than the West India sugar. Before salt was in use, sugar was eaten with meat in order to correct its putrescency."

140. Baird, Eliz. T. *ca.* 1815

Reminiscences of early days on Mackinac Island. Green Bay Gazette, Dec. 4, 1886; Nov. 19, 1887; *Wisconsin Hist. Coll.*, 14, 29 (1898).

(An American forest scene – maple sugar-making)

"A visit to the sugar camp was a treat to the young folks as well as the old. In the days I write of, sugar was a scarce article, save in the Northwest, where maple sugar was largely manufactured. All who were able, possessed a sugar camp. My grandmother had one on Bois Blanc Island, about five miles east of Mackinac. About the first of March, nearly half of the inhabitants of our town, as well as many from the garrison, would move to Bois Blanc to prepare for the work. Our camp was delightfully situated in the midst of a forest of maple, or a maple grove. A thousand or more trees claimed our care, and three men and two women were employed to do the work.

"The 'camp',—as we specifically styled the building in which the sugar was made, and the sugar-makers housed, —was made of poles or small trees, enclosed with sheets of cedar bark, and was about thirty feet long by eighteen feet wide. On each side was a platform, about eighteen inches high and four feet wide. One side was intended for beds, and each bed when not in use was rolled up nicely, wrapped in an Indian mat, then placed against the wall; the bedroom then became a sitting room. The walls on the inside were covered with tarpaulin, also the

floor. The women's bedding was placed at one end of the platform. The platform at the other side served as a dining floor, one end of which was enclosed in cedar bark, forming a chest for the dishes and cooking utensils. The dishes consisted of some crockery, tin plates and cups, and wooden dishes and ladles. The wing was added at one end, for the men's bedroom.

"At either end of the camp were doors, made large to admit heavy logs for the fire. The fire-place was midway between the two platforms, and extended to within six feet of the doors. At each corner of the fire-place were large posts, firmly planted in the ground and extending upward five feet or more. Large timbers were placed lengthwise on top of these posts, and across the timbers extended bars from which, by chains and hoops, were suspended large brass kettles, two on each bar. On the dining-room side, half way up the wall, ran a pole, horizontally. This was to hold in place hemlock branches, which were brought in fresh every evening. The place between the fire and the platforms was kept very heat by a thick, heavy broom, made of cedar branches, cut off evenly on the bottom, and with a long handle. These brooms are still used by semi-civilized Indians.

"The hanging of the kettle was quite a test of skill, requiring three persons to perform the task. The fire had to be burning when the hanging began. It was the duty of one person to hang the kettle properly; of the second, to pour in immediately a small quantity of sap to keep the kettle from burning; of the third, to fill it with sap. The peak of the roof was left open to allow the smoke to escape,—and at night to let in the stars, as was my childish fancy. . . .

"Now for the work; All of the utensils used in the making of sugar were of that daintiest of material, birch-bark. The *casseau,* to set at the tree, to catch the sap, was a birch-bark dish, holding from one to two gallons. The pails for carrying the sap were of the same material, and held from three to four gallons. The men placed a *gauje* or yoke on their shoulders, then a bucket would be suspended on each side. The women seldom used this yoke, but assisted the men in carrying the buckets, doing

so in the usual manner. The mocock, in which the sugar was packed, was also of birch-bark and held from thirty to eighty pounds. The bark was gathered in the summer at Bark Point. The name was afterward done in French as 'Point aux Ecorces,' meaning 'bark point'. The sailors now miscall it, 'Point au Barques.'

"The *gouttière* or spout, which was made of basswood, had to be cleaned each spring, before it was placed in the tree; the birch-bark of the *casseau* was cleaned by taking off a layer of the inner bark and then washing it. The buckets were made by sowing the seams with *bast* (which is taken from the inner bark of bass-wood), then gummed over with pine pitch. They also were carefully washed and dried before use. As a matter of course, the large vessels to receive the sap were barrels made of oak. No pine was ever used about the camp, as that would impart a disagreeable taste. The strainers were made of a particular kind of flannel, of very coarse thread and not wooly, brought especially for this purpose by the merchants. I remember well, the cleaning of these. After they had been used, they were put in a tub of hot water and washed (without soap); or pounded, rather, with a *battoir* or beetle, then rinsed in many waters.

"By this time the sap must be boiling. It takes over twenty-four hours to make the sap into syrup, and the boiling is usually begun in the morning. The fire is kept bright all day and night. Two women are detailed to watch the kettles closely, for when the sap boils down nearly to syrup, it is liable to bubble over at any moment. The women therefore stand by with a branch of hemlock in hand; as soon as the liquid threatens to boil over they dip the branch in quickly, and, it being cool, the syrup is settled for a while. When at this stage, it requires closest watching. When the sap has boiled down about one-half, the women have to transfer the contents of one kettle, which would spoil all. As fast as a kettle is emptied it will be filled with water and set aside, awaiting the general cleaning. The kettles require the utmost care, being scoured each time emptied, keeping one woman employed nearly all the time. Sand and water are the cleansing agents used.

"All this time, if the weather favors the running of the sap, it is brought as fast as possible, and the boiling goes on. At this period, my grandmother would send me my little barrel full of syrup. The miniature barrel I still have in my possession. The barrel bears the date 1815, and is now dark and polished with age, and is a rare memento of those halcyon days. It holds less than a pint, and was made by an Ottowa Indian, out of a solid piece of wood, sides and ends all one, the interior being ingeniously burned out through the bung hole. The receipt of this was the signal that the time had come when I too might visit the camp.

"When made, the syrup is put in barrels, awaiting the time when it can be made into sugars of various kinds, the *modus operandi* thus: A very bright brass kettle is placed over a slow fire (it can not be done at boiling time, as then a brisk fire is required),—this kettle containing about three gallons of syrup, if it is to be made into cakes; if into *cassonade,* or granulated sugar, two gallons of syrup are used. For the sugar cakes, a board of basswood is prepared, about five or six inches wide, with moulds gouged in, in forms of bears, diamonds, crosses, rabbits, turtles, spheres, etc. When the sugar is cooked to a certain degree, it is poured into these moulds. For the granulated sugar, the stirring is continued for a longer time, this being done with a long paddle which looks like a mushstick. This sugar has to be put into the mocock while still warm, as it will not pack well if cold. The work is especially difficult; only a little can be made at a time, and it was always done under my grandmother's immediate supervision.

"The sugar-gum, or wax, is also made separately. Large wooden bowls, or birch-bark *casseaus,* are filled with snow, and when the syrup is of the right consistence it is poured on the snow in thin sheets. When cooled, it is put into the birch-bark, made into a neat package, and tied with bast. The syrup made for table use is boiled very thick, which prevents its souring. For summer use it is put into jugs and buried in the ground two or three feet deep, where it will keep for a year, more or less.

"One time, a party of five ladies and five gentlemen were invited to the camp. Each lady brought a frying-pan in which to turn *les crêpes* or pancakes, which was to be the special feature and fun of the occasion. All due preparation was made for using the frying-pans. We were notified that no girl was fitted to be married until she could turn a *crêpe*. Naturally, all were desirous to try their skill in that direction, whether matrimonially inclined or not. The gentlemen of the party tried their hand at it, as well as the ladies. It may not be amiss here to explain what turning a *crêpe* meant; when the cake was cooked on one side, it was dexterously tossed in the air, and expected to land, the other side up, in the pan. Never did I see objects miss so widely the mark aimed at. It seemed that the *crêpes* were influenced indeed by the glee of the party; they turned and flew everywhere, but where wanted. Many fell into the fire, as if the turner had so intended. Some went to the ground, and one even found its way to the platform, over the head of the turner. One gentleman (Henry S. Baird) came up to Mrs. John Dousman, and holding out his nice fur cap, said, 'Now turn your cake, and I will catch it.' Mrs. Dousman was an adept at turning, and before the challenger had time to withdraw his cap, with a toss she deftly turned the cake and landed it fairly into the cap. You may imagine the sport all this afforded. In due time, a nice dinner was prepared. We had partridges roasted on sticks before the fire; rabbits and stuffed squirrel, cooked French fashion; and finally had as many *crêpes*, with syrup, as we desired. Every one departed with a bark of wax, and sugar cakes."

141. Heckewelder, John 1817

History, Manners and Customs of the Indian Nations who once Inhabited Pennsylvania and the Neighboring States; *Memoirs Historical Society Penn.*, 12, 194–195 (1876).

Food and Cookery

". . . In the dough of this kind of bread they frequently mix boiled pumpkins, green or dried, dry beans, or well pared chestnuts, boiled in the same manner, dried

venison well pounded, whortle berries, green or dry, but not boiled, sugar and other palatable ingredients.

"The Indians have a number of manners of preparing their corn. They make an excellent pottage of it, by boiling with fresh or dried meat (the latter pounded), dried pumpkins, dry beans, and chestnuts. They sometimes sweeten it with sugar or molasses from the sugar-maple tree. . . .

". . . They make an excellent preserve from the cranberry and crab-apple, to which, after it has been well stewed, they add a proper quantity of sugar or molasses. . . ."

142. Evans, Estwick 1818

A Pedestrious Tour of Four Thousand Miles through the Western States and Territories. Concord, 1819, p. 171; R. G. Thwaites, Editor, Early Western Travels 1748–1846. Cleveland, 1904, Vol. 8, p. 275.

(Maple sugar production)

". . . Several millions of pounds of mapel sugar are made here annually; . . ."

143. Michaux, F. A. 1819

The North American Sylva, or a Description of the Forest Trees of the United States, Canada and Nova Scotia. Paris, 1819, Vol. I, (a) p. 216, (b) p. 218, (c) p. 221, (d) p. 223, (e) p. 228, (f) p. 237.

a. White Maple (Acer eriocarpum)

"In the Atlantic parts of the United States, this species is often confounded with the Red Maple which it nearly resembles; west of the Mountains, they are constantly distinguished, and the *Acer eriocarpum* is known by no other name than White Maple.

"Some of the inhabitants on the Ohio make sugar of its sap, by the same process which is employed with the Sugar Maple. Like the Red Maple, it yields about half the product from a given measure of sap; but the unrefined sugar is whiter and more agreeable to the taste than that of the Sugar Maple. The sap is in motion earlier in this species than in the Sugar Maple, beginning to ascend about the 15th of January; so that the work of extracting the su-

gar is sooner completed. The cellular integument rapidly produces a black precipitate with sulphate of iron."

b. Red Flowering Maple (Acer rubrum)

"Different names are given to this tree in different parts of the United States; east of the Alleghany mountains it is called Red flowering Maple, Swamp Maple and Soft Maple; in the Western Country, simply Maple. The first denominations, which is most generally in use, is also most appropriate, as the young shoots, the flowers, and the fruit are red. . . ."

c. (Sugar from the red maple, or plaine)

"The French Canadians make sugar from the sap of this Maple, which they call *Plaine,* but, as in preceding species, the product of a given measure is only half as great as is obtained from the Sugar Maple."

d. Sugar Maple (Acer saccharinum)

"This species, the most interesting of the American Maples, is called Rock Maple, Hard Maple, and Sugar Maple. The first of these names is most generally in use, but I have preserved the last, because it indicates one of the most valuable properties of the tree.

"The Sugar Maple covers a greater extent of the American soil than any other species of this genus. It flourishes most in mountainous places, where the soil though fertile is cold and humid. Besides the parts which I have particularly mentioned, where the face of the country is generally of this nature, it is found along the whole chain of the Alleghanies to their termination in Georgia, and on the steep and shaly banks of the rivers which rise in these mountains."

e. (Manufacture of maple sugar)

Descriptive.

f. Black Sugar Tree (Acer nigrum)

"In the Western States, and in the parts of Pennsylvania and Virginia, which lie between the mountains and the Ohio, this species of Maple is designated by the name of Sugar Tree, and frequently, by the more characteristic denomination of Black Sugar Tree; probably, on account

of the dark colour of its leaves, in comparison with those of the true Sugar Maple, which sometimes grows with it. In the extensive country of Genesee both species are indiscriminately called Rock Maple and Sugar Maple. This confusion seems to have arisen from the country's being settled principally by emigrants from the Eastern States, who, finding the Black Sugar Tree applicable to the same uses with the other, and equally productive of sugar, have given it the same name. The two species have also been confounded by Botanists, in describing the vegetable productions of America."

144. Childs, Ebenezer 1820

Recollections of Wisconsin since 1820. *Wisconsin Hist. Coll.*, 4, (a) 161, (b) 175 (1858).

a. (Maple-sugar making at Green Bay)

"There were quite a number of very respectable French families residing at the Bay when I arrived there. . . . They caught large quantities of sturgeon and trout, and they made immense quantities of maple sugar. At the proper season in the spring, the entire settlement would remove to their sugar-campe, often remain two months, each family making eight to ten hundred pounds of the finest sugar I ever saw."

b. (Barter with maple sugar at Green Bay, Wis.)

"I furnished the Indians with provision that fall and winter; they paid me in furs and maple sugar. I purchased some six tons of sugar of them."

145. Doty, James Duane 1820

Northern Wisconsin in 1820. *Wisconsin Hist. Coll.*, 7, 199 (1876).

(Indians make maple sugar at Rice Lake)

". . . Their families being left at home in this hunt, repair to the sugar camps, and are engaged in manufacturing sugar during the absence of the men, of which they make large quantities."

146. Doty, James Duane 1820

Official Journal, 1820. Expedition with Cass and Schoolcraft. *Wisconsin Hist. Coll.*, 13, 207 (1897).

(Indian sugar camp near Sandy Lake)

". . . Thus far the land has been low,—timber birch, maple, bass wood, and elm. Next we steered S. 20 west 6 miles over a ridge one half (the first covered chiefly with pine the residue the sugar maple). The Indians had a large establishment in this wood, this last spring where from every appearance they must have made great quantities of sugar."

147. Irwin, M. 1820

Fur trade and factory system at Green Bay. 1816–21. Letter of M. Irwin, U. S. Factor, to Doctor J. Morse. *Wisconsin Hist. Coll.*, 7, 286 (1876).

(Maple sugar traded for whiskey)

". . . He adds, 'I will venture to say, that out of two hundred barks of sugar taken, not five have been purchased with any other commodity than whiskey. I have not been able to procure a pound (of sugar) from the Indians, but can get a supply from the traders at ten cents a pound.'

"Independent of the known veracity of Mr. Varnum, the fact that private traders can sell sugar at ten cents a pound, is pretty conclusive evidence of the manner in which they obtain it."

148. Locke, John 1820

On the manufacture of sugar from the river maple (*Acer eriocarpum of Linnaeus*). *Am. J. Sciences, Arts*, 2, (a) 258, (b) 261.

a. (Sugar from the river maple)

"It seems not to be generally known, that sugar is afforded in any considerable quantity, by any other species than the sugar maple, (*Acer saccharinum*); but I have found that in some parts of New-England, more sugar is made from the river, than from the sugar maple.[5]

"A peculiar method of tapping is practiced in Fryeburg. The incision from which the sap issues is made by driving a gouge a little obliquely upward, an inch or more into the wood. A spout or tap about a foot long, to conduct off the sap, is inserted about two inches below this incision with the same gouge. . . . One principal

[5] The author bases his statements upon observations made in Fryeburg, Maine, on the Saco river, where large quantities of maple sugar were annually made. The sap of the river maple was generally deemed there to be sweeter than that of the sugar maple; its sugar whiter and of a better quality.

advantage of this method is, that the wound in the tree is so small that it is perfectly healed or 'grown over' in two years, the tree sustaining little or no injury. The other common methods of tapping are two. 1. With an axe. An oblique incision three or four inches long, is made in such a manner that all the sap will be conducted to the lower corner, where it passes into a spout inserted with a gouge as above. Disadvantages of this method. The surface being much exposed to the air and sun, is presently dried, so as to diminish very much the quantity of sap. The wound in the tree is extensive and a ruinous decay is often the consequence, the tree becoming rotten-hearted. 2. With an auger. The tree is perforated an inch or more with an auger three fourths of an inch diameter, and a tube made of elder or sumach is inserted to conduct off the sap. The end of the tube is made tapering so as to bear only at the outer edge of the tube. Disadvantage. The tap presses upon the external grains so as to obstruct the flow of sap from them; and it is from these *external* grains that most of the sap is obtained. The method tapping with the gouge is undoubtedly superior to either of the others, but in a sugar maple there might be difficulty in inserting the gouge to a sufficient depth on account of its superior hardness.

"It seems that the superiority of the river over the sugar maple is not universal; for Micheaux says, that on the Ohio only one half the quantity is obtained from the river, that is afforded by the sugar maple."

b. (Lin[es] *to the maple tree)*

"In a poem written in Fryeburg called 'The Village' the following lines are bestowed upon it.

'More sacred than the thunder chosen oak,
'Let not the maple feel the woodman's stroke.
'Fair maple! honours purer far are thine
'Than Venus's myrtle yields, or Bacchus's vine;
'Minerva's olive consecrated tree,
'Deserves not half the homage due to thee.
'The queen of trees, thou proudly towerist on high,
'Yet wave thy limbs in graceful pliancy.' "

149. Morse, Jedidiah 1820

Report to the Secretary of War of the United States. New Haven, 1822, Appendix p. 50.

(Maple products made at Green Bay, Wis.)

In commenting upon the activities of the half-breed population at Green Bay, the author states, "These people, and the Menominees with whom, by the ties of relationship, they are connected, make from the maple tree about one hundred pounds of sugar annually; and from three to four hundred gallons of molasses. These, with their skins, etc. are nearly all sold for whiskey, at an immense sacrifice."

150. Finley, J. B. 1821

History of the Wyandott Mission. Cincinnati, 1840, (a) p. 124, (b) p. 125, (c) p. 126, (d) p. 128.

a. (Sugar-making season)

"In February, nearly all of the Indians went to the woods, to trap and make sugar. They seldom return from these expeditions until the first of April."

b. (Sugar-flavored boiled raccoon meat)

"Soon we had placed before us a kettle filled with fat raccoons, boiled whole, after the Indian style, and a pan of good sugar molasses. These we asked our heavenly Father to bless, and then each carved for himself, with a large butcher knife. I took the hind quarter of a raccoon, and holding it by the foot, dipped the other end in the molasses, and eat it off with my teeth. Thus I continued dipping and eating until I had pretty well finished the fourth part of a large coon."

c. (Troughs as sap containers)

"The troughs in which they catch their sugar water, are made of bark, and hold about two gallons. They have a large trough, made like a bark canoe, into which they gather from the small ones. The women make the sugar, and stretch all the skins. The men trap and hunt."

d. (War-time rations of the Indian)

"Deer meat is sliced thin; and dried over the fire, until it can be easily pounded in a mortar. This, mixed

with sugar and dipped in bear's oil, is the greatest luxury of an Indian table. This, with corn parched in a kettle, and pounded to meal, then sifted through a bark sieve, and mixed with sugar, makes the traveling provision of an Indian in time of war."

151. Grignon, L. 1821

Fur-trade in Wisconsin. Letter to Robt. Stuart, Michimilimackinac from La Bay verte 7 June 1821. *Wisconsin Hist. Coll.*, 20, 200 (1911).

(Sugar supplies plentiful in Green Bay)

"There is much sugar here but few Peltries, . . ."

152. Nuttall, Thomas 1821

A Journal of Travels into the Arkansas Territory. Philadelphia, 1821, p. 113; R. G. Thwaites, Editor, Early Western Travels 1748–1846. Cleveland, 1905, Vol. XIII, p. 161.

(Low-cost sugar)

". . . Sugar and Coffee are also high priced articles, more particularly this year. There is a maple in this country, or rather, I believe, on the banks of the White river, which has not come under my notice, called the sugar-tree (though not, as they say, the *Acer Saccharinum*), that would, no doubt, by a little attention afford sugar at a low rate; . . ."

153. Deane, Samuel 1822

The New England Farmer; or Georgical Dictionary. Boston, 1822, 3 ed., p. 262.

(Observations on making sugar from the sap of the rock-maple)

This is an edited quotation from the *American Museum*, vol. 6, pp. 98–101 for which see reference 28, part 1, of this bibliography.

154. Ellis, Albert G. 1822

Fifty-four Years' Recollections of Men and Events in Wisconsin. *Wisconsin Hist. Coll.*, 7, 1876, (a) 220, (b) 222.

a. (Sugar-making at Green Bay)

"The product of the *sucreries* of the better class of the French, was a fair article of sugar, of ready sale,

and in some respects preferable to the best muscovado. They had learned to use the utmost neatness and caution to keep out all impurities, and had attained to great perfection in the purifying process. All the sap was strained through a fine sieve into the kettles—the syrup was strained twice before granulating; and here came in the product of the chickens, to wit, the eggs, the whites of where were broken in the boiling syrup, when all impurities immediately came to the surface and were removed. The sugar, when strained off and cooled, was quite fair and pure. Some of the more enterprising and forehanded, bought syrup and coarse sugar of their Indian retainers, and their less able neighbors, and went into the purifying process on a large scale, and thus largely increased their product for the season. A few families of this class had a preference in the sugar market at the frontier trading posts, their mococks, branded with their names, always being sought, at advanced prices.

"As before stated, the Easter festival was generally celebrated at those *sucreries;* for this reason those who had the chickens, and could do it, took them into the woods, made houses for them, and saved a store of eggs for this festival. Then it was that their friends at the settlement, the Americans and army officers, were invited to visit them, and the invitations were rarely declined. The American citizens, the gentlemen and ladies of the army, found no greater enjoyment than one of these spring festivals in the depth of the great maple woods, in their commodious sugar-houses. . . . These frolics were often enlivened by an old-fashioned 'candy-pull', when the French girls presented their sweet-hearts, on parting, with a cake of candy, folded in a strip birch-bark, which they called their 'billet doux'."

b. (Maple sugar not accepted in trade)

". . . the natives, as well as the French inhabitants, made quantities of maple sugar; this was not current at New York, for payment of goods, as peltries were; and so not much cared for by the old traders. The Indians resorted with it to the United States factor, Major Irwin, who bought large quantities of it; and had many thou-

sand pounds in store at the time of our arrival in 1822. . . ."

155. Moore, Jacob B. 1822

Topographical and historical sketch of Andover, N. H. Farmer and Moore's Historical Collections, Vol. I, p. 12.

(A neglected branch of domestic economy)

". . . The growth of wood, in the other parts of the town, is principally oak, beach and sugar-maple. . . . From its first settlement until within a few years of the inhabitants have anually supplied themselves with sugar from their own farms; but the trees now beginning to decay, and little pains being taken in their preservation, this branch of domestic economy is almost wholly neglected."

156. Woods, John 1822

Two Years' Residence in the Settlement on the English Prairie in the Illinois Country, United States. London, 1822, (a) p. 235, (b) p. 306, R. G. Thwaites, Editor, Early Western Travels 1748-1846. Cleveland, 1904, Vol. X, (c) p. 312, (d) p. 354.

a. (Maple trees tapped near Harmonie, Indiana)

"In passing some woods, we saw some sugar-maple trees that were tapped, with the liquor then running into; we dismounted, and had a good draught or two of the liquor; it was pleasant-tasted."

b. (Sugar made in Illinois)

". . . This year some sugar has been made near us, from the white maple, and it appears to answer nearly as well as the sugar-maple. I suppose, another season, it will be made in considerable quantities."

157. Hunter, John D. 1823

Manners and Customs of Several Indian Tribes Located West of the Mississippi. Philadelphia, 1823, p. 269.

(Indian beverage)

"Their usual drink is pure cold water; though sometimes they mix maple sugar with it, or honey, which they procure in considerable quantities from the stores of honey bees, deposited in hollow trees; . . ."

158. Schoolcraft, Henry R. 1823

Personal Memoirs of a Residence of Thirty Years with the Indian Tribes on the American Frontiers. Philadelphia, 1851, p. 162.

(Sugar-making season at hand)

"It is now the season for making sugar from the rock maple by the Indians and Canadians in this quarter. And it seems to be a business in which everyone is more or less interested. Winter has shown some signs of relaxing its iron grasp, although the quantity of snow upon the ground is still very great, and the streams appear to be as fast locked in the embraces of frost as if it were the slumber of ages. Sleighs and dog trains have been departing for the maple forests, in our neighborhood, since about the tenth instant, until but few, comparatively, of the resident inhabitants are left. Many buildings are entirely deserted and closed, and all are more or less thinned of their inhabitants. It is also the general season for sugar making.

"I joined a party in visiting one of the camps. . . . We found a large temporary building, surrounded with piles of ready split wood for keeping a fire under the kettles, and large ox hides arranged in such a manner as to serve as vats for collecting the sap. About twenty kettles were boiling over a central elongated fire."

159. Anon. 1824

Topographical sketch of Salisbury, New-Hampshire. Farmer and Moore's Historical Collections, Vol. III, p. 297.

(Forest trees at Salisbury)

". . . The hilly lands in their natural state, were covered with a heavy growth of the sugar maple, white maple, beech, birch, elm, ash and red oaks; the valleys were interspersed with ever-greens. . . ."

160. Lawe, John 1824

Fur-trade in Wisconsin. Letter to Jacques Porlier, Portage, Green Bay 25th April 1824. *Wisconsin Hist. Coll.*, 20, 338 (1911).

(Sugar abundant at Green Bay)

". . . Sugar will be somewhat abundant but there is so many purchasers we stand but a small chance of geting our share & they estimate it so high that it will cost us more than the first cost of our Goods to pay for it."

161. Evelyn, John 1825

Silva: or, A Discourse of Forest-Trees. London, 1825, Vol. I, 5 ed., p. 199.

(Maple sugar—refined in Normandy)

"The Savages in Canada, when the sap rises in the Maple, by an incision in the Tree, extract the liquor; and having evaporated a reasonable quantity thereof, (as suppose seven or eight pounds) there will remain one pound as sweet and perfect sugar as that which is gotten out of the cane; part of which sugar has been for many years constantly sent to Rouen in Normandy, to be refined: There is also made of this sugar an excellent syrup of Maiden-hair and other capillary plants, prevalent against the scurvy; though Mr. Ray thinks otherwise by reason of the saccharine substance remaining in the decoction."

162. McKenney, Thomas L. 1826

Sketches of a Tour to the Lakes, of the Character and Customs of the Chippeway Indians, and of Incidents connected with the Treaty of Fond Du Lac. Baltimore, 1827, (a) p. 192, (b) p. 193.

a. (Trade in maple sugar at Sault de St. Marié)

"The staples of the place, are the white fish and maple sugar, and some few, but not many furs."

b. (Mococks of maple sugar)

"Sugar is the next great staple. It is made from the maple, and principally by the Indian women. You know the manner of tapping the tree, and boiling the sap, and fining the sugar, and therefore it is not necessary that I should trouble you with an account of it. Henry tells us the earlier part of the spring is that best adapted to make maple sugar. The sap runs only in the day, and it will not run unless there has been a frost the night before. When, in the morning, there is a clear sun, and the night

has left ice the thickness of a dollar, the greatest quantity is produced. Three families in this neighborhood, of which my old friend Mr. J . . .'s is one, make generally *four tons* of sugar in a season. Some of it is very beautiful. I have some *mococks* of it given to me by Mrs. Johnson, of her own make. It is as white as the Havanna sugar, and richer. A mocock is a little receptacle of a basket form, and oval, though without a handle, made of birch bark, with a top sewed on with *wattap,* (the fine roots of the red cedar, split) the smaller ones are ornamented with porcupines' quills, died red, yellow, and green. These ornamented mococks hold from two to a dozen table spoons full of sugar, and are made for presents, or for sale, to the curious. The larger ones, also of birch bark, are not ornamented, and contain from ten to thirty pounds of sugar. This is an article of exchange with those who make it. They give for labour, for goods, &c. and generally at about ten cents per pound. Indians often live wholly upon it; and Henry tells us he has known them to grow fat upon this sugar alone."

163. Doty, James Duane 1827

Letter to The Honorable James Strong, Ch[n]. of the Comt. on Territories, Dec. 25, 1827. *Wisconsin Hist. Coll.,* 13, 245 (1897).

(Sugar exported from "that part of the Michigan Territory which lies to the north and west of Lakes Huron and Michigan")

"The exports from this Territory have been usually estimated to consist annually of Furs and Peltries, valued at 300,000$—White fish 800 to 1000 barrels.— Sugar 200,000 lbs. and Lead 10,000,000 lbs.

164. Lockwood, James H. 1827

Early times and events in Wisconsin. *Wisconsin Hist. Coll.,* 2, 156 (1856).

(Sugar-making in Iowa)

". . . he went with his family up the Yellow or Painted Rock Creek, above twelve miles above the Prairie, on the Iowa side of the Mississippi River, to make sugar. . . ." (cf. Snelling, 1827)

165. (Snelling, Wm. J.)? 1827

Early days at Prairie du Chien. *Wisconsin Hist. Coll.*, 5, 126 (1868).

(Sugar-making by white men in Iowa)

". . . Every one knows that, in the Western country, French people make maple sugar in the spring. M. Methode chose to set up his sugar camp at the mouth of the Yellow River, two miles from Prairie du Chien. . . ."

166. Smith, Thomas and John O. Charles 1828

The Origin and History of Missions. Boston, 1837, Vol. II, p. 389.

(A penitent interpreter of dreams among the Ojibway Indians)

The Rev. Wm. M. Ferry, the founder of the mission at Mackinaw, wrote of an "excessively intemperate" Indian woman of Ojibway blood who, because of influential connections, had been selected to become an interpreter of dreams. In about 1825 "her serious attention to religion commenced, the amount of which for some length of time was very fluctuating." In one of her drunken orgies she "lost her sack." Repentance followed. Of her it was stated: "During the spring, while at the sugar camp, she says she was greatly distressed during the whole time. When gathering sap, she often had feelings like these – Here I am going the same round daily from tree to tree, and can find no relief – I must always carry this wicket heart, and when I die, be miserable forever."

167. Macauley, James 1829

The Natural, Statistical, and Civil History of the State of New York. New York, 1829, p. 536.

Remarks on some of the trees, etc.

"The Indians in this State and Canada are said to have made sugar anterior to the colonization. The quantity made lessens as the woods are cut down. There are many districts, in which large quantities were formerly made, which, at present, do not afford a pound. In general, no attention has been paid to the preservations of the trees. In addition to this, the snow, where the lands are cleared, go off much earlier, and the seasons have become shorter

and more irregular: hence, the trees do not afford so much sap as formerly. . . ."

168. Sheppard, W. 1829

Observations on the American Plants described by Charlevoix. *Trans. Literary Hist. Soc. Quebec,* **1**, 223, (1829).

(Erable à fleurs rouges)

"Acer rubrum. Red maple. Called by the Canadians, Plane. A large tree growing commonly about Quebec, and in common with the other maples yields a saccharine sap; but the sugar made from it, is inferior in quality to that obtained from Acer saccharinum and nigrum. It is surprizing that Charlevoix should mention this species only, out of the nine found in America."

169. Stambaugh, Samuel 1831

Report (to Secretary of War) on the quality and condition of Wisconsin Territory, 1831. *Wisconsin Hist. Coll.,* 15, (a) 408, (b) 413, (c) 415 (1900).

a. (Brothertown Indians settle on Menominie land east of Fox River)

". . . I assured the Menominies that the removal of the stranger Indians upon this land would not impair their treaty stipulations with the United States, nor diminish the kind feeling entertained toward them by the government, but that, should the Treaty be ratified by the Senate, all its provisions would be carried into effect. With this assurance the Chiefs left me apparently satisfied, although some of their finest sugar Camps are on the land occupied by the Brothertown Indians, which will be much injured if not entirely destroyed by their settlement."

b. (Maple groves near Oconto Falls)

". . . There are exuberant groves of Maple and Beech in the neighborhood of these falls, which is the best evidence of the fertility of the soil; and a short distance below, on the south side of the mill, the Indians have Sugar Camps, at which they manufacture large quantities of sugar. . . . The land is covered with a thriving growth of Oak, Beech and Maple. . . ."

c. (Sugar camps near Little Kaccalin)

"There are several sugar camps in the neighborhood, where large quantities of sugar are manufactured from large and beautiful Maple groves."

170. Anon. 1832

History of the Delaware and Iroquois Indians formerly Inhabiting the Middle States. Philadelphia, 1832, p. 89.

(The great value of the sugar maple tree)

"Of all the productions of the earth, however, with which the Indians were familiar, none was better esteemed, or more interesting than the *Sugar maple tree,* so called because of the sap which runs from it at a particular season of the year, from which they make a quantity of delightful sugar. This sap is found in greatest plenty in the spring of the year. At this time they make an incision into the tree; and through this hole the sap is received, by means of a funnel, into wooden troughs or vessels. It is then boiled over a slow fire in kettles, and becomes as good as any sugar in the world. The flowing season lasts generally one or two months.

"Sugar boiling is chiefly the employment of women. A kettle holding between sixty or seventy quarts, with two of a smaller size, for ladles, will boil, with ease, two hundred pounds of sugar in one season, besides furnishing a large quantity of molasses. Instances have been known of one tree producing above three hundred quarts of good sap for sugar, and as much for molasses. About thirty-five or forty quarts of sap produce one pound of sugar. Thus about eight pounds of sugar, and as many of molasses, may be collected from one tree, and the trees last eight or nine years. A large quantity of maple sugar is made every year in the United States. Dr. Rush, who wrote on this subject of sugar maple, which he regarded as a peculiar gift of a benevolent providence, calculates that the cultivation of these trees would furnish support to many thousand families, and even become an important branch of revenue to the government."

171. Ferrall, S. A. 1832

A Ramble of Six Thousand Miles through the United States of America. London, 1832, p. 173.

(Sugar Maple in Indiana)

"The farmers use, almost exclusively, the sugar of the maple (*acer saccharinum*) which they manufacture themselves. The space in which a number of these trees are found, they call a 'sugar camp.' The process of manufacturing is as follows: – After the first frost, the trees are tapped, by perforating the trunk in an ascending direction. A spout of alder is inserted in the perforation, and the sap drips through this conduit into a trough of wood. The sap is then boiled with a spoonful of slaked lime, the white of an egg or two, and about a pint of milk, to every fifteen gallons. An ordinary tree commonly gives four pounds of good course brown sugar, which when refined can be made equal to superior lump sugar."

172. Hudson, Charles 1832

History of the Town of Westminster, Mendon, Mass., 1832, p. 6.

(Sugar-making in Massachusetts)

". . . It is a good grazing township. The growth of wood is beech, maple, birch, oak, chestnut, ash, hemloc, and pine. Beech and rock maple, are the most abundant. From the latter sugar for family consumption, is made in considerable quantities."

173. Radcliff, T. 1832

Authentic Letters from Upper Canada. Dublin, 1833, p. 229.

(Shuggar from the "maypole")

"But what flogged all that I had ever seen, was making sugar out of a tree, Mary – not a word of a lie do I tell you; you take a big gimlet and make a hole in the tree, (the *maypole* I think they call it,) and out comes the shuggar, like sweet water thick like, and you boil it, and you—but where's the use of my telling you any thing about it, as you have no sugar trees at home.

"I remember when you and I thought a shuggar stick, a mighty good sort of thing, never thinking I'd lay my eyes on a *sugar tree.*"

174. Flint, Timothy 1833

History and Geography of the Mississippi Valley. Cincinnati, 1833, Vol. I, 3 ed., p. 43.

("Country sugar" and cane sugar)

"The sugar maple is very abundant in the northern and middle regions of this valley. . . . In different parts of Ohio, Kentucky, Tennessee, Illinois, and Missouri, it is made, not only for consumption, but for sale. . . . The season of making it is generally one of festivity and high holiday. We have tasted sugar loaf made from it, which could in no way be distinguished from that made from the cane. The cheapness of the latter kind, the abundance and excellence of its growth in the lower country, and the diminished expense of transporting it to the upper states, in consequence of the multiplication of steam boats, has diminished the demand for what is called 'country sugar,' and the manufacture of it has decreased, since the use of steam boats."

175. Porter, Jacob 1834

Topographical Description and Historical Sketch of Plainfield, in Hampshire County, Massachusetts. Greenfield, 1834, (a) p. 11, (b) p. 12.

a. (Native timber)

"The native timber of our forests consists principally of maple, (of which we have four species,) beech, birch, hemloc, spruce, fir, and cherry. From the sugar maple large quantities of sugar are manufactured. . . ."

b. (Plantings of sugar maple)

"Several years since the practice of setting out that very beautiful and useful tree, the sugar maple, by our road sides, was introduced by the writer of this article. Several of our streets are now ornamented in this way; and it is highly desirable that the practice should become general. . . ."

176. Catlin, George 1835

Letters and Notes on the Manners, Customs, and Condition of the North American Indians. Philadelphia, 1859, p. 604; Thos. Donaldson, The George Catlin Indian Gal-

lery. Report of the U. S. National Museum. 1885, Pt. V, p. 240.

(A Chippeway gift of maple sugar)

"Through this curious scene I was strolling a few days since with my wife, and I observed the Indian women gathering around her, anxious to shake hands with her and shew her their children, of which she took especial notice; and they literally filled her hands and her arms with *muk-kuks* of maple sugar, which they manufacture and had brought in, in great quantities for sale."

177. Featherstonhaugh, Geo. Wm. 1835

A Canoe Voyage up the Minnay Sotor. London, 1847, Vol. I, (a) p. 327, (b) 338.

a. (Maple sap restores Indians' strength)

"The banks of the river were generally low, but occasionally immense bluffs of granite came jutting in, maple, oak, poplar, and willow abounding. Milor informed me that the sugar-maple was a great blessing to the Indians; for that often in the spring, before the snow has melted, and they are almost reduced to starvation, they watch the maple-tree, and as soon as the sap begins to run in March, drink it and soon recover their strength."

b. (Maple sugar camp near Lac qui Parle)

". . . At 9 A.M. we stopped in a clump of sugar maple trees to breakfast, where we found a great number of little wooden troughs, which the Indians, after making an incision in the trees, place beneath them to collect the sap. . . ."

178. Fitch, Martha E. 1839

A little girl of old Milwaukee. *Wisconsin Mag. Hist.*, 9, 84 (1925).

(A "sugaring off" along the Menominee River)

"Whenever they came to a maple tree they stopped and chopped a small piece of wood from it, pressed a shingle into the cavity to carry the sweet maple sap that was ready to flow into the bucket that they had left under each tree. They found a nice open space for the great kettle and put it on a chain, supported by rods, and later

built from the fallen trees a great fire under it. In a day or two they commenced gathering the sugar sap, as it was called. The men drove to all the trees and emptied the buckets into a barrel, and then drove to the fire, emptying the barrels into the big kettle. We could drive around with them or sit on a log and watch the boiling kettle, just as we pleased. There was a long table with tin cups and plates, and a long dipper to stir the syrup, and the nice men would give us a cupful of the syrup, which we cooled in the snow and it was just like candy. When the syrup was boiled down sufficiently we had a 'sugaring off.' The neighbors were invited. It was in the evening and the moon was bright as day, and the big bonfire blazed and glowed, and made us all warm and 'comfy.' The neighbors came, some in sleighs and some on horseback, and boys and girls, too. They could have all the sugar they wanted to eat. . . . And that is the way we made our maple sugar."

179. Trego, Charles B. 1843

A Geography of Pennsylvania. Philadelphia, 1843, p. 60.

Maple

"Of the Sugar Maple we have two kinds; the true Sugar maple (Acer *saccharinum*) and the Black Sugar tree, or Black maple (*Acer nigrum*). The former is most abundant in the northern parts of the State, and along the elevated range of the Allegheny table land, where the soil, though fertile, is cold and moist. . . . The Black maple is more common in the low rich soils along the western rivers. . . . Both of these species of maple yield the sap from which sugar is made. . . . In February, or the beginning of March, when the sap begins to ascend, holes are bored in the tree from one to two feet from the ground, and tubes of elder or sumach inserted to conduct the sap into a trough or vessel placed to receive it. The sap is collected and boiled to a syrup, after which it is cooled and is strained through a cloth to separate impurities. It is then boiled again, until the syrup is reduced to the proper consistency for graining or pouring into the moulds. The colour and quality of the sugar depend much upon the care and judgment with which the process is

conducted. The sap continues to flow for several weeks, but gradually becomes less abundant and less rich in saccharine matter. About four gallons of sap are estimated to yield a pound of sugar, and a single tree, having twenty tubes inserted has been known to yield twenty-three gallons of sap in a day. Large quantities of maple sugar are still made in the northern and western counties by the farmers, who sell that which they do not require for their own use to the shopkeepers of the neighbouring towns."

180. Marshall, Josiah T. 1845

The Farmer's and Emigrant's Hand-Book. New York, 1845, 2 ed., p. 359.

(To make maple sugar)

In a letter to the Committee on Maple Sugar of the New-York State Agricultural Society, Joel Woodworth describes his method of making and clarifying the sugar for which he received the Society's first premium. As clarifying agents he uses for one hundred pounds of sugar "the whites of four or five eggs well-beaten, about one quart of new milk, and a spoonful of saleratus, all mixed with the syrup before it is scalding hot."

181. Beckley, Hosea 1846

The History of Vermont; with Descriptions, Physical and Topographical. Brattleboro, 1846, p. 311.

(A salute to the sugar-maple)

"The sugar maple is the glory of the Vermont forests, so rich and beautiful in their great variety of trees and shrubbery, and to the different heights to which they grow, and shapes which they assume. The color of their bark and lines and tinges of their foliage are almost endless in their diversities. The form of the maple and the intenseness of its foliage, the first to bud and leave out in the spring, and the first to fade in autumn, renders it a pleasing object of contemplation in itself. But the increasing use made of it for sugar and molasses, must greatly enhance its value and comeliness in the eyes of the Vermonters, on whose soil it stands pre-eminent and most frequent.

"Pre-eminent and most frequent, this is true as a state; although in some parts of New York, particularly the high-lands of Schoharie county, this noble tree is found in magnitude and height and frequency equal to any part of this state. Such significant names of neighborhoods and villages are found as *sap-bush-hill,* and *sap-hollow,* where and on *dutch-hill,* the writer has seen as noble specimens of this tree as those given by Dr. Williams in early periods of green mountain history; five feet in diameter and from one to two hundred feet high."

182. Butterfield, Consul W. 1848
History of Seneca County. Sandusky, 1848, p. 69.

(A Seneca festival)

"Large kettles of soup ready prepared, in which maple sugar, profusely added, made a prominent ingredient, thus forming a very agreeable saccharine coalescence. All were invited, and all were made welcome; indeed, a refusal to partake of their bounty was deemed disrepectful, if not unfriendly."

183. Goodrich, S. G. 1848
Manners and Customs of the American Indians. Boston, 1848, p. 204.

(Food of the North American Indian)

"They extracted sugar from the maple tree, and used it to sweeten their cakes which were made of ground corn mixed with chestnuts, beans and berries."

184. Allen, William 1849
The History of Norridgewock. Norridgewock, 1849, (a) p. 57, (b) p. 73.

a. (Forest trees at Norridgewock, Maine)

"There was formerly a considerable quantity of pine timber in the town which was distinguished for its size. The hard wood growth originally consisted of beech, sugar maple, yellow and white birch, white and brown ash, intermixed with evergreens, of which hemlock predominated; spruce and cedar were also found, and in some swampy places, hackmatack. . . . The margin of the river was lined with trees of various kinds, and the intervales were covered with the white and sugar maple, the elm,

the birch, the butternut, and the basswood; balm of Gilead and poplars were found in some places."

b. (Source of sugar)

"The surrounding maples furnished them with sugar; . . ."

185. Clark, Joshua V. H. 1849

Onondaga; or Reminiscences of Earlier and Later Times. Syracuse, 1849, Vol. I, p. 54.

(Rites and ceremonies)

"The first of these festivals is held in spring, directly after the season for making sugar is past. They give thanks for the abundance of sap, and for the quantity of sugar they have been permitted to make."

186. Eastman, Mary 1849

Dahcotah; or Life and Legends of the Sioux around Fort Snelling. New York, 1849, p. 159.

(Sugar-feast is part of the Indians religious rites)

"After the scalp-dance had been performed long enough, the Dahcotahs of the villages turned their attention to making sugar. Many groves of sugar trees were in sight of their village, and on this occasion the generous sap rewarded their labors.

"Nor were they ungrateful; for when the medicine men announced that they must keep the sugar-feast, all left their occupations, anxious to celebrate it. Neither need it be concluded that this occasioned them no loss of time; for they were all occupied with the construction of their summer wigwams, which are made of bark trees, which must be peeled off in the spring.

"But every villager assembled to keep the feast. A certain quantity of sugar was dealt out to each individual, and any one of them who could not eat all that was given him was obliged to pay leggins, or a blanket, or something valuable, to the medicine man. On this occasion, indeed on most occasions, the Dahcotahs have no difficulty in disposing of any quantity of food."

187. (Cooper, Susan Fennimore) 1850

Rural Hours. New York, 1850, (a) p. 23, (b) p. 27, (c) p. 28.

a. (The maple sugar scene in New York)

"Saturday, April 1st.—Fresh maple sugar offered for sale today; it is seldom brought to the market as early as this. A large amount of this sugar is still made in our neighborhood, chiefly for home consumption on the farms. In the villages, where foreign groceries are easily procured, it is eaten more as a dainty than in any other way; the children are very fond of it, and most grown persons like a bit now and then, its peculiar flavor making it pleasant when taken by itself, though it becomes a defect when used for sweetening food. In the spring, a little of it is not thought unhealthy, from a fancy that it purifies the blood; probably it is neither better nor worse in this respect than any other sugar. With our farmers, however, it is a matter of regular household consumption, many families depending on it altogether, keeping only a little white sugar for sickness; and it is said that children have often grown up in this country without tasting any but maple sugar. Maple molasses is also very much used, some persons preferring it to that of the cane, as it has a peculiar flavor which is liked with puddings, or buckwheat cakes."

b. ("Year-round" production)

"A story is told in the village of a Scotch stocking-weaver, who some years since bought a farm near the lake, and the first spring after his arrival in the country was so successful with his maple trees, that in the midst of his labors he came into the village and gave large orders for sap-buckets, pans, furnaces, &. The good folk were rather surprised at the extent of these preparations, and inquiries were made about this grand sugar-bush. They were told by their new neighbor that as yet he had tapped only a small number of trees, but he intended soon to go to work in earnest among the maples, and, indeed, had quite made up his mind, 'canny Scot,' as he was, to 'give up farming altogether, and keep to sugar-making all the year round'; . . ."

c. (Other trees yield saccharine sap)

"Many other trees are tapped for their juices . . . they prepare from the sap of the Palm of Chili, a syrup

of the consistency of honey. . . In Crimea, the Tartars regularly make sugar from the fine walnut-trees on the shores of the Black Sea. So says Dr. Clarke in his Travels. The lime or basswood also yields a saccharine fluid. Our own hickory is thought to have the sweetest and richest sap of any tree in the woods, and we have heard of superior sugar being made in small quantities from it by certain New England housewives. It would not be generally available for the purpose, however, as the amount of sap yielded is very small."

The entry concludes with some production figures for the various states.

188. Thatcher, B. B. 1854

Indian Traits: being Sketches of the Manners, Customs, and Character of the North American Natives. New York, 1854, Vol. I, p. 66.

(Maple sugar in Indian cookery)

"If ripe and dry, it was pounded as fine as possible in the mortar, kneaded into dough, and made up into flat cakes, which they were careful to bake on hot and clean ashes. With this dough they frequently mixed boiled pumpkins, green or dried, beans, chestnuts, dried venison pounded to a powder, berries, and other things. Sugar, made from the juice of the maple-tree, was in many sections used to sweeten the rest."

189. Myrtle, Minnie 1855

The Iroquois; the Bright Side of Indian Character. New York, 1855, p. 49.

(Maple festival)

"The first festival was held in the spring when the sap began to flow, to return thanks to the maple for its sweet juices, and also to God for having given it to his red children. . . ."

190. Thoreau, Henry David 1856

Early Spring in Massachusetts. From the Journal of Henry David Thoreau. Edited by H. G. O. Blake. Boston, 1893, p. 199.

(Sugar from the red maple)

"*March* 21, 1856. 10 A.M. To my red maple sugar camp. Found that after a pint and a half had run from

a single tube after 3 P.M. yesterday afternoon, it had frozen about half an inch thick, and this morning a quarter of a pint more had run. Between 10½ and 11½ A.M. this forenoon I caught two and three quarters pints more from six tubes at the same tree, though it is completely overcast, and threatening rain,—four and one half pints in all. The sap is an agreeable drink like iced water, by chance, with a pleasant but slightly sweetish taste. I boiled it down in the afternoon, and it made one and one half ounces of sugar, without any molasses. This appears to be the average amount yielded by the sugar maple in similar circumstances, *viz.*, on the south edge of a wood, and on a tree partly decayed, two feet in diameter. It is worth while to know that there is all this sugar in our woods, much of which might be obtained by using the refuse wood lying about, without damage to the proprietors, who use neither the sugar nor the wood. I put in saleratus and a little milk while boiling, the former to neutralize the acid, and the latter to collect the impurities in a scum. After boiling it till I burned it a little, and my small quantity would not flow when cool, but was as hard as half-done candy, I put it on again, and in a minute it was softened and turned to sugar. Had a dispute with father about the *use* of my making this sugar when I knew it could be done, and might have bought sugar cheaper at Holden's. He said it took me from my studies. I said I made it my study and felt as if I had been to a university. The sap dropped from each tube about as fast as my pulse beat, and as there were three tubes directed to each vessel it flowed at the rate of about one hundred and eighty drops a minute into it. One maple, standing immediately north of a thick white pine, scarcely flowed at all, while a smaller one, farther in the wood, ran pretty well. The south side of a tree bleeds first in the spring. Had a three-quarter inch auger. Made a dozen spouts five or six inches long, hole as large as a pencil, and smoothed with one."

191. Lapham, I. A. 1857

The forest trees of Wisconsin. *Trans. Wisconsin State Agr. Soc.*, 4, 207 (1854–7).

(Acer Saccharinum, of Waugenheim. Sugar Maple)

"This well known and highly valuable tree forms dense groves in many places, but more especially in the eastern and northern parts of the State. Some of these groves, called 'maple openings,' are among the most beautiful and interesting of our forest scenery. These groves often occupy the sites of deserted Indian villages,—thousands of the trees are annually 'tapped' to draw sap for the manufacture of 'maple sugar.' Over six hundred thousand pounds of this sugar are annually made in Wisconsin."

192. Hardy, Campbell 1869

Forest Life in Acadie. London, 1869, p. 41.

(Sugaries, maple honey, maple molasses)

"Before leaving the woods, however, we may not omit to notice those characteristic trees of the American forest, the maples, particularly that most important member of the family, the rock or sugar maple – Acer saccharinum. Found generally interspersed with other hardwood trees, this tree is seen of largest and most frequent growth in the Acadian forests on the slopes of the Cobequid hills, and other similar ranges in Nova Scotia, often growing together in large clumps. Such groves are termed 'Sugaries', and are yearly visited by the settlers for the plentiful supply of sap which, in the early spring, courses between the bark and the wood, and from which the maple sugar is extracted. Towards the end of March, when winter is relaxing its hold, and the hitherto frozen trees begin to feel the influence of the sun, the settlers, old and young, turn into the woods with their axes, sap-troughs, and boilers, and commence the operation of sugar-making. A fine young maple is selected; an oblique incision made by two strokes of the axe at a few feet from the ground, and the pent-up sap immediately begins to trickle and drop from the wound. A wooden spout is driven in, and the trough placed underneath; next morning a bucketfull of clear sweet sap is removed and taken to the boiling house. Sometimes two or three hundred trees are tapped at a time, and require the attention of a large party of men. At the camp, the sap is carefully boiled and evap-

orated until it attains the consistency of syrup. At this stage much of it is used by the settlers under the name of 'maple honey, or molasses'. Further boiling; and on pouring small quantities on to pieces of ice, it suddenly cools and contracts, and in this stage is called 'maple-wax' which is much prized as a sweetmeat. Just beyond this point the remaining sap is poured into moulds, in which as it cools it forms the solid saccharine mass termed 'maple sugar'. Sugar may also be obtained, though inferior in quality, from the various birches, but the sap of these trees is slightly acidulous, and is more often converted into vinegar."

193. McAfee, H. H. 1870

The maple family of trees for cultivation. *Trans. Wisconsin State Agr. Soc.*, 9, 288 (1870).

(Economic value of the maple)

An appraisal of the maple tree as a source of sugar and of wood.

194. Fisk, E. A. 1874

Maple Sugar. Vermont State Board Agriculture, Manufacturing and Mining, *Second Biennial Report*, 1873–74, (a) p. 713, (b) p. 717.

a. (Maple sugar production poorly understood)

". . . Perhaps there is no branch of farming in which more improvement has been made within the last thirty or forty years than in the manufacture of maple sugar; and there is probably none in regard to which there is more general ignorance among people who do not live where it is made. I will not vouch for the truth of the story of the man who on immigrating to Vermont, thought he would follow sugaring the year round as he had heard that it was a profitable business. But only a few days ago I heard of two intelligent men within the limits of New England who had a warm dispute whether maple sugar was made in the fall or spring, and referred it to a Vermonter for decision. How many pounds of sugar can you make from a cord of maple wood? is also an authentic question."

b. (Factors which influence quality)

". . . The location of the sugar place may have some influence upon the quality of sugar produced, and if there are many spruces or hemlocks to cast their leaves into the sap, it cannot improve it any, and it is probable that impurities in the soil may in some cases affect the sugar. . . . In one case a pile of spent tan bark was placed near the roots of the maple, and the sap of that tree became the color of weak lye, but afterwards it was removed, and the sap has since appeared to be pure. In another case which came under my own observation, the sap was evidently affected by impure substances in or on the soil; but making allowances for all this, I think that much of the difference in sugar is in making."

195. Foster, A. M. 1874

Sugar Making. Vermont State Board Agriculture, Manufacturing and Mining, *Second Biennial Report*, 1873–74, p. 724.

(Production and marketing of maple sugar)

A report dealing with contemporary apparatus, manufacturing processes, marketing, and care of sugar tools.

196. Willard, J. E. 1874

History of the Town of Sutton, Caledonia County. Vermont Historical Gazetteer, Vol. V, iii, p. 159 (1891).

(Sutton, the banner maple sugar town)

"Sutton, it is understood, is the largest maple-sugar producing town in the State, and perhaps, the largest in the United States. In the spring of 1874, more than 140,000 pounds was made, and one year since, the produce was larger than in 1874.

"In School District No. 6 of 12 families more than 28,000 pounds have been made in a single season."

(Maple sugar in spirituous liquor)

"Our sugar is made nearly all of it in this County, dry or what is known as stirred so that it is put into flour barrels and headed up, and is now shipped to Chicago. What they do with so much maple sugar is somewhat of a mystery. Some say it is used in spirituous liquor,

especially for brandy which it gives the look of age, others that it is used in glucose."

197. Daily, Josiah 1882

Flavoring-Extract for Sirup and Sugar. United States Patent 261,315. July 18, 1882.

Described as an "improved" sirup or sugar, claimed to have a flavor which "cannot be distinguished from genuine maple-sirup." To prepare it, a decoction of the outside bark of the shell-bark hickory or wood—the sap of this tree may be used if available—is added to a sirup made from any kind of sugar, or the sirups "ordinarily found on the market."

198. Wiley, H. W. 1885

Composition of maple sugars and syrups. *Chem. News*, 51, 88 (1885).

(Various forms of adulteration found)

The paucity of recorded analyses of maple sugars and syrups led to a study of market samples of these products with the discovery, as had long been suspected, that the commercial products were largely adulterated. Admixture with starch sugar, or glucose, substitution of colored cane sugar syrup for the genuine article, and the use of the sap of the butternut tree as the source of a syrup, are examples of the forms of adulteration revealed by this survey.

199. Wiley, H. W. 1885

The Sugar Industry of the United States. Maple Sugar. U. S. Dept. Agric., Chem. Div., *Bull.* 5, iv, (a) p. 209, (b) p. 213.

This publication summarizes the then known chemical information on maple saps, sugars, and sirups. Extensive new analytical data are recorded. Of special interest are the following items.

a. (A "Jersey" among maples?)

"The highest percentages of sucrose are found in tree No. 3, April 24, viz., 9.88 per cent., and in tree No. 14, April 20, viz., 10.20 per cent. In both of these cases the flow of sap was small, being 128 and 227 grams, respectively.

"The study of the sap from such a tree as No. 3 offers also the interesting suggestion that it may be quite possible to increase the percentage of the sugar in the sap of future maples by planting the seed of such trees as show the largest percentage of sucrose. . . . There is every reason to believe that a race of maples, yielding a large percentage of sugar, could be developed as easily as a race of cows, yielding large quantities of butter.

"Among the maples there may yet be a race of Jerseys."

b. (Manufacturing notes)

Descriptive.

200. Schultz, J. C. 1887

The Great Mackenzie Basin: A Summary of the Reports of the "Schultz Committees" of the Senate of Canada. Edited by F. J. Chambers. Ottawa, 1908, p. 16.

(Sugar from the ash-leaved or Red river maple)

"Prof. Bell explained that although the ordinary sugar maple does not grow in the Northwest, there is a tree there which yields sugar—the ash-leaved maple, sometimes called the Red river maple. It is a very pretty tree, grows rapidly and yields a rich sap. This tree grows native in all the more southern parts of the northwest country along the rivers, and Prof. Bell had seen it cultivated by the missionaries where it does not grow naturally. It is cultivated at Lac la Biche, some three hundred miles northwest of its natural northern limit. The missionaries at Lac la Biche cultivate it for the purpose of getting sugar from it. This sugar is capable of being refined. The sap contains two and a half per cent of sugar to its weight. The Indians boil down the sap of this tree to make sugar. It is the maple sugar of the Northwest."

201. Sargent, C. S. 1891

Silva of North America. Boston and New York, 1891, Vol. II, (a) p. 99, (b) p. 101.

a. (Sugar-making an Indian art)

". . . the making of maple-sugar was an established industry of the Indians during the last half of the seventeenth century, and before the discovery of the upper

Mississippi River by Europeans (1673). Bossu, a French officer of much intelligence who traveled in America between 1756 and 1771, states explicitly that the French learned the method of sugar-making from the Indians; and the testimony of earlier travelers point to the same conclusion."

b. (Early botanists overlook the sugar maple)

"The Sugar Maple, strangely enough, escaped the attention of the early botanists who examined the forests of North America, and it was not known to Linnaeus. . . ."

202. Wiley, H. W. 1892

Foods and Adulterants. Sugar, Molasses and Sirup, Confections, Honey and Beeswax. U. S. Dept. Agric. Div. Chem., *Bull.*, 13, vi, (a) p. 645, (b) p. 675, (c) p. 710.

a. (Adulterated maple sirup from Ohio)

". . . Among the 17 samples of maple molasses 6 were found to be adulterated with commercial glucose. This fact was a surprise to the writer, since two years ago the dairy and food commission of Ohio had succeeded in driving all of these spurious brands of maple sirup from the State. . . . some of the (remaining) samples have a considerable proportion of reducing sugars, and at the same time a low content of ash. In the manufacture of maple sirup and sugar, the salts contained in the sap are not separated from the finished product. . . . It would seem . . . that some of the samples not adulterated with glucose were contaminated with cane sugar or sirup. . . ."

b. (Maple sugar valued for its flavor)

". . . The price of maple sugar, as is well known, is out of all proportion to the saccharine matter which it contains, and is due to its peculiar and pleasant taste, derived presumably from some ethereal matter exuded with the sap. The nature of this substance has not . . . been definitely determined. It is not wholly volatile, since it remains in the sugar and molasses after they have been kept for a long time at a high temperature during the process of concentration. . . ."

c. (Maple sirup widely adulterated)

"It has long been known that a large part of the maple sirup sold in the market is made from glucose, understanding by this term the liquid product of the conversion of starch into sugar. It is also well known that large quantities of maple sirups are sold on the market which are fabrications made up of other sweets, to which a little maple molasses is added for the purpose of giving it flavor, or, as is often the case, being entirely free from any addition of maple product whatever. The maple flavor is imparted to sirups by mixing with them an extract of hickory bark, and this product has been made and sold under the term of 'mapleine.'" It is safe to say that perhaps the greater quantity of maple molasses or sirup sold on the market is an adulteration in the true sense of the word. . . ."

203. Hoffman, W. J. 1893

The Menomini Indians. Smithsonian Institution. Bur. Ethnology, 14 *Ann. Report*, 14, (a) p. 173, (b) p. 288, (c) p. 315.

a. (Menomini tale about the origin of maple sugar)

"When Manabush returned empty-handed from his hunting trip . . . he and his grandmother, Nokomis, gathered together all their effects, moved away from the place where they had dwelt, and built a new wigwam among the trees in the new locality.

"These trees were maples, and the grandmother of Manabush said to him, 'Now, my grandson, you go into the woods and gather for me some pieces of birchbark; I am going to make sugar.' So Manabush went into the woods and gathered some strips of birchbark to make vessels to contain the sugar.

"The grandmother of Manabush then went from tree to tree, cutting a small piece of wood over which the sap ran into the vessels placed beneath. Manabush followed his grandmother from tree to tree, watching her and looking for the sap to drop into the vessels, but none was to be seen. When she had gone around among the trees, and cut holes for as many vessels as she had made, Manabush went back and looking into the vessels saw that all of them had suddenly become half full of thick syrup.

"Manabush dipped his finger into the syrup and tasted it. Finding it sweet, he said, 'My grandmother this is all very good, but it will not do to have these trees produce sirup in this manner. The people will not have any work if they make sugar so easily; they must cut wood to boil the sirup for several nights, and to keep them occupied that they may not get into bad habits; I will change all this.'

"So Manabush climbed to the very top of one of the trees, when he took his hand and scattered water all over the maples, like rain, so that the sugar should dissolve and flow from the trees in the form of sap. This is why the uncles of Manabush and their descendants always have to work hard when they want to make sugar. Wood must be cut, vessels must be made, and the sap that is collected must be boiled for a long time, otherwise the people would spend too much time in idleness."

b. (The sugar-making season)

The season for sugar-making came when the first crow appeared. This happened about the beginning or middle of March, while there was yet snow on the ground. This period of the season was looked forward to with great interest, and, as among the Minnesota Ojibwa today, became a holiday for everybody. Each female head of a household had her own sugar hut, built in a locality abounding in maple trees—the *Acer saccharinum*—which might or might not have been convenient to her camp, but which was the place always resorted to by her, and claimed by right of descent through her mother's family and totem.

c. (English-Menomini vocabulary)

Cake sugar, Bakwatenekan; maple sugar molded in the shape of small cakes; served to visitors and friends, and also deposited in grave boxes of friends and relations as an offering. Hard maple, Sheshikima—*Acer saccharinum;* the species used for sugar-making; sap of maple, Shopomakwopo.

204. Burroughs, John 1895
Winter Sunshine. Boston, 1895, (a) p. 89, (b) p. 93.

a. A March chronicle

". . . The moment the contest between the sun and frost fairly begins, sugar weather begins; and the more even the contest, the more the sweet. I do not know what the philosophy of it is, but it seems a kind of see-saw, as if the sun drew the sap up and the frost drew it down; and an excess of either stops the flow. Before the sun has got power to unlock the frost, there is no sap; and after the frost lost its power to lock up again the work of the sun, there is no sap. But when it freezes soundly at night, with a bright, warm sun next day, wind in the west, and no signs of a storm, the veins of the maples fairly thrill. Pierce the bark anywhere, and out gushes the clear, sweet liquid. But let the wind change to the south and blow moist and warm, destroying the crispness of the air, and the flow slackens at once, unless there be a deep snow in the woods to counteract or neutralize the warmth, in which case the run may continue till the rain sets in. . . ."

b. (The charm of sugar-making)

"I think any person who has tried it will agree with me about the charm of sugar-making, though he have no tooth for the sweet itself. It is enough that it is the first spring work, and takes one to the woods. The robins are just arriving, and their merry calls ring through the glades. The squirrels are now venturing out, and the woodpeckers and nuthatches run briskly up the trees. The crow begins to caw, with his accustomed heartiness and assurance; and one sees the white rump and golden shafts of the high-hole as he flits about the open woods. . . . I sympathize wtih that verdant Hibernian who liked sugar-making so well that he thought he should follow it the whole year. I should at least be tempted to follow the season up the mountains, camping this week on one terrace, next week on one farther up, keeping just on the hem of Winter's garment, and just in advance of the swelling buds, until my smoke went up through the last growth of maple that surrounds the summit."

205. Jenks, Albert Ernest 1899

The Bear Maiden. An Ojibwa Folk-Tale from Lac Courte Oreille Reservation, Wisconsin. *J. American Folk-lore*, 15, 34 (1904).

(Maple sugar in Indian folk-tale)

"He asked the little Bear whether she could bring back the sun. She said: 'Yes, give me two handsful of maple-sugar and your oldest son.' With the maple-sugar she went to the wigwam of the old woman, and, climbing up to the top, threw the sugar into a kettle of wild rice which the old woman was cooking. When the old woman tasted the rice she found it too sweet, so she went away to get some water to put in the kettle, and the little Bear jumped down, ran into the wigwam, grabbed up the hidden sun, and threw it into the sky. . . ."

"Again the old chief got sick and he asked the little Bear whether she could get him his lost horse which was all covered with bells. She answered: 'Yes, give me two handsful of maple sugar and your youngest son.'"

206. Pokagon, Chief Simon 1899

O-gi-maw-kwe-mit-i-gwa-ki (Queen of the Woods). Hartford, Mich., 1899, (a) p. 124, (b) p. 143.

a. (Corn cake and maple syrup)

"After eating our simple morning meal of 'manda-min' (corn cakes) in 'gi-wa-ga-mis-i-gan' (maple syrup) dipped. . . ."

b. (God's kettle)

"That kettle is still kept among us, and is now called Man-i-to au-kick (God's kettle), and is used for boiling on-si-ban sho-po-maw (maple sap into sugar). . . ."

207. Parker, Arthur C. 1910

Iroquois Uses of Maize and Other Food Plants. N. Y. State Museum, *Museum Bull.*, 144, (a) p. 102, (b) p. 104.

a. (Iroquois' veneration of the maple)

"The maple tree was one of the trees venerated by the Iroquois. It was in fact the goddess of trees and the only one to which a stated ceremony was dedicated and to which offerings were made. Pine, hemlock, elm and basswood were esteemed, but the maple was a special gift of the

Creator and every spring at the foot of the largest maple tree in each village a ceremonial fire was built and a prayer chanted by the Keeper of the Maple Thanksgiving ceremony as he threw upon the embers pinches of sacred incense tobacco. The maple tree started the year. Its returning and rising sap to the Indian was the sign of the Creator's renewed covenant.

"The Iroquois will ever remember the maple tree, but few now even remember the tradition of how it was during the maple sap season, that the Laurentian Iroquois struck their blow for freedom from Adirondack domination and fled into northern and central New York. (One Mohawk tradition relates that the women flung hot maple sap into the faces of the Algonquin Chiefs and thus helped their people in the fight for independence)."

b. (Iroquois vocabulary)

"Maple, *wat da;* sap, syrup, *owa no gi;* sugar, *owa no;* boiling sap, *goste do;* sap runs, sap time, *o ga not;* he taps, *ha ge o ta;* sap spout, *nio geoda kwa.*"

208. Barbeau, C. M. 1912
Huron and Wyandot Mythology. Canada Geol. Surv., *Memoir* 80, No. 11, *Anthropological Series,* 1915, p. 110.

The maple and the woman

"The Sugar-tree-top, transfigured into a human form, once appeared to a woman who was engaged in making maple sugar.[6]

"The sweet sap from a maple-tree was changed at once, as it still lay by the tree, into a sugar lump, as big as a large round pebble. When the woman found it on the wooden chip that she had driven into the tree for conveying the sap into a bark tray, she picked it up and started to eat it. A person whom she did not know suddenly [appeared and] stood beside her, saying, 'I wish to bring you good-luck. You must not eat the sugar-lump but keep it in a box, so that it may not be spoilt. And whenever you are making maple sugar, you may use it for gathering as much syrup as you will desire. The only

6 "The Iroquoian tribes knew how to make maple syrup before the coming of the whites. It is not certain whether the Wyandots belonging to the western band made any maple sugar since they left the neighbourhood of Detroit, Ohio, in the course of the eighteenth century."

thing for you to do, when the sap is boiling, is to make a mark in the big kettle with the [treasured] sugar-lump; and the syrup will fill the kettle up to that spot. Keep this charm forever, and I will give you good fortune.'"

209. Skinner, A. B. 1913

Social Life and Ceremonial Bundles of the Menomini Indians. New York, 1915. Am. Museum Nat. Hist., *Anthropological Papers*, 13, vi, (a) p. 6, (b) p. 21, (c) p. 51, (d) p. 62, (e) p. 66, (f) p. 148.

a. Home life of the Menomini

". . . In early spring, too, there was the annual sugar-making festival at the camps when the toil of reducing maple sap was lightened by merriment, dances, and buffoonery."

b. Social organization

"If a man met his totem animal he would often give it tobacco or some of its favorite food. For instance, if a bear, he would give it a piece of maple sugar."

c. (A Menomini dream)

"Shanapow, when a young boy commenced fasting for his fortune. He lived with his parents on the side hill opposite Keshena Falls or Kakapakato. He fasted eight days without eating, till he got very weak. On the eighth night he dreamed that one of the sacred monsters who lived in the falls appeared and told him, 'Look yonder and you will see something laced there as your reward for fasting,' indicating a rock in the center of the falls. The whole earth looked transparent and he went to the rock island, going over ice. When he got there, he discovered a sacred kettle which was bright as fire. It was a bear kettle from the underneath god to fetch from when a sacrifice feast was given. 'Now,' said the god, 'go a short distance and you will find there what is granted you. You will then break your fast and eat.' So Shanapow went and found a large bear which he killed and made a sacrifice of, and then ate with others whom he invited.

"The sacred kettle was to be hidden at first, for it was too great and sacred to be seen. When maple sugar is made it is the first thing to be placed in the sacred

kettle, and it should be in it till a feast is made in its honor. Then the feasters eat it in honor of the monster below the falls. A song is then sung which is: 'All of the chiefs have given me to know this song.' This kettle is called a bear god kettle and is sacred. Every spring, maple sugar is put in it because all bears like sweet sugar, especially the king bear beneath this great falls. The dreamer Shanapow was told that he must keep a tiny bear to fulfil his dream. He always kept a bear cubskin to set up on a stick during the sacrifices."

d. Months and seasons

April Sopomakwin keso Sugar-making moon

e. Burial customs

". . . Should the relatives of the deceased be so fortunate as to have an unusually luxurious meal, or, in the sugar season, when there is an abundance of sweets, some tid-bits are placed in a tiny wooden bowl which is hung up in the memory of the dead relative who is supposed to come and eat it. . . ."

f. Hunting customs

"When it drew near spring the parents of the lost girl were making maple sugar at their sugar bush. Only a little snow remained here and there, and in the evenings the owls began to whoop and sing to show that they are at last awake, for the Indians know that winter is but a short night to all the Sacred Powers.

"In the meantime the parents of the little girl had given her up as lost, but the owl said to her grandchild, 'Now I will take you home, and land you at the limits of your parent's work on the trees they have tapped, surrounding their sugar camp. Stand there silently until your mother comes and finds you. Don't allow her to touch you at all for four days. Then you must tell her to go and prepare a tiny wigwam for you to remain in for four days. This must be away from the sugar camp in a clean place where no one has done any trampling on the ground, and you shall remain there, silent.'

"The mother ran back to the sugar camp to tell her husband and they both went back and met the girl."

210. Barbeau, C. M. 1915
Huron and Wyandot Mythology. Canada Geol. Surv., *Memoir* 80, No. 11, *Anthropological Series*, p. 45.

(Maple in Wyandot myth regarding the origin of the world)

"The Good One . . . made all kinds of trees covered with savory fruits, just within one's hand's reach. . . . The maple was made so that syrup would just drip out when the tree was tapped. Then came the Evil One. Finding the bushes too luxuriant and the fruits too sweet and juicy, he spoiled them. . . . Into the maple tree he poured some water and in that way 'thinned' the syrup into sap, which could not be reduced into syrup without exacting labour and trouble."

211. Skinner, A. B., and J. V. Satterlee 1915
Folklore of the Menomini Indians. New York, 1915. Am. Museum Nat. Hist., *Anthropological Papers*, 13, iii, 298.

(Tales of the culture hero)

"Once in one of Manabus' walks he followed up a stream along the bank until he came to where a pair of mated partridges were making maple sugar. They had two children, little partridges, who were seated near their nest and beside the sugar kettle. . . . Then said Manabus, 'How do you eat your maple sugar? Let me see you, do.' So both little birds flew to the rim of the kettle and sat there while they commenced to eat maple sugar. Then Manabus pushed them in and killed them. . . .

"In the meantime the old partridges returned and when they saw their young ones in the kettle of syrup they said: 'Manabus must have come here.'"

212. Barrus, Clara 1916
The Life and Letters of John Burroughs. Boston, 1925, Vol. II, p. 230.

("Lock jaw", a maple sugar confection)

The author uses the colloquial name of "lockjaw" in referring to the sugar-gum, or wax, whose preparation from the hot syrup before it had reached the crystallization stage was usually part of every maple sugar picnic.

The art of making this confection by pouring thin sheets of syrup of the right consistency upon clean snow had been known for at least one hundred years.

213. Waugh, F. W. 1916

Iroquois foods and food preparation. Canada Geol. Surv. *Memoir* 86, No. 12. *Anthropological Series,* p. 140.

Saccharine foods: Maple Syrup and sugar

"The sap of the maple, birch, and several other trees was employed prehistorically. Besides its use as a beverage, it was boiled and thickened somewhat, though its manufacture into sugar must have been exceedingly difficult, if not impossible, with the crude utensils at hand."

214. Schafer, Joseph 1922

The Yankee and the Teuton in Wisconsin. *Wisconsin Mag. Hist.,* 6, 129 (1922).

(Maple forests in Wisconsin)

"And here we find that the distinguishing fact marking off the region in which Germans abounded from most of the other settled or partially settled areas of the state was its originally thickly wooded character. In a way almost startling, and superficially conclusive, the German settlements coincided with the great maple forest of southeastern Wisconsin, spreading also through the included pine forest on Lake Michigan south of Green Bay."

215. Smith, Huron H. 1923

Ethnobotany of the Menomini Indians. *Bull. Public Museum Milwaukee,* 4, 61 (1923).

(An important Menomini food)

"Hard Maple (*Acer saccharum* Marsh.) 'sopoma tik', . . . Maple sugar, 'sopoma tik sopomo', is one of the most important Menomini foods. . . ."

216. Smith, Huron A. 1928

Ethnobotany of the Meskwaki Indians. *Bull. Public Museum Milwaukee,* 4, 255, (1928).

(Sugar making in Wisconsin by the Meskwaki Indians)

"Sugar Maple (*Acer saccharum* Marsh.), 'sena mish' (cold timber). There are not many sugar trees on the

Meskwaki reservation; hence but little sugar is made, but they recall with considerable longing the sugar that they used to make in Wisconsin. Most of their cooking, even of meats, in the olden days was done with maple sugar as the seasoning instead of salt, but now they have to depend mostly upon salt."

217. Jenness, Diamond 1929

The Ojibwa Indians of Parry Island, Their Social and Religious Life. Canada Dept. of Mines, National Museum of Canada, *Bull* 78, *Anthropological Series,* No. 17, 1935, (a) p. 12, (b) p. 13.

a. Sugar-making moon

sizbakudikegizis, sizubakudikegizis

b. (Indian's method of concentrating sap)

". . . The Indians then packed their possessions to the maple groves and tapped the trees for their syrup. . . . The women had few idle hours though their work was comparatively easy. They directed the flow of the maple sap over a large sheet of birch bark, where the warm sun hardened it to the consistency of treacle. To harden it still further they used several methods. A hot sun alone would reduce it to a sort of toffee, or it could be evaporated at night before the fire. More often, perhaps, the women boiled it in clay pots directly over the fire, or else in vessels of birch bark by the use of hot stones. Impatient members of the family sometimes dipped into the syrup heated cones made of a soft, greenish stone, when the syrup crystallized on the stone and could be scraped away with a knife. . . ."

218. Smith, Huron H. 1932

Ethnobotany of the Ojibwe Indians. *Bull. Public Museum Milwaukee,* 4, 394 (1932).

(Maple sugar and the Ojibwa Indians)

"Sugar Maple (*Acer saccharum* Marsh.), 'inena tig' (indian tree) and 'adjagobi min.' Both names come from the Pillager Ojibwe, and although the trees were scarce on the Flambeau Reservation, they also call it 'inena tig,' and gather quantities of the sap somewhere south of the reservation. Maple sugar is one of their most important

foods and is used in almost every kind of cookery. Maple sap is saved to drink as it comes from the tree, sometimes with the added sap of the Box Elder or Yellow Birch. Again it is allowed to become sour to make a vinegar 'ciwabo' used in their cookery of venison, which, when afterwards sweetened with maple sugar, corresponds to the German fashion of sweet-sour meat. Before they had the salt of the white man, maple sugar took its place and still does when they can get it. There are many interesting legends about the tree, its discovery and sugar making, as related in Mr. Alanson Skinner's 'Material Culture of the Menomini.' The Ojibwe garner their sugar crop much the same way as they did years ago, except that they have used large iron kettles since the coming of the white man. The sugar camps are rather permanent affairs, and the framework of the boiling house with its upright poles around the fire place to hold the kettles is left intact. A bark-covered wigwam is used to store the tools of sap gathering, and granulation. Most of the sap vessels and storage vessels are made of birch bark, sewed with boiled basswood fiber or the core of the Jack Pine root. The vessels are rendered waterproof by the application of pitch secured by boiling Jack Pine cones.

"In early April, the Ojibwe visit their camps, the men to repair the camps and the storage vats of hollowed logs, and to cut fire wood, the women to see that the sap buckets and mokoks are scrupulously clean and watertight. If some can not be repaired, rolls of birchbark are there to make new ones. The whole family then move to the camp and live in the large wigwam, while they make sugar for a month. During the sap flow, a man can chop holes and set taps into from two to three hundred trees a day. The first flow of sap is best, and it gets to be of a rather poor quality by the end of the flow. The Ojibwe will not use the night flow of the sap, which they say is bitter, so they cease collecting an hour before dark. Gathered sap is stored in hollowed basswood log vats, and covered over with birch bark to keep it clean. Boiling in the iron kettles birch bark to keep it clean. Boiling in the iron kettles is done much as the white man does it, except that foam

is dissipated by stirring with a fresh brush of a spruce branch. The syrup is strained through a cloth and recooked in two or three quart quantities until it is ready to sugar. Then, while still warm, it is poured into a wooden trough, where it is pounded and crushed with a heavy wooden paddle as it hardens. It is stored in covered birch bark baskets called mokoks, of from twenty-five to seventy-five pounds capacity. The sugar is graded according to whiteness and stored away. Sap is often added to the dregs in the kettles and a second grade sugar is secured. To waste or spill any of the sap is considered an affront to their deities, who punish such an act by causing the sugar to shrink after it is made."

219. Smith, Huron H. 1933

Ethnobotany of the forest Potawatomi Indians. *Bull. Public Museum Milwaukee,* 7, (a) p. 92, (b) p. 93 (1933).

a. (Potawomi name for maple)

"'Kisinamic' (cold tree of timber). This name connotes medicinal rather than food use. The name of the tree when it is spoken of as food, is 'inina tig' (Indian tree). . . . The sugar maple and the black sugar maple are found all over Wisconsin and were the most valuable trees to our aboriginal brothers of any in the forest because they furnished them their seasoning material. . . .

"In February or March sugar camp among the Indians was one of the high spots of the year. While everybody had to work, they all derived a good deal of pleasure from it, especially the children who made taffy as the white children do, cooling it in the snow, . . ."

b. (Maple sap boiled in birch bark vessels)

". . . The boiling of sap in birch bark vessels was quite a difficult thing to do. In those days, the original fire had to be fed with bark of the tamarack tree. . . . The flame must never be allowed to come in contact with the birch bark, but the intense heat of the coals made the sap boil.

"Indian pottery was not much better than the bark 'mokoks,' for it was rather fragile and would not stand rough handling or overheating."

SUBJECT INDEX,[7]

[7] This index covers not only the quotations cited but unquoted portions of the reference as well.

[8] The name *Acer saccharinum*, L. is used to designate the soft, white, or silver maple. The correct term for the hard, rock, or sugar maple is *Acer saccharum*, Marsh. first used by Humphry Marshall in his *Arbustrum Americanum: The American Grove* (Philadelphia, 1785). *Acer saccharinum* has been erroneously used to designate the true sugar maple as well as the silver maple and the references cited apparently refer to the true sugar maple.