

A SHORT HISTORY OF SPRUCE BEER IN BRITAIN

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Spruce trees are not native to Britain, and spruce beer, flavoured with the tips of spruce, is thus an imported style - or rather styles, since there are two distinct traditions of spruce beer. The older, the Danzig or Black Beer tradition, only died out very recently in the UK, while the other, which could be called the 'North American tradition', was hugely popular in Regency times, and included Jane Austen among its fans, but disappeared nearly 200 years ago on this side of the Atlantic.

The first mention of 'spruce beer' in English is from around 1500, when Henry VII was on the throne, in a poem called *Colyn Blowbolles Testament*, in which a hung-over drunkard is persuaded to write his will. Colyn lists the drinks he wants served at his funeral, including more than a dozen types of wine, mead, 'stronge ale bruen in fattes and in tonnes', 'Sengle bere, and othir that is dwobile', and also 'Spruce beer, and the beer of Hambur [Hamburg]/Whiche makyth oft tymes men to stambur'.¹

The fact that spruce beer and 'the beer of Hambur[g]' were mentioned together is because both came from North Germany. The name 'spruce beer' came from the German 'Sprossen-bier', literally 'sprouts beer', more meaningfully 'leaf-bud beer', since it was flavoured with the leaf-buds or new sprouts of Norway spruce, *Picea abies*, or silver fir, *Abies alba*. 'Sprossen' was meaningless to English-speakers, but in early modern English the similar-sounding 'Spruce' was another name for Prussia, from which country's main port, Danzig (Gdansk in Polish), Sprossen-bier was exported. 'Sprossen-bier' became in English the more understandable 'Spruce beer', meaning, originally, 'Prussian beer'.² (Chaucer called the country 'Sprowse', and it was being called 'Spruce-land' as late as 1639.³)

Meanwhile English had to wait more than a century and a half after the beer was named to get its own word for *Picea abies*, the tree known as Fichte in German and gran in Norwegian. When the tree did get an English name, first mentioned by the naturalist John Evelyn in 1670, because it, too, like the beer, came to Britain via Prussia, it was called the 'Spruce', short for 'Spruce fir', that is, 'Prussian fir'. Thus 'spruce beer' is not actually named for the spruce tree, and 'spruce beer' in English is around 170 years older as a phrase than 'spruce tree'.

'Sprossen-bier' was also called in German 'Danziger bier' or 'Joppenbier'. The German physician Jacob Theodor von Bergzabern, better known by his Latinised name, Tabernaemontanus, raved about it in his *Neuwe Kreuterbuch* ('New Book of Herbs'), published in 1588, declaring that there were 'many sorts of good and hearty beers' made in the land of the Prussians, but Danzig beer, or Joppenbier, 'takes the prize ... there is in a little beaker of this beer more strength and nourishment, than in an entire large mug of ordinary beer'. Joppenbier, he said, was a beautiful reddish-brown colour and 'thick like a syrup', and it strengthened the blood and gave a 'lovely colour' to those who drank it.⁴

'Danziger Jopen-bier' was still going in 1946, when it was described by a Czech professor in a lecture to a group of English brewers as 'one of the most interesting and unique of top fermented beverages'. It was made by boiling wort for up to ten hours until it reached a gravity of between 45 and 55% Balling - a stupefying 1200 to 1260 OG or so. The wort was then run into wooden vessels and fermentation undertaken by a 'mixed microflora' of moulds and yeasts present in the wood, with other yeasts joining in as fermentation progressed. The final beer was only 2.5% to 7% alcohol, with an

acidity (as lactic acid) of 1 to 2%. The name 'Jopen', the professor claimed, was 'derived primarily from a word meaning a large mug out of which beer is consumed', which, given that Tabernaemontanus said you only needed a 'Tafelbeckerlein', a little beaker, of Joppenbier to get more benefit than from a 'Maß' of ordinary deer, seems dubious.⁵ But the beer described in 1946 must have been considerably sweet, and very dark, and was clearly the same as the 'Danzig spruce or black beer' described by a writer in 1801 as one of the beers that were 'only half fermented'.⁶ A decoction of spruce buds or cones was added to the wort before fermentation, according to the *Encyclopedia Britannica* in 1890. However, a description of making Joppenbeer in German from 1865 fails to mention spruce:

Danziger Joppenbier

Joppenbier is in many respects very interesting. It is made from a highly concentrated wort - the Saccharometer degree is about 49 per cent. From 1000 Kg malt and 5 Kg hops approximately 10.5 hectolitres of beer is produced. The mash is made by the infusion method and the wort which is drawn off is - to obtain the specified concentration - often boiled more than 20 hours. The wort is cooled down to down to 12.5 degrees.

The fermentation is a so-called spontaneous fermentation. Fermentation usually begins in July - although it is the same whether the beer is brewed in January or April. The wort is first covered with a thick blanket greenish-white mould; when the mould spores are in sufficient quantity to force their way into the wort and to grow to a very characteristic yeast, then the fermentation begins, which only in September subsides enough so that the beer becomes clear and can be drawn off. The attenuation is during this period up to only about 19.

The resulting beer is dark brown and extremely rich (partly from un-broken-down glucose) and sweet. The smell is pleasant (which is probably a consequence of the extremely slow fermentation). It is not possible to drink much Joppenbier - it is full-bodied, extremely suitable for mixing with other beer and is exported to England for this purpose. The clear beer can be left a year in the vat on the yeast without being damaged - of course, however, the degree of attenuation will increase.⁷

When the Dutch explorer Willem Barentsz set off on his third voyage around the top of Norway and Russia in

1596 to try to find the Northeast Passage from Europe to China, he and his team took with them casks of beer that included at least one barrel of 'iopen', which is specifically called in the Latin version of the account of what turned out to be Barentsz's last voyage 'cerevisia dantiscana' - Danzig beer. Barentsz's crew were stranded on Novaya Zemla in the Arctic Ocean, just 900 miles from the North Pole, over the winter of 1596/7, when it became so cold that the 'iopen' froze, bursting its cask. The crew tried to drink the beer as it thawed, but they had inadvertently invented freeze-distillation, with the alcohol unfreezing first, and 'it was too strong to drink alone'.⁸ (That 'cerevisia dantiscana' was a synonym for the beer also known as 'Joppenbier' and 'Preusing' - 'Prussian' - is confirmed in a book written in Latin by a German author in 1722 listing the names of all known drinks,⁹ though confusingly it also translates 'Cerevisia Batavorum', 'Batavian' or Netherlands beer, as 'Joppen-Bier': Dutch joppenbier appears to be an entirely different tradition.)

Spruce beer looks to go underground in Britain after Colyn Blowbolle in the time of the Tudors, with only a couple of glimpses in the next two centuries. A writer in 1832 claimed that in 1664 an advertisement appeared in London declaring: 'At the "Angel and Sun", in the Strand, near Strand Bridge, is to be sold every day, fresh Epsum-water, Barnet-water, and Tunbridge-water; Epsum-ale, and Spruce-beer'.¹⁰ By 1719 the 'Old Brunswick Mum and Spruce Beer House' was open 'next door to the Red-Lyon, over against Bridewell-Bridge, Fleet-Ditch' in London, and selling 'right Brunswick-Mum, and Spruce-Beer, Wholesale and Retail', with the proprietor, Edmund Thomas, claiming to be 'the only person in London that deals in these two commodities, and nothing else'.¹¹ (It was still open in April 1757, when 'a large parcel of Mum' had just been imported - Fig. 1.)

These establishments were both almost certainly selling Danzig-brewed spruce beer, and from 1720 onwards newspapers began regularly recording kegs of spruce beer or black beer from Danzig, in quantities of up to 200 kegs at a time, among the huge range of goods from around the world being imported into Britain, from lime juice out of Jamaica to iron from Sweden, with the kegs arriving in ports from London to Newcastle upon Tyne. The kegs apparently held two gallons each, and the retail price was a high eight shillings and sixpence a

ADVERTISEMENT 5.

Edm^d. Thomas,
At the Old Brunswick Mum and Spruce-Beer
House, next Door to the Red-Lyon, over
against Bridewell-Bridge, Fleet-Ditch.

Sells Right Brunswick-Mum, and Spruce-Beer, Wholesale and Retail; where all People may be constantly supplied with that which is Neat, and will keep, he being the only Person in London, that deals in these two Commodities, and nothing else.

Figure 1.

cask, or more than six pence a pint, when porter was three pence a quart. Part of the high cost was the duty paid: £2 per 32-gallon (wine measure) barrel, when ordinary strong beer paid only 10s.¹²

By now a different style of spruce beer was starting to appear in Britain from across the Atlantic. When the Breton explorer Jacques Cartier overwintered in Quebec in 1535-36 on his second visit to the land he had named Canada, almost all his men fell ill with scurvy, leaving just ten out of 110 well enough to look after the rest. Huron Indian women showed them how to make tea and poultices from the bark of a local tree, which quickly returned them to health. That tree was probably White Cedar, *Thuja occidentalis*, a member of the cypress family, rather than spruce. But later French settlers turned to spruce trees: the secretary to the new French governor of Cape Breton Island, Thomas Pichon, writing in 1752, noted that the inhabitants of Port-Toulouse (now St Peter's) 'were the first that brewed an excellent sort of antiscorbutic [*'la bière très bonne'* in the original French], of the tops of the spruce-fir',¹³ 'Perusse' or 'Pruche' in Pichon's French.

Around the same time, the Swedish-Finnish botanist Pehr Kalm, who travelled in North America from 1748 to 1751, apparently found the French in Canada drank little else but spruce beer. In his letters to the Royal Swedish Academy of Sciences, he wrote:

Among other liquors commonly drank in the European plantations in the North of America there is a beer which deserves particular notice; it is brewed from a kind of pine that grows in those parts and is by botanists called *Abies Piccea foliis brevibus conis minimis* [black spruce, *Picea*

mariana]. The French in Canada call it *Epinette* and *Epinette Blanche*, the English and Dutch call it *Spruce*.

Spruce beer, Kalm said,

is chiefly used by the French in Canada; a considerable quantity is indeed made by the Dutch who live round Hudson's river, in the most Northern parts, but the English seldom have it except in New England and New Scotland; because in Canada the tree is very common, but at Albany it is so scarce that the people are obliged to go some miles for it; and in the other English plantations it is hardly to be met with.¹⁴

Kalm gave much detail about the making of spruce beer, telling the Academicians:

I had no opportunity to see the method of making this liquor used by the Dutch, but often drank it amongst them, and thought it very good. The account they gave me of preparing it is as follows: take 12 gallons of water and set it to boil in a copper; put into it about a pint and half or as much as can be held between two hands, of cuttings of the leaves and branches of the pine; let it boil about an hour, and pour it into a vessel, and leave it to cool a little; then put the yeast into the vessel to make the wort ferment; in to take away the resinous taste, put a pound of sugar amongst it. After it has done working, it may be put into hogsheads or barrels, but it is reckoned best to bottle it directly. It will keep a great while, and will not grow so soon sour in the summer as malt liquor. It looks clear and like common beer, has an agreeable taste, and when pour'd out of a bottle into a glass mantles like ale. It is reckoned very wholesom, and has a diuretick quality.¹⁵

When I afterwards came to Canada, I had several times an opportunity to see the French prepare this beer, which, as they use no malt liquor, is their only drink, except wine brought from France, which is pretty dear. Their way of brewing it is this: After having put the cuttings of the pine into the water, they lay some of the cones of the tree amongst it, for the gum which is contained in them is thought very wholesom; and makes the beer better. The French do not cut the branches and leaves of the pine nearly so fine as the Dutch; for if the branches are small enough to go into the copper, they do no more to them, and they measure the quantity no otherwise than by putting them into the till they come even with the surface of the water. While it is boiling they take some wheat, put it into a pan over the fire and roast it as we do coffee, till it is almost black; all the while stirring, shaking and turning it

about in the pan, when that is done they throw it into the copper with some burnt bread.¹⁶

Rye is as fit for this purpose as wheat, barley is better than either, and Indian corn is better than barley. The reasons given me for putting this burnt corn and bread into the water are: 1st, and chiefly, to give it a brownish colour like malt liquor; 2nd, to make it more palatable; 3rd, to make it some more nourishing. When it has continued boiling till half the quantity only of the water remains in the copper, the pine is taken out and thrown away, and the liquor is poured into a vessel thro' a sieve of hair cloth, to prevent the burnt bread and corn from mixing with it. Then some sirrup is put into the wort to make it palatable, and to take away the taste which the gum of the tree might leave behind. The wort is then left to cool after some yeast has been put to it, and nothing remains to be done before it is tunned up but skimming off what, during the fermentation, has risen up on the surface; and in four and twenty hours it is fit to be drank. As there is a great resemblance between the pine and that which is common in Sweden, it would be worth while to try whether ours could be made use of in the same manner.¹⁷

Kalm's description of spruce beer brewing involved very little extra fermentable material, suggesting the French and Dutch found enough fermentable material in the spruce sap itself. However, John Claudius Loudon, writing in 1838, repeated an account of spruce beer brewing by the 18th century French physician, naval engineer and botanist Henri-Louis Duhamel du Monceau (1700-1782), apparently from the *Traité des arbres fruitiers* of 1768, clearly matching French Canadian practice, but with plenty of molasses or sugar:

To make a cask of spruce beer, a boiler is necessary, which will contain one fourth part more than the quantity of liquor which is to be put into it. It is then filled three parts full of water, and the fire lighted. As soon as the water begins to get hot, a quantity of spruce twigs is put into it, broken into pieces, but tied together into a faggot or bundle, and large enough to measure about 2 ft. in circumference at the ligature. The water is kept boiling, till the bark separates from the twigs. While this is doing, a bushel of oats must be roasted, a few at a time, on a large iron stove or hot plate ; and about fifteen galettes [flat yeasty cakes], or as many sea biscuits, or if neither of these are to be had, fifteen pounds of bread cut into slices and toasted. As these articles are prepared, they are put into the boiler, where they remain till the spruce fir twigs are well boiled. The spruce branches are then taken out, and

the fire extinguished. The oats and the bread fall to the bottom, and the leaves, &c., rise to the top, where they are skimmed off with the scum. Six pints of molasses, or 12 lb. or 15lb. of coarse brown sugar, are then added ; and: the liquor is immediately tunned off into a cask which has contained red wine; or, if it is wished that the spruce beer should have a fine red colour, five or six pints of wine may be left in the cask. Before the liquor becomes cold, half a pint of yeast is mixed with it, and well stirred, to incorporate it thoroughly with the liquor. The barrel is then filled up to the bung-hole, which is left open to allow it to ferment ; a portion of the liquor being kept back to supply what may be thrown off by the fermentation. If the cask is stopped before the liquor has fermented 24 hours, the spruce beer becomes sharp, like cider ; but, if it is suffered to ferment properly, and filled up twice a day, it becomes mild, and agreeable to the palate. It is esteemed very wholesome, and is exceedingly refreshing, especially during summer.¹⁸

Loudon also quoted 'Michaux', either the French naturalist Andre Michaux or his son Francois, as saying: 'the twigs are boiled in water, a certain quantity of molasses or maple sugar is added, and the mixture is left to ferment', and also:

The essence of spruce (which is what spruce beer is made from in this country) is obtained 'by evaporating to the consistence of an extract the water in which the ends of the young branches of black spruce have been boiled'. Michaux adds that he cannot give the details of the process for making the extract, as he has never seen it performed; but that he has often observed the process of making the beer, in the country about Halifax and the Maine, and that he can affirm with confidence that the white spruce is never used for that purpose.

Spruce sap is loaded with ascorbic acid, Vitamin C, and drinkers of spruce beer avoided scurvy, the disease caused by lack of Vitamin C, and the curse of long-distance voyagers who lacked access to fresh foods. An edition of the physician Richard Brookes's *General Practice of Physic* in 1765 said:

Poor People that winter in Greenland under vast Disadvantages in point of Air and Diet, preserve themselves from the Scurvy by Spruce Beer, which is their common Drink. Likewise the simple Decoction of Fir Tops has done Wonders. The Shrub Black Spruce of America makes this most wholesome Drink just mentioned and affords a Balsam

superior to most Turpentines. It is of the Fir Kind. A simple Decoction of the Tops, Cones, Leaves, or even of the green Bark or Wood of these, is an excellent Antiscorbutic; but perhaps it is much more so when fermented, as in making Spruce Beer. This is done by Molosses, which by its diaphoretic Quality, makes it a more suitable Medicine. By carrying a few Bags of Spruce to Sea, this wholesome Drink may be made at any Time. But when Spruce cannot be had, the common Fir-Tops used for Fuel in the Ship should be first boiled in Water, and then the Decoction should be fermented with Molosses; to which may be added a small Quantity of Wormwood and Root of Horseradish. The fresher it is drank the better.¹⁹

Four years later 1769 a book called *The London Practice of Physic*, listing treatments for scurvy, gave a recipe for spruce beer as follows: Take twelve gallons of water and put therein three pounds and a half of black spruce, and boil it for three hours; then put to the liquor seven pounds of molasses just boil it up, strain it through a sieve when milk-warm, put to it about four spoonfulls of yeast to work it; it soon becomes fit for bottling, perhaps in five or six days.²⁰

Later versions of this recipe said it was called 'chowder beer' and claimed it originated in Devon, adding that 'two gallons of molasses [sic] are sufficient for a hogshead of liquor, but if molasses cannot be procured treacle or coarse sugar will answer the purpose'.²¹

Captain James Cook experimented with spruce beer on his second voyage to the Pacific, from 1772 to 1775, making a batch when he arrived in New Zealand. Cook wrote:

We at first made it of a decoction of spruce leaves [the spruce Cook used was the New Zealand rimu, *Dacrydium cupressinum*]; but finding that this alone made the beer too astringent, we afterwards mixed with it an equal quantity of the tea-plant, (a name it obtained in my former voyage from our using it as tea then as we also did now) which made the beer extremely palatable, and esteemed by every one on board [this was the manuka, *Leptospermum scoparium*, found in New Zealand and south-east Australia]; we brewed it in the same manner as spruce beer, and the process is as follows: First, make a strong decoction of the small branches of the spruce and tea-plant, by boiling them three or four hours, or until the bark will strip with ease from off the branches; then take them out of the copper, and put in the proper quantity of

molasses, ten gallons of which are sufficient to make a tun, or two hundred and forty gallons of beer; let this mixture just boil; then put it into the casks, and to it add an equal quantity of cold water, more or less, according to the strength of the decoction or the taste: when the whole is milk-warm, put in a little grounds of beer or yeast, if you have it, or any thing else that will cause fermentation, and in a few days the beer will be fit to drink. After the casks have been brewed in two or three times, beer will generally ferment itself, especially if the weather is warm. As I had inspissated juice of wort [a concentrated form of wort the Admiralty was experimenting with in the hope that it could be used to make beer on long voyages on board], and could not apply it to a better purpose, we used it together with molasses or sugar to make these two articles go farther.²²

Cook and his men brewed spruce beer in New Zealand again in February 1777 on his third and last voyage to the Pacific, and also in April 1778, at Nootka Sound on the Canadian west coast, where enough beer was brewed 'to last the ship's company for two or three months'. When Cook's two ships reached Unalaska Island in the Aleutians early in October 1778, Cook recorded that both crews were free of scurvy, putting this down in part to the spruce beer, which was drunk every other day.

The British Army in North America seems to have learnt the value of spruce beer from the French. There is a strong argument, indeed, for saying that spruce beer helped the British defeat the French and conquer Canada, by keeping troops healthy who would otherwise have fallen ill with scurvy. The British Army officer John Knox, born in Sligo, who served in North America between 1757 and 1760 with the 43rd Regiment of Foot, said the troops from New England temporarily occupying Louisbourg on Cape Breton, Nova Scotia after its capture in 1745 were supplied with spruce beer,

this liquor being thought necessary for the preservation of the healths of our men, as they were confined to salt provisions, and it is an excellent antiscorbutic: it is made from the tops and branches of the Spruce-tree, boiled for three hours, then strained into casks, with a certain quantity of molasses, and, as soon as cold, it is fit for use.²³

When British troops were again involved in a campaign against the French in Nova Scotia in 1757, their com-

mander, the Earl of Loudoun, had insisted on an allowance of two quarts of spruce beer per man each day, for which the troops paid seven pence in New York currency, equal to four and one-twelfth pence sterling, later increased to five pints a day.²⁴

General Jeffrey Amherst, who followed the Earl of Loudoun as commander in chief of British forces in North America, was equally insistent that the troops be well supplied with spruce beer, 'for the health and convenience of the troops', and a 'Breweree' (sic) was set up when the British Army was camped at the head of Lake George in what is now north-east New York State in June 1759 with each regiment donating one man to help with the brewing, and instructions to allow five quarts of molasses to every barrel of spruce beer. When Amherst's troops moved north to capture the French Fort Carillon, subsequently renamed Fort Ticonderoga, the next month, each regiment took with it eight barrels of spruce beer, with a barrel to each company of Grenadiers and 'Light Infentry'. Amherst considered spruce beer important enough to record a recipe for it in his journal on 15 August 1759, involving boiling '7 pounds of good Spruce' until the bark peels off and adding three gallons of molasses to the spruce-water, to make 30 gallons of beer.²⁵

Later on at Ticonderoga, in 1776, after the fort had been captured by American forces from the British during the War of Independence, two enterprising sergeants in the 5th Continental Regiment from New Hampshire, William Chamberlin and Seth Spring, crossed Lake Champlain to gather boughs of spruce, brought them back and with two quarts of molasses and a 'quantity' of 'spicknard or Indian root' (American spikenard, *Aralia racemosa*, a member of the ginseng family) for added flavour, brewed a barrel of beer. It was instantly popular with the other troops, and Spring was sent to Fort George to bring back two barrels of molasses to make more beer to sell. After six or seven weeks, Chamberlin recorded, he and Spring had made three hundred dollars between them .

North American-style spruce beer, (not strictly, of course, a 'beer', since it was not made from malted grain) was meanwhile taking off in Britain thanks to the invention of in Canada of 'essence of spruce'. Essence of spruce was advertised in *Lloyd's Evening Post* in London in February 1770, but only as a cure for

'Scorbutic Complaints', with no mention of brewing with it. The following year, Dr Henry Taylor, of Quebec, patented 'a method of producing an essence or extract of spruce so perfect that one pound and a quarter will make sixty gallons of fine spruce beer which will be fit to drink in three days in any climate'. Taylor's method was to place 'tops or small branches' of spruce in a still, distil off half the liquor, with 'all the essential oil on the top of the glass ... to be carefully saved', then run the 'residuum' in the still into a boiler where there were more 'fresh tops or branches of spruce' and boil that up to reduce it. The residuum was then to be boiled again with fresh spruce tops or branches, and then the 'essential oil' mixed in.²⁷

The Royal Navy, always desperate to find ways of defeating the scourge of scurvy, quickly picked up on Taylor's invention. A letter that year, 1771, from the Admiralty to the Treasury refers to 'essence of Spruce' from Quebec, 'which when brewed into beer may be of great service to the navy in preserving the seamen from scurvy'.²⁸ Vice-Admiral Samuel Graves, who was in command of the North America Station at the start of the American War of Independence, wrote in a letter to the Secretary of the Admiralty Board from Boston, Massachusetts in September 1775 that 'The Seamen always continue healthy and active when drinking spruce Beer',²⁹ and in the log of the 70-gun HMS *Boyne*, one of the ships under Graves's command, are many entries of butts of spruce beer taken on while it was lying in Boston harbour in 1774-1775.³⁰ (Spruce beer was still being brewed for Royal Navy ships in 1807.³¹)

Taylor had a partner in patenting the essence, Thomas Bridge, of Bread Street, London, and by April 1774 Bridge was boasting in print that he had the rights to 'the sole making and vending the said Essence'. Bridge told prospective customers that one hogshead of essence would make five hundred hogsheads of beer, and a pound and a quarter of it would make 63 gallons of beer that 'may be brewed with very little trouble at sea or land, without fire ... and will be fit for use in three or four days'. It was, he said,

a excellent table beer, is the best anti-scorbutic yet discovered, is also a fine substitute for malt liquor to people afflicted with the stone, gravel and many other disorders, as it is allowed to be a great purifier of the blood, by dissolving all

WHITE and BROWN SPRUCE BEER, in the highest perfection, and far superior to any article of the kind ever made in this country. may be had at **LOWTHORP and CO's. SRUCE BBER BREWERY**, Lambeth-road, Surrey, and sent to any part of the town or country. The White Spruce, of a most beautiful colour and flavour, almost equal to Champagne, is sold at 12s. per dozen; and fine Brown at 6s. per dozen, for Ready Money. Bottles to be paid for, and the Money returned when delivered back.—It is requested that when orders are sent from the country, directions may be given for the Money to be paid on the delivery of the Spruce at the Inn in town.

Figure 2.

viscid juices, opening ostructions [sic] of the viscera and the more distant glands.³²

By 1784 Bridge was not just supplying the essence, but also brewing 'the best double American spruce beer' himself at his premises in Bread Street, 'under the inspection of a gentleman long used to that business in America', and selling it in both bottles and casks.³³

He had a rival, J. Ellison, of St. Alban's Street, Pall Mall, and Red Lion Street, Whitechapel, who ran a lengthy advertisement on the front of the *Morning Herald and Daily Advertiser* in September 1783 proclaiming that the virtues of spruce beer could be credited to the large amount of 'fixable air' - carbon dioxide - it contained, and claiming that experiments carried out under the instructions of 'Dr Higgins' - Bryan Higgins, a scientist who ran a 'school of practical chemistry' in Soho, London in the 1770s - showed a gallon of spruce beer would release nearly two gallons of 'fixable air' when the cork was removed from the bottle, 'which ... cause the intumescence and frothing which always appear when a bottle of good of Spruce Beer is quickly uncorked'. Summoning the names of several more contemporary scientists, including Joseph Priestley and Dr Joseph Black, Ellison said they all agreed that 'fixable air' was 'a powerful and a necessary part of the fluids and solids in sound bodies', and to fixable air was ascribed 'the most salutary effects in diverse diseases'. Since spruce beer 'contains so great a quantity of this

active spirit', Ellison said, 'it may fairly be inferred that the Spruce Beer is most salutary which is made to retain the greatest quantity of fixable air', something he was 'particularly attentive to'.³⁴

The author Jane Austen liked spruce beer, agreeing with the anonymous author of *The Family Receipt-Book or Universal Repository of Domestic Economy*, published 1808, that 'The salubrity of spruce beer is universally acknowledged'.³⁵ Indeed, she liked it enough to make it herself, at home, more than once. In a letter dated December that same year to her sister Cassandra from Castle Square in Southampton, where Jane was living in the home of her brother Frank, then a captain in the Royal Navy, she wrote: 'we are brewing Spruce Beer again', with an oblique joking reference to the great porter casks of Henry Thrale, the former owner of the Anchor brewery in Southwark.³⁶ In *Emma*, written in 1815, both Emma Woodhouse and her lifetime friend, the landowner George Knightley, admit to a liking for spruce beer, and Mr Knightley gives the local vicar, Mr Elton, who has 'resolved to learn to like it too' (probably to try to ingratiate himself with Emma), tips on brewing it.³⁷ (It is more than likely that Jane Austen had been introduced to spruce beer by her brother, who had a reputation as a commander concerned with the welfare of his men.³⁸)

Though it was 'disagreeable to the taste of many',³⁹ spruce beer was a popular drink in Georgian Britain,

with *The Family Receipt Book* declaring that ‘notwithstanding its invincible terebinthine flavour’, it ‘forms so refreshing and lively a summer drink, that it begins to be greatly used in this country’. Local newspapers carried advertisements for the imported spruce essence needed to make it, and for local retailers who sold it. J. Lambe, ‘Purveyor to his Majesty, at his Warehouse, New Bond-street’ in London was advertising that he made and sold ‘the best double American Spruce Beer, which on trial by those who have been in America, will be found of a finer flavour than can be made there from the fresh branches’.⁴⁰

An advert in the *Hampshire Chronicle* of 5 May 1790 for ‘essence of Canadian spruce’ sold in pots for two shillings and sixpence a time ‘with directions for making it into Beer’ listed more than 20 retailers around the county where it could be brought, including Skelton and Macklin in Southampton, while the City Coffee House, Bath, for example, was advertising in July 1800, a few months before the Austen family moved there, that it sold ‘Bottled Cyder, Beer, Porter and Spruce Beer’.⁴¹ One maker in 1804 in Craven Street, just off the Strand in London, was selling ‘Imperial Spruce Beer’.⁴² There was another spruce beer brewery operating in London, Lowthorp & Co, in the Lambeth Road, around 1806,⁴³ selling White Spruce ‘of a most beautiful colour and flavour, almost equal to Champagne [sic]’, as 12 shillings a dozen bottles, and ‘fine Brown at 6s per dozen, for Ready Money’ (white spruce beer was made with lump sugar, brown with treacle or molasses⁴⁴ - Fig. 2), and another in Dublin around the same time, John Russell’s American Essenced Spruce Beer Brewery, which began in 1802 and was still going in 1807.⁴⁵ (Spruce beer’s success was helped by the fact that several Acts of Parliament, most notably in 1795/6, had established that no magistrates’ licence was needed to sell it.⁴⁶)

The *Family Receipt Book* gave instructions on how to make spruce beer at home that must have been very close to the method the Austen household used:

The regular method of brewing spruce Beer, as it is at present in the best manner prepared, and so highly admired for its excessive briskness, is as follows: Pour eight gallons of cold water into a barrel; and then, boiling eight gallons more, put that in also; to this add twelve pounds of molasses, with about half a pound of the essence of spruce; and on its getting a

little cooler, half a pint of good ale yeast. The whole being well stirred, or rolled in the barrel, must be left with the bung out for two or three days; after which the liquor may be immediately bottled, well corked up and packed in saw-dust or sand, when it will be ripe and fit for drink in a fortnight. If spruce beer be made immediately from the branches or cones, they are required to be boiled for two hours, after which the liquor is to be strained into a barrel, the molasses and yeast are to be added to the extract, and to be in all respects treated after the same manner. Spruce beer is best bottled in stone; and from its volatile nature, the whole should be immediately drank when the bottle is once opened.

Twelve pounds of molasses was the equivalent to a bushel of malt, according to a commentator in 1725,⁴⁷ so the *Family Receipt Book*’s recipe would produce 16 gallons - half an ale barrel - of beer of somewhere between 5 and 6% cent alcohol by volume.

There is some evidence that American-brewed spruce beer came across the Atlantic: on Thursday 17 February 1785 158 gallons of spruce beer were auctioned off, along with other goods including tea, coffee, wine and rum, at the Custom House in Bristol, a port more likely to deal with ships from the Americas than from the Baltic.⁴⁸ There were certainly commercial spruce beer breweries operating in the United States that could have supplied it: Medcef Eden was advertising his ‘double spruce beer’, ‘to be sold at my brewery, Golden Hill’, New York in the *Independent Journal* in May 1785, for example. American-brewed spruce beer was, at least occasionally, made with hops: a recipe in the New Haven Gazette from 1788 included two ounces of hops - a quarter of the amount used in a recipe for malt beer - and two quarts of bran, together with ‘one bundle’ of spruce and four gallons of molasses to make a barrel of beer.⁴⁹

Danzig spruce beer and the do-it-yourself version based on imports of American spruce essence continued to compete against each other in Regency Britain. The Observer newspaper on 25 August 1799 carried two separate advertisements on its front page for ‘genuine American spruce beer’ sold by Brown’s Wine Vaults and Italian Warehouse in Paradise Row, Chelsea and ‘Hickson’s celebrated Spruce Beer ... just becoming properly ripe for drinking’, available from William Hickson at his Oil and Italian Warehouse in the Strand. In 1804, John Munro, grocer and porter dealer, 10 South

Frederick Street, Edinburgh, was advertising 'Fine Double Spruce Beer' at two shillings and six pence a dozen bottles, table spruce beer 2s, 'Families who make their own Spruce, supplied with the Patent Essence and London Molasses on the most reasonable terms'.⁵⁰ By 1806 the black spruce was growing in Britain, having been brought over from North America, and according to Richard Shannon, the inhabitants of Devon, Cornwall and Yorkshire were all making spruce beer from that tree and the Norwegian Spruce, which was also now being grown in the country.⁵¹

In a few years, however, American-style spruce beer began to lose its popularity in Britain, perhaps because now the Royal Navy was using lime juice as its main defence against scurvy. Essence of spruce for making spruce beer was still being advertised for sale in 1819, by Pedley and Company of Oxford Street, London, who also made 'highly carbonated' white and brown spruce beer themselves, as well as ginger beer and soda water.⁵² When William Parry's second Arctic expedition left from London in 1821, each ship carried provisions for three years that included 144 bottles of essence of spruce and 1,200 pounds of molasses, but also 4,500 pounds of lemon juice in five-gallon casks (and 120 canisters of 'essence of malt and hops', each one enough to brew a barrel of brown stout, as well as 4,000 gallons of rum, eight tons of pork, five tons of potatoes, and much else).⁵³ But that was about the last mention of essence of spruce as anything other than a medicine sold by chemists. Mr Pedley died in 1821, and at the end of that year his executors put up for auction much of the equipment at his Oxford Street premises, including 'two very expensive Soda Water Engines with metallic barrels, pumps etc by Bramah and Galloway, 700 dozen stone bottles, 1,500 gross of corks, 12 hundredweight essence of spruce', and 'part of a hogshead of molasses'.⁵⁴ It looks as if Pedley may have been Britain's last commercial essence of spruce brewer. 'Viner's Essence of Spruce, sufficient for 18 gallons of superior White Spruce Beer, price 3s 6d per bottle with proper directors' was still being advertised for sale in 1825 for do-it-yourself spruce beer brewers, but looks to have vanished off the shelves soon after.⁵⁵ Imported essence of spruce was still being taxed at 10% ad valorem in the 1840s, later changed to 2s 6d a pound: but in 1856 the tax brought in just £1,⁵⁶ and 1867 it was declared that not one drop had been imported the previous year.⁵⁷

As the 19th century continued, spruce or black beer continued to be imported from Danzig to Great Britain: 24,950 kegs arrived in 1829, for example, 98% of all the spruce beer the city exported that year (with tiny amounts going to the Netherlands and France), at 6s 6d a keg, worth £8,108 15s.⁵⁸ It was on sale in London in 1850 for 1s 3d for a quart bottle, or 10s 6d a keg.⁵⁹ Import duties on spruce beer brought in £3,015 in the 12 months to 31 March 1859 (for comparison, excise duty on wine in the same period totalled £1.76 million).⁶⁰ The following year, 1860, Danzig exported spruce beer worth 86,500 thaler, or just under £13,000,⁶¹ perhaps £1 million today. Much of the time it must have been drunk for its supposed health-giving properties: an Australian newspaper in 1843 reported:

*Infallible Cure For Colds. Two tablespoonsful of Dantzic black beer, taken with hot water, sugar, and about half-a-glass of old rum, or malt whisky; immediately before going to bed, is said to cure the most obstinate and long-standing colds, and has succeeded where every other remedy failed.*⁶²

As American-style spruce beer makes disappeared, British firms, almost all in the North of England, started making black beer themselves, seemingly to the same specifications as the Danzig version. One of the earliest known is R Barnby of Hull, 'black beer manufacturer', who went bankrupt early in 1815.⁶³ Six years later, in 1821, another Hull-based black beer brewer, J. Roberts,



Figure 3.

also went bankrupt.⁶⁴ Leeds had four black beer brewers listed in 1823, though three brewed other beers as well, and Huddersfield one.⁶⁵ *Pigot's* directory of Hull in 1828 listed five 'black beer brewers and importers' in the port. Sheffield had one black beer brewer the same year, Francis Parker of Trippet Lane, who also brewed ale and porter.⁶⁶ By 1837 Leeds had six black beer brewers listed, plus one importer, while Huddersfield the same year had two black beer brewers. A later Leeds black beer brewer was the Cambria Vinegar Company, which was primarily a vinegar brewer based in Elland Road, Leeds, but which also supplied fish and chip shops with other essentials such as oil for their fryers.⁶⁷ Among those in Sheffield was John Wheatley of the Dantzig Brewery, Division Street, who appears in a directory of 1862 and was advertising himself three years later as 'black beer brewers and manufacturers of peppermint and raspberry cordials, aerated ginger beer, lemonade, soda water, lithia and German seltzer waters, agents for Messers Hoare and Co's London Porter and Stout'. (Despite black beer being far more popular in the North, Dickens has the Magpie and Stump public house in Clare Market, London, advertising 'Devonshire cyder and Dantzig spruce' on printed cards in the windows in *The Pickwick Papers*, published first in 1836.⁶⁸

Spruce beer imports from Dantzig began to fall, with the total excise duty collected in 1868 down to £1,756. (The duty collected on essence of spruce for that year was just £1.)⁶⁹ All the same Britain still imported 398,449 litres of spruce beer from Danzig in 1877, about 28,100 kegs, at 8s 6d per keg FOB, totalling just under £12,000, and 99% of the total exported from the city.⁷⁰ One Danzig-based spruce beer brewer (and lager brewer), Robert Fischer, whose 'best Danzig black beer' was being imported into Newcastle upon Tyne in 1855,⁷¹ still had an agency in Glasgow in 1886, according to the *Post Office Directory* that year, and spruce beer was coming 'direct from Hamburg' in 1897, 'the best and strongest'.⁷²

By the 20th century black beer manufacturers in Britain were concentrating on the healthy aspects of the drink. W Severn & Co of Curzon Street, Derby, said its Black Spruce Beer, 5s 5d for a large bottle in 1922, 'will keep indefinitely ... fortifies the system against Chills, Colds and Weakness as nothing else can ... invaluable for growing children'. Another Derby-based black beer brewer, Burrows & Sturgess Ltd. of the Spa Works,

revealed some of the secrets of the drink's making in an advertisement from 1920, saying that black beer, 'also known as Spruce Beer' was

a strong heavy liquid, very dark in color [sic], and is produced chiefly from Malt, blended with Dantzig Spruce. After evaporation and fermentation the Beer should mature for over twelve months before being offered for sale. Owing to its dense gravity, and being a fermented product of Malt, it pays a heavy Excise duty, but its great medicinal value being recognised, it is not classed as an ordinary beverage, and its sale is free from restrictions. It has a decidedly pleasant and piquant flavour, which appeals to most people. It is of the greatest value as a preventative and remedy for Coughs, Colds, Influenza and Weakness. It is the 100% Food Tonic. It may be taken alone, or with the addition of hot water, sugar and spirits. It is fully matured, will keep indefinitely and is of the heaviest gravity. No house should be without a bottle of this wholesome and beneficial Beer. For growing children it has no equal. Supplied in bottles (six-to-gallon size) 6s 3d per bottle.⁷³

One manufacturer, Joseph Hobson & Son (which also called its premises, in The Calls, Leeds, the Dantzig brewery, and which claimed to have been in existence for over a century in 1931), declared that its black beer, 'taken regularly, will prevent influenza'.⁷⁴ (To be fair, it was estimated in 2011 that 30ml of black beer provided 25% of the recommended daily allowance of vitamin C.⁷⁵) Different firms combined black beer with one or another alcoholic drink also promoted, at the time, as 'good' for the run-down, so that Heaton's of Burnley in 1906 sold 'Famous Black Beer and Port, The Great Food Tonic - Strengthening and Nourishing', with the tannin in the port, 'so very injurious to a weak stomach, successfully neutralised'.⁷⁶

Another, A. Greaves & Son Ltd., Chemists, The Market Place, Chesterfield, claimed in 1936 to have 'The Tonic you have all beer waiting for! Black Beer and Australian Red Wine, only 1s 6d a big flask'.⁷⁷ The makers of the rival Friar Brand black beer and red wine, sole agents D.M. Forbes of Chesterfield, said it was 'invaluable for anaemic girls and all who are run-down', and just 2s 6d a large bottle.⁷⁸ At least one Scottish 'mainstream' brewer, George Younger's of Alloa, was making black beer in the 1920s, describing it as 'non-excisable' (Fig. 4) - meaning it could be sold without a magistrates' licence - and 'so refreshing'.⁷⁹



Figure 4.

The whopping original gravity of black beer, however, at 1200 or more, was nearly its death in the First World War, when the tax on beer, which was based on OGs, went up to almost 13 times the pre-war level by 1920, leading to excise rates on 'mum, spruce or black beer' (the taxman still remembered Brunswick mum, if everybody else had forgotten) more than five times higher than on regular beers, at £26 2s a 36-gallon barrel.⁸⁰ This was something which 'almost destroyed' the industry, but Leeds-based MPs managed to get a tax rebate for black beer in 1923, which rebate was increased in 1924.⁸¹ When another massive increase in British beer tax was made in 1931, Yorkshire's MPs succeeded in getting black beer finally exempted from tax completely, to ensure its survival. Its continued existence was helped by the fact that, despite an alcohol content of around 8.5% by volume, no magistrates' licence was required to sell it, and in 1929 it was said to be 'largely sold by chemists'.⁸² (The continued inclusion of 'mum' in the excise regulations confused MPs during the parliamentary debate on the budget, and the Liberal MP, Ernest Brown, had to explain, inaccurately, that 'mum' was 'similar not only to black beer, but also Berlin white beer'.⁸³

Hobson's, which at one point had made 'Danzovia' tonic wine, was still listing its 'Hobson's Choice' and 'Spruce' brand black beers in 1969⁸⁴ but soon afterward

merged with the wine and spirit merchant Gale Lister, leaving another Leeds firm, J.E. Mather & Sons, founded in 1903,⁸⁵ as the only surviving maker of black beer in the UK (Fig. 5). In 1950 Mather's had been boasting that its bottles contained nearly 2,000 calories each, and recommending that purchasers mix it with lemonade to make a black beer shandy⁸⁶ - known as a Sheffield



Figure 5.

stout. By 1992 the brand was owned by the drinks company Matthew Clark & Son, which successfully fought off a proposed imposition of a tax increase that would have doubled the price. In 1995 Matthew Clark closed its Leeds winery, but sold the brand to Continental Wine and Foods of Huddersfield, which continued to make Mather's Black Beer. However, in 2012, as part of changes to the tax system, it was announced that the relief black beer had enjoyed since 1931 was to end the following year, which would mean the price of a 68cl bottle almost doubling to £4.⁸⁷ Continental Wine and Foods was only selling 35,000 bottles a year, and in 2013 it ceased all production of black beer, saying the likely effect of the price rise on sales among the largely elderly buyers of Mather's Black Beer meant it was not worth continuing with the product.⁸⁸

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