

ALAPOCAS RUN STATE PARK
WINTER TAVERN TALES:
COLONIAL
BREWING

MICHAEL CARVER – THE REGIMENTAL BREWMEISTER

AGENDA

- Who is the Brewmeister?
- Role of Beer in British North America
- Taverns and Tavern Culture
- Our 18th Century Brewery
- 18th Century Brewing Practices
- What's the Beer Like?
(we have samples)
- Fun Stuff
- Q&A



WHO IS THE REGIMENTAL BREWMEISTER?

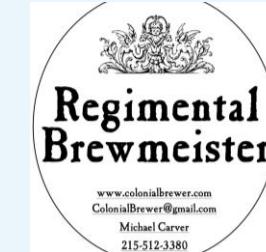


The Regimental Brewmeister is a non-profit corporation focused on historical beverages and tavern culture. Our focus is American social, industrial, and political life between 1765 and 1810.

We run a number of interpretive programs in the Philadelphia region with an emphasis on teaching the affairs of daily life in Pennsylvania during the American Revolution.



WHAT DO WE DO?



BREWING

- Public presentations
- Four vessel field brewery
 - Kettle
 - Kühlschipp
 - Kieve
 - Kultur**
- 18th Century Recipes*
- 18th Century methods

FIELD TAVERNS

- Attempt to recreate the atmosphere of an 18th C tavern
- Cocktails of 18th Century
- Glees and tavern songs
- Tavern games and gambling
- Toasting

OTHER PROGRAMS

<ul style="list-style-type: none">• Colonial Surveyor• Colonial Scientist• Cordwainer• Chandler	<ul style="list-style-type: none">• Whitesmith• Blacksmith• Spymaster• Soldier in American Revolution
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*Adapted to modern materials and tastes

** Typically done offline in 21st Century manner

WHAT'S THE REGIMENTAL FOCUS?



The British Army in North America soon learned from the French the importance of spruce beer for treating and preventing scurvy. John Knox, an officer in the 43rd Regiment of Foot, insisted that his troops at Louisbourg (1745) be supplied with spruce beer, *"this liquor being thought necessary for the preservation of the health of our men."* When British troops were again involved in a campaign against the French in Nova Scotia in 1757, their commander, the Earl of Loudoun, insisted on an allowance of two quarts of spruce beer per man each day. General Jeffrey Amherst, chief of British forces in North America, insisted that the troops be well supplied with spruce beer, *"for the health and convenience of the troops."* A brewery was set up at the head of Lake George with each regiment donating one man to help with the brewing. When Amherst's troops moved north to capture the French Fort Carillon, subsequently renamed Fort Ticonderoga, each regiment took with it eight barrels of spruce beer. Following the British lead, George Washington quickly adopted the use of spruce beer in order to keep his troops fit for service. *"The following is the Ration of Provisions allowed by the Continental Congress unto each Soldier. ... One quart of Spruce Beer per man, pr diem,..."*

ROLE OF BEER IN BRITISH NORTH AMERICA



DON'T DRINK THE WATER!

- European experience with dense settlement and polluted waters continues to drive behavior
- Germ theory is rudimentary
 - Balancing humors
 - Miasma

BEER IS FOOD

- Beer and Agriculture are closely tied
- Beer is a way to preserve and transport grain harvests
- Making beer creates means to use the same grain as food and animal feed
- LIQUID BREAD

SOCIAL LUBRICANT

- Drinking has religious roles
- Drinking has political roles
- Drinking has commercial roles (beyond sale of beer)

DON'T DRINK THE WATER!



Sanitation was primitive before the 19th Century.

- Little regard made to separate sewage from water supplies
- Industrial drainage (like from tanneries) was a huge problem.
- Animal waste run-off into streams and rivers.
- No provision for water treatment other than dilution meant water near cities was very bad.
- Germ Theory was not well understood.

All this lead to a public distrust of fresh water, even when it was clean.

Empirically, if you drink brewed beverages (beer, tea, distilled spirits), you don't get sick but if you drink the water, you bet cholera, typhus, and various dysentery diseases.

BEER IS FOOD



BEER IS MEDICINAL

Especially significant for Army and Navy which relied on scant rations like hardtack, dried beans, salted meat, etc.

Spruce Beer was issued to soldiers as a preventative and curative supplement against scurvy.

All beer has key vitamins and minerals like B12 and selenium.

Modern studies show a huge host of benefits from daily beer intake.



BEER IS HYDRATING

The brewing process makes beer free from most disease causing infections.

Small beer was a common drink for those who could not trust the water.



BEER IS LIQUID BREAD

Beer is a good portable and storable source of calories.

Beer is consumed morning, noon and night.

Converting grain to beer also allows the same grain to be consumed by people (as beer) and fed to livestock (as spent malt).

WHY DID THE PILGRIMS GO TO MASSACHUSETTS INSTEAD OF VIRGINIA?



"We could not now take time for further search or consideration: our victuals being much spent, especially our beer." -Mayflower logbook entry dated December 16, 1620

On November 9, 1620, after 64 days at sea, the *Mayflower* sighted Cape Cod. Delays enroute with their companion ship, the *Speedwell*, and bad weather, made the trip longer than expected. They were also seriously off course as their patent from the Virginia Company authorized them to establish a plantation between 38 and 41 degrees north latitude (Virginia) not their current 42 degrees (Cape Cod). To make matters worse, after being at sea for nearly two months, with nearly twice as many passengers as planned, their ships stores were dangerously low.

The ship relied on beer was a dietary mainstay. Unlike fresh water, beer would keep during long voyages and was less likely cause diseases aboard ship. When the ship arrived in Massachusetts, Captain Christopher Jones assessed his stores and decided that he only had enough beer for his crew of 50 to sail home. The passengers had to disembark and make provisions for themselves.

William Bradford and his companions "*were hastened ashore and made to drink water, that the seamen might have the more beer.*" After the Pilgrims were on land and they found the local water difficult to drink (mostly due to fears as the water in Massachusetts was safe) and often frozen. When Bradford tried to appeal to the captain for some of the remaining beer stock, he was told that he wouldn't get it "*not even if he were my own father.*"



BEER IS A SOCIAL LUBRICANT



IT EASES SOCIAL AWKWARDNESS

Business deals were often sealed with a drink. Beer enhances social interactions by lowering inhibitions and fostering open communication. This It has a unique way of easing social awkwardness and allowing individuals to let their guard down.

BEER FOSTERS CAMARADERIE.

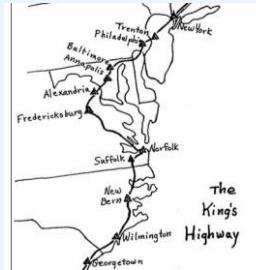
This helped tie far flung communities together and create a social bonding. This sense of social togetherness allowed political dialogs to progress and may have had a significant role in the fomenting of rebellion that lead to the American Revolution.

BEER WAS AN INDUCEMENT TO POLITICAL ENGAGEMENT

Whether it was reporting to monthly militia duty or coming to the polls to vote or perhaps "taking the Kings Shilling, "taverns and the drinks they served were a significant inducement to me doing their duties.



ROLE OF TAVERNS IN THE BRITISH EMPIRE



PROMOTE TRADE

- Taverns were demanded (by Royal Decree) to be established every 10-15 miles along significant highways.
- At ferry crossings and crossroads
- Provide food and lodging to travelers
- Local markets

MOST SIGNIFICANT PUBLIC BUILDING IN MOST TOWNS¹

- NOT A CHURCH! - hence a place to conduct business deals and trade
- Public meetings
 - Militia
 - Post offices
 - Courts
 - Polls

SPREAD THE NEWS

- Post offices
- Advertisements and announcements
- Travelers tell stories/news
- Gathering point for isolated and spread out communities

¹ after the church



A
JOURNEYMAN
BREWER
IN 1770



18TH CENTURY RECEIPTS

We take historical references, interpret and complete the recipes then adapt them to work with available modern ingredients and to satisfy modern palates.



18TH CENTURY TECHNOLOGY

We literally built our own brewing apparatus using existent museum examples, published sources, and our understanding of the technologies and material available to colonist of 1770 Philadelphia.



18TH CENTURY METHODS

This is the hard part as many of these methods are lost. As living historians, we are experimenting with the tools and materials in the hope of recreating the methods and hence the beers of 1770.

IT ALL STARTS ON THE FARM



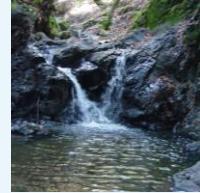
Beer is made from grain, hops and other herbs, yeast, and sometimes other sources of sugar (like fruit, maple sap, or sugar cane).

Beer history of beer is inextricably linked to the history of agriculture and there is a heated debate as to which evolved first. Was it beer that developed as a result of grain farming or was it grain farming that developed to serve the demands of beer production.

FOUR BASIC INGREDIENTS



WATER



Water was the key ingredient that made beer good or bad. Brewers strove to establish breweries UPSTREAM from settlements and when possible near protected sources of water.

GRAIN

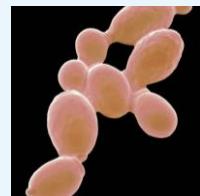


Most beer today is made from European 2 row barley. In the Americas native 6 row barley as well as corn, and other grains.

HOPS



Early settlers imported hops from the Netherlands but soon found that New York and parts of New England were also ideal terroir for hops.



YEAST

Brewing with wild yeast is really an art from ancient brewing (ie 3000 BCE). By the 18th Century, brewers managed and safeguarded selected strains of yeast and propagated these in their beer.

QUICK NOTE ON REINHEITSGEBOT



Wilhelm IV - Duke of Bavaria (1508-1550)

Wir verordnen, setzen und wollen mit dem Rat unserer Landschaft, dass forthin überall im Fürstentum Bayern sowohl auf dem Lande wie auch in unseren Städten und Märkten, die keine besondere Ordnung dafür haben, von Michaeli bis Georgi eine Mass oder ein Kopf Bier für nicht mehr als einen Pfennig Münchener Währung und von Georgi bis Michaeli die Mass für nicht mehr als zwei Pfennig derselben Währung, der Kopf für nicht mehr als drei Heller bei Andrehung unten angeführter Strafe gegeben und ausgeschenkt werden soll.

Wo aber einer nicht. Märzen sondern anderes Bier brauen oder sonstwie haben würde, soll er keineswegs höher als um einen Pfennig die Mass ausschenken und verkaufen. Ganz besonders wollen wir, dass forthin allenthalben in unseren Städten, Märkten und auf dem Lande zu keinem Bier mehr Stücke als allein Gersten, Hopsen und Wasser verwendet und gebraucht werden sollen.

Wer diese unsere Andrehung wesentlich übertritt und nicht einhält, dem soll von seiner Gerichtsbarkeit zur Strafe dieses Fass Bier, so oft es vorkommt, unachtsichtig weggenommen werden.

Wo jedoch ein Gastwirt von einem Bierbräu in unseren Städten, Märkten oder auf dem Lande einen, zwei oder drei Eimer Bier kauft und wieder ausschenkt an das gemeine Bauernvolk, soll ihm allein und sonst niemand erlaubt und verboten sein, die Mass oder den Kopf Bier um einen Heller teurer als oben vorgeschrieben ist, zu geben und auszuschenken.

Auch soll uns als Landesfürsten vorbehalten sein, für den Fall, dass aus Mangel und Verteuerung des Getreides starke Beschränkung entstünde, nachdem die Jahrgänge auch die Gegend und die Reizeiten in unserem Land verschieden sind, zum allgemeinen Nutzen Einschränkungen zu verordnen, wie solches am Schluss über den Verkauf ausführlich ausgedrückt und gesetzt ist.

We hereby proclaim and decree, by Authority of our Province, that henceforth in the Duchy of Bavaria, in the country as well as in the cities and marketplaces, the following rules apply to the sale of beer:

From Michaelmas to Georgi, the price for one Mass or one Kopf, is not to exceed one Pfennig Munich value, and from Georgi to Michaelmas, the Mass shall not be sold for more than two Pfennig of the same value, the Kopf not more than three Heller.

If this not be adhered to, the punishment stated below shall be administered. Should any person brew, or otherwise have, other beer than March beer, it is not to be sold any higher than one Pfennig per Mass.

Furthermore, we wish to emphasize that in future in all cities, market-towns and in the country, the only ingredients used for the brewing of beer must be Barley, Hops and Water. Whosoever knowingly disregards or transgresses upon this ordinance, shall be punished by the Court authorities' confiscating such barrels of beer, without fail.

Should, however, an innkeeper in the country, city or market-towns buy two or three pails of beer and sell it again to the common peasantry, he alone shall be permitted to charge one Heller more for the Mass or the Kopf, than mentioned above. Furthermore, should there arise a scarcity and subsequent price increase of the barley, WE, the Bavarian Duchy, shall have the right to order curtailments for the good of all concerned.

BRITISH AMERICAN
BEER NEVER
FOLLOWED
REINHETSGEOT!



We brew with native grains:

- Barley
- Rye
- Maize
- Spelt
- Rice
- Wheat

We also "enhance" our beers in the Colonies with various "fortifiers:"

- Cane Sugar
- Molasses
- Maple Sugar
- Sorghum
- Honey
- Distilled Sprits

Finally, many of the most popular Colonial Beers have ingredients EXPRESSLY PROHIBITED by Reinheitsgot:

- Spruce Nettles
- Spices
- Local flowers
- Fruit
- Pumpkins

GRAINS



In the early years of colonization, all the supplies for beer making were imported from England. After a very short time, however, this practice was deemed impractical and settlers began cultivating their own grains for beer, adopting the locally available 6 row barley (rather than the traditional European 2 row barley) and incorporating other grains like maize, sugar cane, and rice, and rye into their beers.

Six row barley, native to North America, is not as easily mashed as European 2 row so much more is used in the manufacture of beer. It also has a higher protein content giving the beer a denser fuller body. Six row barley also has a higher tannin content making the beer both more hazy and a bit astringent. It is, however, the grain that is native to North America and prior to the settlement of the Louisiana Purchase territories, the predominant grain for making beer in America.

GRAINS

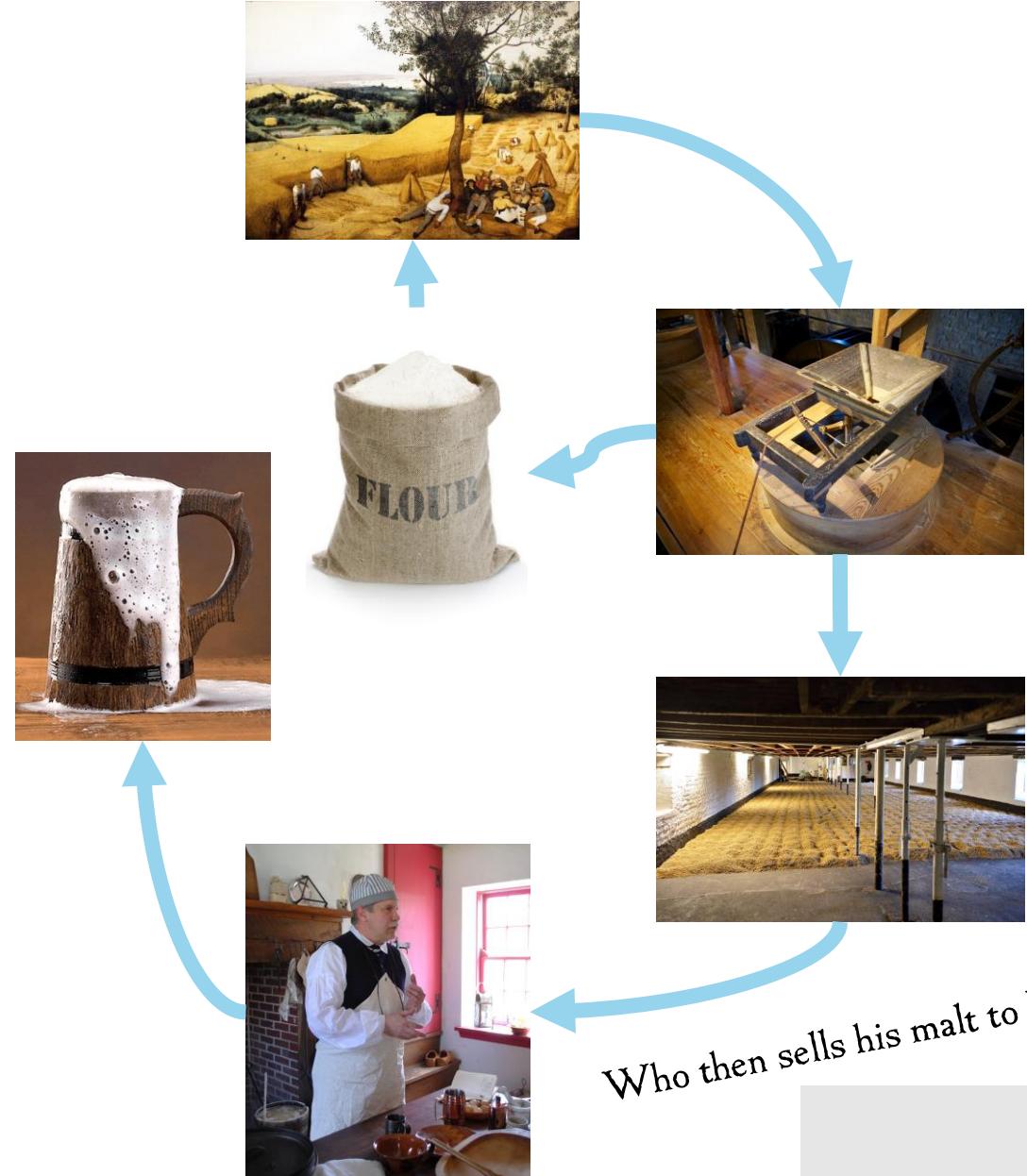
In 1721 Governor William Keith purchased the Fountain Low Estate in what would eventually become Horsham Pennsylvania and at it built Pennsylvania's first malt house. Production of domestic malted barley was one of the chief industries Kieth attempted to bring to Pennsylvania as the cost of imports was staggering.

Barley must be germinated then roasted in order for it to be useful in the manufacture of beer. Germination (malting) begins the biological process of converting the stored starches in the grain into fermentable sugars. Roasting halts this process so that the malt can be stored. Malt color is a function of how long the malt is roasted. Roasting for a short time produces amber or pale beer, whereas longer roasts create dark malt for darker beers.



THE MILLER, THE MALTER, AND THE BREWER

The miller, malter, and brewer were all closely related craftsmen who drove (with perhaps a baker or two) the demand and local consumption of the grain crop.



BOTANICALS



Hops are used to preserve the beer and various other botanical agents are added as flavorings.

One of the more popular botanicals we use is spruce. When Jacques Cartier, overwintered in Quebec in 1535-36 almost all his men fell ill with scurvy through lack of fresh food. 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 but later French settlers often used spruce trees for the same effect.

The British Army in North America soon learned from the French the importance of spruce beer for treating and preventing scurvy. Following the British lead, George Washington quickly adopted the use of spruce beer in order to keep his troops “*fit for service*.”

YEAST



In the 1770's brewers were aware of yeast and actively managed cultures even though they really did not understand what it was. As wort ferments, yeast falls to the bottom of the vessel and by taking some of this *strube* and using it to inoculate the next batch of beer, you can easily brew beer in mass quantities. Another way to inoculate your beer with yeast, commonly employed in the 18th Century and mentioned in my presentations, is to use natural airborne yeast. Simply exposing the wort to the air allows these yeast to settle into your beer and begin the fermentation process but this exposes your beer to all sorts of contaminants (especially in a modern setting).

ADJUNCTS



Many 18th Century beer receipts call for “*molasses*” because of the vibrant trade in slave produced Caribbean sugar. It is important to note, however, that “*molasses*” does not mean that dark thick, often sulphonated, syrup you buy in the modern grocery store! “*Molasses*” in the 18th Century was simply unrefined sugar and closely resembled brown sugar or turbinado sugar.

Molasses is a waste product in the refining of the white sugar. It was imported to the mid-Atlantic colonies primarily for the production of rum but much found its way into breweries up and down the seaboard. Adding sugar to the beer doesn’t make the beer sweet, it increases its alcoholic content.

In addition to sugar, various spices, fruits, and vegetables (like pumpkin and potato) were sometimes added to beers in order to create regional and seasonal brews with available resources.

OUR FOUR VESSEL BREWERY



KETTLE

Our flagship presentation is the use of a 30 gallon copper kettle over a wood fire. This is the chief manner for heating our water and wort as we brew.



KIEVE

The predecessor to a modern mash tun, the kieve (named after the city) is a large barrel with a false bottom that allows grains to be mixed with hot water then lautered (strained) from the wort.



KÜHLSCHIPP

In the 18th Century we do not have powered pumps nor do we have running water. Cooling our beer must be done by convection and this is accomplished in the shallow, broad kühschipp.



KULTUR

We do all fermentation at home under modern sanitation and not at events but it is in the fermenter that wort becomes beer as this is where the yeast breakdown the sugars in our wort to make carbon dioxide and alcohol.

KETTLE



The word “brew” comes from the Dutch *brouwen* – to bubble or effervesce; and it is in the kettle that we do the heavy work of brewing. Over a wood fire we boil the wort breaking down the proteins, killing any undesirable pathogens, and breaking down/caramelizing the sugars some more. Then we add bitterness with hops and other botanicals (like spruce).

The choice of copper rather than iron or other metals for the kettle were empirically understood by the 18th Century brewers but the reasons have only been recently understood at a scientific level. Copper is antimicrobial meaning that it is harder for the microbes that spoil beer (and cause illnesses) to grow on copper than other metals.

One interesting side note is that we boil beer in the 18th Century much longer than necessary. This is due to our understanding of diseases. In 1770 the prevailing theory on propagation of disease was miasma (bad air) and clearly as we brew beer, we are extracting these bad airs.

KIEVE



A kieve is a tub or vat used to mash and subsequently lauter wort. The term comes from the German word *kübel* which means bucket and my kieve is just that, a large (30 gallon to match the copper) bucket with wooden sheathing to keep in the heat.

Mashing is the process of extracting soluble materials from the grains with water and converting them into a form the yeast can use. This requires that the grain be exposed to warm (not hot) water for an extended period of time. Lautering is the physical separation of the sugars extracted from the malt from the husks and bulk material in the grain. The primary advantage of the kieve is that because it has a fitted "false bottom" the grain can be washed (sparged) with an extra amount of hot water to rinse the sugars from the grains allowing us to extract more malt sugar from a pound of raw malt which creates stronger, richer beer.

KÜHLSCHIPP



Modern breweries make good use of literally centuries of scientific study in heat transfer and exchange. In modern breweries, we have highly efficient means of heating and cooling our wort but in the 18th Century, all of this was much more primitive but we need the cooling process to complete in less than 2 hours or else bacteria will begin to grow souring and even spoiling the beer. When you brew on the barrel of larger scale, simply waiting for the beer to cool radiatively is not going to work as it could easily take 7-24 hours).

A kühlschipp is a very wide and shallow basin with an open top so that the wort remains exposed to the air above it. The high surface area-to-volume ratios has three functions: cooling, aeration of the wort, and separation of the cold trub. In some situations, a hop-filtering basket (Hop Jack) is attached to clarify the wort before fermentation.

KULTUR



Traditionally, fermentation would occur in a barrel with an open top. The outgassing from the fermentation process keeps the beer clean from bacteria and such that would settle on it but care must be taken to transfer this beer to a sealed container as soon as the fermentation comes to an end. Another traditional approach is to put the beer in a barrel and loosely fit a stopper in the bung so that gases can escape. When the fermentation is close to complete, the stopper is driven home with a mallet, sealing the barrel, and allowing for the last bit of fermentation to carbonate the beer.

Here, I make a concession to the 21st Century and use a large glass bottle which I seal with a water lock that allows gasses to go out but not come back in. It's not period correct but it does satisfy our modern focus on food safety and sanitation.

OTHER ACTIVITIES COMMON TO 18TH CENTURY BREWING



SAVING AND
TRANSPORTING YEAST

I frequently get comments on our yeast ring. This not just an artistic piece but a vital tool for the Regimental/Brewmeister when the brewery had to be relocated.



DECOCTION

Decoction is an archaic method of extracting more sugar from malt. It involves taking a portion of the malt from the kieve (decocting) and placing it over the fire to bring it to a boil then returning it to the mash.



CASKING

Barrels and casks were the primary storage and transport for beer. Barrels are round and hence easily rolled (even when upright) allowing large quantities to be readily moved by hand without additional tools.

THE YEAST RING



The yeast ring or gjarkrans is a piece of traditional brewing gear from medieval Sweden and Denmark. This tool resembles a complicated wreath of small pieces of whittled wood. Yeast harvested from one batch of beer to the next is dried onto the complex surface of this ring thereby allowing us to store and propagate our yeast was we brew.

Brewers who brew batch after batch of beer in the same location and always with the same yeast have the luxury of simply inoculating each batch with the wort of the previous batch but what do you do when you brew infrequently or in many different locations? This is where the yeast ring comes in. Because it has a very high surface area with lots of nooks and crannies, yeast can easily be adsorbed onto the surface of this wreathlike structure in a very thin layer making drying easy. This allows the brewer to safely store their yeast.

MAKING DECOCTIONS



Modern barley has been carefully selected and genetically modified making the mash process much easier and more efficient. In the 18th Century, before all this selective breeding, we would often help the digestion of starches into sugars by removing a portion of the mash, heating it over the fire, then returning to the mash tun. This process is called decoction and will be repeated two to ten times during the course of mashing. This process was not understood scientifically but rather learned from trial and error.

BARRELS, KEGS, AND BOTTLES



Most beer prior to the 19th Century was stored in barrels. Barrels are easy to move, they are durable, and wood for barrels was much easier to acquire than shaped glass. Beer has been stored in bottles since the invention of beer but early beer bottles were made of clay and bottled beer was either flat (non-carbonated) or bottled with wired down corks (like champagne). Our beer is necessarily served in anachronistic 19th Century snap cap bottles for convenience although sometimes we roll out the barrels. The earliest known reference to bottling beer comes from England in 1662, when a London tavern owner was granted a patent for a "new invention for bottling beer." These bottles were typically re-used many times, and NEVER SOLD. We continue that tradition.



Wired cap



Snap cap



18th
Century
Bottle

WHAT AN ARCANE SET OF MEASURES

1 teaspoon	1/6 ounce	2 pottle	1 gallon
3 teaspoons	1 nipperkin	2 gallons	1 pail
1 tablespoon	1 nipperkin	2 pail	1 pin
2 nipperkin	1 nip	2 pin	1 firkin
2 nip	1 jigger	2 firkin	1 rundlet
2 jiggers	1 jack	2 rundlet	1 barrel
2 jacks	1 gill	1 1/2 barrels	1 hogshead
2 gill	1 cup	2 barrels	1 butt
2 cups	1 pint	2 hogsheads	1 cask
2 pints	1 quart	2 butts	1 tun
2 quarts	1 pottle		

HOW DOES IT ALL WORK?

It's similar to modern brewing but there are some significant differences.



IT ALL STARTS
WITH GRAINS



MALTING



ROASTING



GRIST



MASH



BOIL



COOL



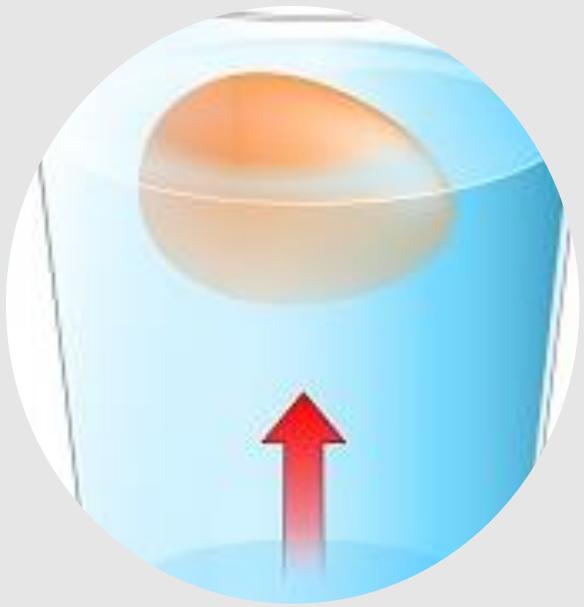
FERMENT

MANAGING TEMPERATURE



Daniel Fahrenheit invented the mercury thermometer and its scale in 1724 and it's a fragile expensive piece of technology well beyond the means of even the most affluent breweries in America. We judge temperature with our other senses.

<u>"Scalding"</u>	150-175 °F	This is the temperature for the mash. We watch behavior of the steam or vapor over the kettle or listen to it "sing."
Boiling	212 °F	Okay, this is the easy one, look for bubbles
"Blood Temperature"	95 - 100 °F	This is the temperature where I can safely introduce yeast. Put your finger in and if it's the same temperature as the brewer, its safe for yeast.



MANAGING CONCENTRATIONS

Thomas Tomson won't invent the hydrometer until 1770, so how do we judge gravities (and hence ABV)? Well, an egg is a pretty good substitute. If you immerse an egg in water it will sink but if you immerse it in cooled wort, it will float. A raw egg has a specific gravity of about 1.077 so if my starting gravity is close to this, the egg will float. Of course, if my starting gravity is that high, my final beer will likely have an ABV of about 9% but 18th Century beer was strong.

MANAGING BREW TIMES



I need to judge the time for the mash and for the boil. As a Journeyman Brewer, I might have a watch but it would be one of the most expensive things I own. There are good substitutes such as the position of the sun or the rate at which a candle burns, but using these takes practice which is why you learn to brew as an apprentice.

MOVING BEER WHILE BREWING



Fine glass tubing was not something common in 18th Century America nor were rubber hoses. If I want to move wort or beer I must use a ladle.



THERE ARE QUIITE A FEW CHALLENGES



FIRE!

Modern homebrewers have easily controlled gas or electric heating. We use wood fires and these are NEVER at the right temperature. When too cool, the kettle never boils, when too hot, the kettle boils over (often extinguishing the fire). Learning to brew over a fire is complicated.



MODERN GRAINS AND HOPS ARE DIFFERENT

You can't get the same malt, yeast, and hops used in the 18th Century. They have been genetically engineered into extinction. Even the water is different after nearly two hundred fifty years of "purification." Our malts convert better, our yeasts are more efficient, and our water (even spring water) has trace chemicals in it that alter the taste.

3 hours. Then strain our 30 Gall^{ts} into a Cooler just in 3 Gall^{ts}.
Now pass w^t the Barren. Scalding hot, then draw the
Ale off into the Cooler. Strain the Barren & when boiling. Then
at this stand let it be little more than Blood warm. Then pour in
a quart of Yeast if the weather is
very cold cover it over with a Blank
& let work in the cooler 24 hours.

EXISTENT RECIPES ARE VAGUE AND INCOMPLETE

To recreate 18th Century recipes, you quickly learn that you must interpret these instructions not follow them blindly. Unlike modern recipes, these were the notes of an expert intended to be taught rather than read. I do not follow the instructions exactly as written. To do so will create undrinkable swill.

HOW IS 18TH CENTURY BEER DIFFERENT?

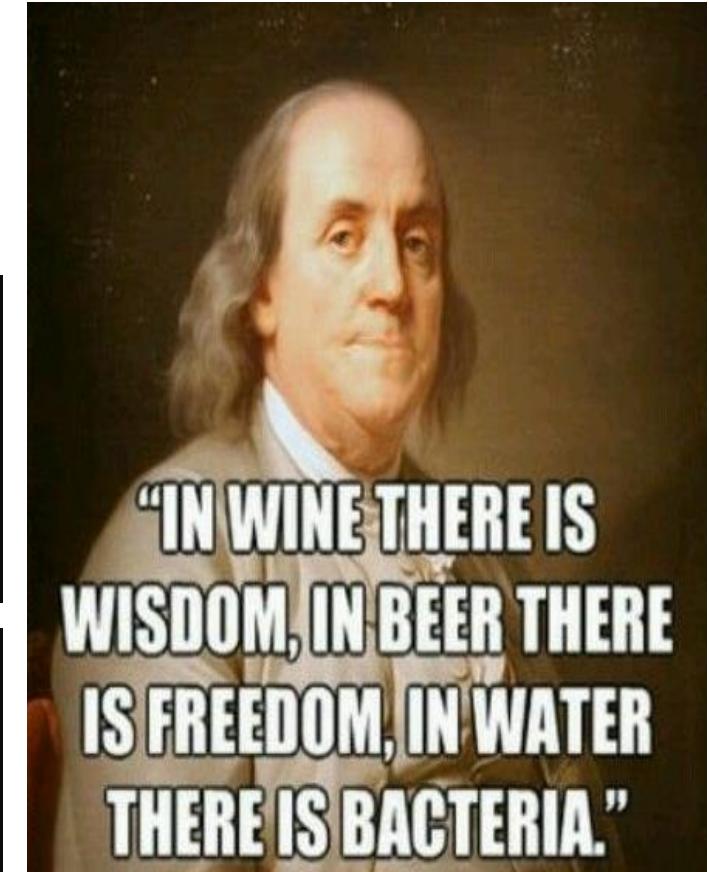
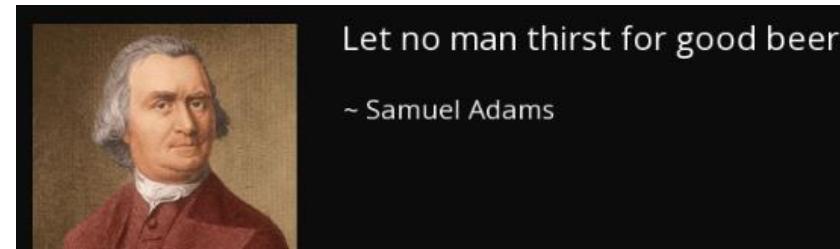
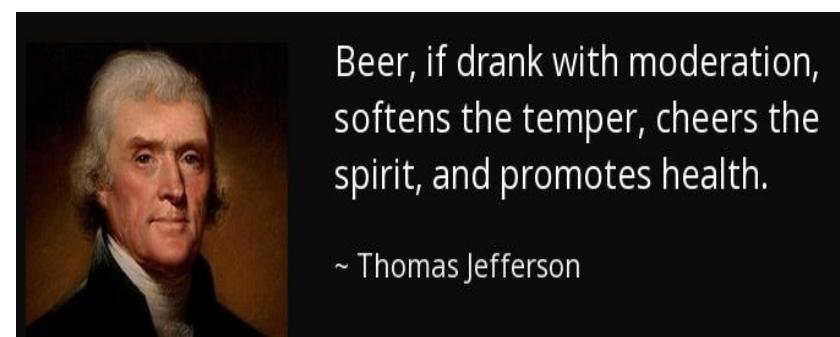
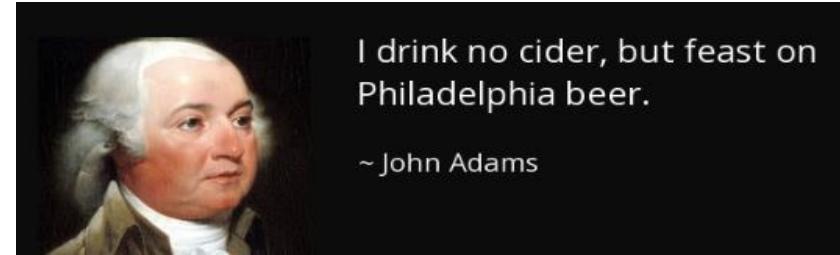
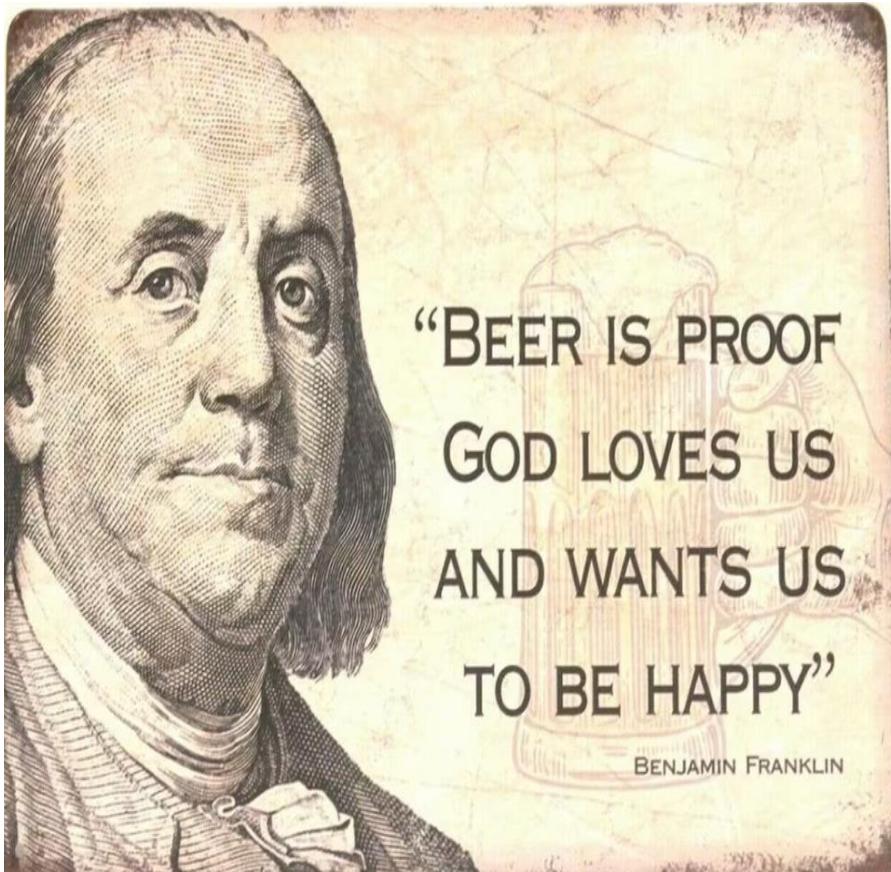


18 th Century		21 st Century
Malt	Mixture of malted grains including rye, oats, and barley. When barley is used, it is generally 6-row rather than 2-row barley so more malt is needed to get the same gravity.	Generally, "pure" species of barley where all the barley is purposefully combined. Barley is typically the modern 2-row variety with larger kernels yielding more sugar per gram.
Hops	Not just hops but a wide variety of flowering herbs and other botanicals (eg spruce tips) are used.	Well defined and cultivated species of <u><i>Cannabaceae</i></u> <u><i>Humulus Lupus</i></u> from the hemp family of vines.
Yeast	Wild yeast and mixed cultures comingled. Yeast for 18 th Century beer would have been maintained as a culture unique to each brewer and passed down from generation to generation.	"Pure" strains of <u><i>Saccharomyces pastorianus</i></u> (lager yeast) or <u><i>Saccharomyces cerevisiae</i></u> (ale yeast). Modern yeast is often commercially prepared and freeze dried. Modern brewers change yeast to match the beers style they are brewing.
Beer Statistics	ABV: 5-15% Color: 7-30 SRM Bitterness: 5-50 IBU	ABV: 3-7% Color: 3-10 SRM Bitterness: 20-120 IBU
Production	Generally fermented as ales at ambient temperatures (can produce floral and other esters)	Generally fermented in controlled conditions this gives beer a "clean" taste with few esters.
Filtration	Never filtered	Generally filtered
Carbonation	Naturally carbonated (with yeast in bottom of bottle) or flat	Generally, force carbonated after filtration
Served	Always at room temperature	Generally, chilled.

FUN STUFF



These are Apocryphal but Fun





GLEES, FOLLIES, AND TAVERN ENTERTAINMENT

Songs sung in taverns were usually performed by patrons for their own entertainment. Occasionally tavern owners would hire musicians to perform. Entertainers would show up at a tavern hoping to entertain the patrons hoping to receive tips. These musicians often mixed ballads with rowdy drinking songs that encouraged the clientele to join in.

Various tavern games (generally gambling games) were also popular.

COCKTAILS AND PUNCH

Because of Prohibition, in America we tend to think of the invention the cocktail to be a modern thing born in speakeasys and underground bars, but there is a long history of mixing beer and distilled spirits (rum, whiskey, brady, etc) with sugar, tea, juices and other additives to make cocktails. At the head of this list of concocted drinks is punch.

Punch was introduced from the Indian subcontinent to England by employees of the East India Company in the late 17th century. The original drink was named paantsch from Hindi पांच (pāñc), meaning "five," as the drink was frequently made with five ingredients: alcohol, sugar, juice from either a lime or a lemon, water, and spices or tea. At parties, punch was typically served in wide bowls with aphorisms or jokes printed along the rim. When the drinker emptied the bowl, they found the conclusion of the joke, the "punch line," printed on the bottom of the bowl.





“To drink at a table without drinking to the health of someone special, should be considered drinking on the sly, and as an act of incivility.”

- Poor Richard

TOASTS

Toasts would solidify the bonds of groups. Toasts add a competitive element of drinking. To give a proper toast requires courage, it's sort of a mini performance, one that requires facing the chance of achieving great success, or stumbling over what you say. Toasting elicits laughter, dispenses well wishes, and venerates people, events, and ideas (like liberty).

Beer has been Important Throughout History

"There is nothing which has yet been contrived by man by which so much happiness is produced as by a good tavern or inn."

—Samuel Johnson, arguably the most distinguished man of letters in English history (1772)

"He who drinks beer sleeps well. he who sleeps well cannot sin. He who does not sin goes to heaven.
Amen."

— Friar Tuck, Robin Hood

"Many battles have been fought and won by soldiers nourished on beer."

—Frederick the Great

"Give me a woman who loves beer and I will conquer the world."

—Kaiser Wilhelm

"On victory, you deserve beer, in defeat, you need it."

— Napoleon

"Thirstily he set it to his lips, and as its cool refreshment began to soothe his throat, he thanked Heaven that in a world of much evil there was still so good a thing as ale."

— Rafael Sabatini, Fortune's Fool

"The mouth of a perfectly happy man is filled with beer."

—Ancient Egyptian Wisdom, 2200 B.C.

"We should look for someone to eat and drink with before looking for something to eat and drink."

— Epicurus

"He was a wise man who invented beer"

— Plato

"So, when the devil says to you, 'Do not drink,' answer him: 'I will drink, and right freely, just because you tell me not to.' One must always do what Satan forbids."

— Martin Luther

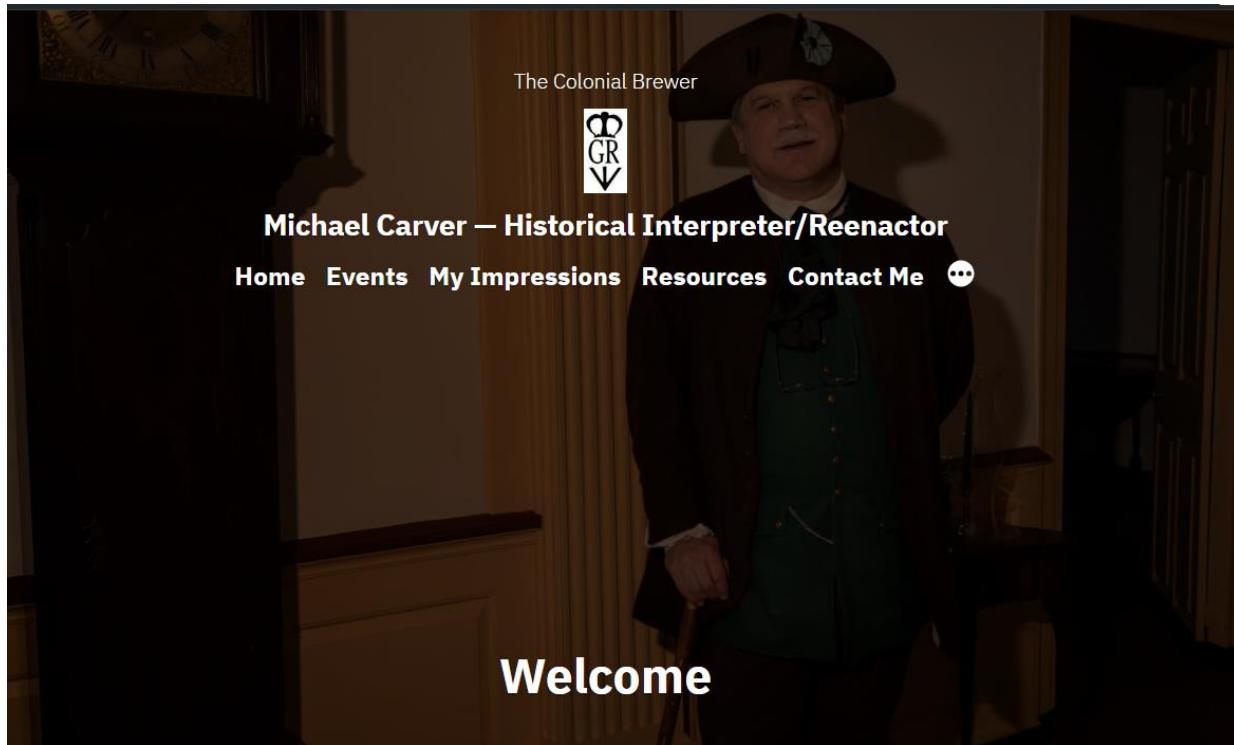
YES, WE WERE ON MOONSHINERS

April 22, 2022
How to Make Benjamin
Franklin's Lost Booze Recipe



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Upcoming Events

What	Where	When
Colonial Brewing	Rittenhouse Town	1/20/24
Winter Masquerade	Colonial Pennsylvania Plantation	1/27/24
Colonial Brewing	Pennypacker Mills	5/18/24
Tavern Night	Williams Ordinary Dumfries, VA	6/10/24



THANK YOU

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