"All the Brews that's fit to print!"

St. Louis Brews

THE BREW NOTE

February 2015

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A Brief History of Sour Beer

BY CHRISTIAN DEBENEDETTI

On a quiet June afternoon at Philadelphia's Monk's Cafe, William Reed, a former Boston Beer Company brewer, popped the top on part of an experimental batch that he'd brewed in 1996. Originally made at the request of Tom Peters, the happy pasha of Monk's, it was a Flanders red ale called Brewhouse Tart, fermented with a mixture of conventional and wild yeasts, which can wreak sensory havoc. That year, Reed, still green, lucked out, presenting a taste to the late, influential British beer writer Michael Jackson—a frequent guest lecturer at the University of Pennsylvania's Museum of Archeology and Anthropology—who loved it, immortalizing it in one of his sixteen books. "He was blown away," Peters said. Reed set aside a single keg, which remained, more or less forgotten, in a cellar for seventeen years, until he opened it last month. The beer, improbably, was in terrific shape, with a brick-like color and tannic, woody, cherry- and port-like flavors. But what was notable was its acidity. Brewhouse Tart tasted like a liquid Sour Patch Kid.

Before the advent of refrigeration and advances in the science of fermentation in the mid-nineteenth century, almost all beer was, to varying degrees, sour. The culprits were pre-modern sanitation and poorly understood, often naturally occurring bacteria including Lactobacillus and Pediococcus, as well as Brettanomyces yeasts, which can contribute a hint of tartness and characteristic "funky" flavors and aromas, sometimes compared to leather, smoke, and "horse blanket." In a development that would make Pasteur, the father of biogenesis (as well as his method for halting it, pasteurization) roll in his grave, brewers, especially in the United States, have embraced the time-honored Belgian art of deliberately infecting beer with the same "wild" bugs that generations of their predecessors so painstakingly eradicated. The result: pleasingly sour, food-friendly beer, mysteriously complex and engaging.

At brewing conventions these days, the best-attended lectures aren't

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about hops. They're about inoculating wood barrels with wild yeast, with slide shows of oozing bungs and anti-oxidative pellicles. Brewers have put the lessons to use, releasing hundreds of commercial examples of American sour ales. These sometimes have lofty, even sacerdotal names: there's Allagash's Resurgam ("I shall rise again") and Russian River Brewing's Consecration, for starters. With pH akin to good Pinot Noir, the best make it onto serious menus. The worst taste of nail-polish remover, rotten apple, coconut, or the dreaded "baby diaper." A consistent product is notoriously tricky to pull off; brewers might be said to guide, rather than master, the beers, hoping for serendipity. Amid all the trial and error, ancient brewing history is repeating, spreading around the nation one foamy, infected-on-purpose barrel at a time: to Billings, Montana; Athens, Ohio; Tampa; L.A.; Brooklyn (of course). Where next?

Commercially available Belgian sour beers first came to the United States in the nineteen-seventies, laying the groundwork for ever-tarter domestic beers. The Cantillon brewery, founded in 1900, in Brussels's Anderlecht neighborhood, still brews the most uncompromising examples—specializing in lambic, spontaneously fermented sour ale, and gueuze, made of blended, aged lambics. (Other sour Belgian styles, brewed elsewhere, include the red and brown ales of Flanders, such as those made by Rodenbach.) Widely misunderstood at first, Cantillon's austere, tart, musty character has sometimes led drinkers to declare the beer infected—and to return bottles by the case. In early 1997, when I first visited the brewery, the beers were not available in the United States beyond a few semi-smuggled shipments. "Cantillon seemed crazy at the time," says Dan Shelton, the beer's quixotic importer. "It took almost ten years for people to realize that's what traditional lambic and gueuze is supposed to taste like."

This beer could scarcely come from a more atmospheric place. Virtually unchanged since the First World War, the brewery is a marvel of weathered beams, steam-powered flywheels, hammered-copper kettles, and a koelschip (often anglicized to "coolship"), an enormous, copper-lined pan in the brewery's attic, used for chilling wort—unfermented beer. Today, amid the barrels, Jean Van Roy, a forty-five-year-old, square-jawed great-grandson of the Cantillon line, runs the the show. Jean-Pierre, his affable seventy-one-year-old father, credited with saving lambic from death by added sweetener in the nineteen-seventies, works by his side, looking a bit like Max von Sydow.

During the cool winter months in Brussels—brewing takes place only seasonally—each new batch is pumped, steaming, into the koelschip. Then the younger Van Roy opens louvered vents and cranks on a fan, inviting wild yeasts and bacteria to inoculate the beer overnight (there's plenty stirring in the rafters, too). The next morning, the wort flows downstairs into empty Burgundy barrels, where it will slowly transform for up to four years, and later be blended and re-fermented, sometimes with fruit, to make Cantillon Kriek (cherry), Rosé de Gambrinus (raspberry), and Fou' Foune (apricot), among other variations. In recent years, Van Roy has also experimented with fermenting beers in terra-cotta amphorae and aging them on rhubarb, elderberries, Cabernet Franc and Merlot grapes from Saint-Émilion and Pomerol, and biodynamically grown Pineau d'Aunis, also known as Chenin Noir, from the Loire Valley.

In the meantime, inspired by Cantillon and other Belgian traditionalists, a motley crew of American rebels is pursuing the art of sour beer. There's Ron Jeffries, formerly known as "Captain Spooky," of Michigan's Jolly Pumpkin, credited with brewing some of the first good, all-wood-fermented American sours in the early two-thousands. California's Lost Abbey, of San Marcos, and Russian River, of Santa Rosa, have ascended to cult

status. Chad Yakobson, founder of the surging Crooked Stave brand in Denver, began his career with a masters on Brettanomyces. Even MillerCoors, through its AC Golden unit, is overseeing a wood-aging program under the watchful eye of an ambitious young brewer, Troy Casey. And in the Oregon wilderness, outside Bend, the brewer Paul Arney, formerly the R. & D. chief of the fifth-largest brewery in the country, Deschutes, has gone off the grid, too, fermenting some of his sour Ale Apothecary line in hollowed-out spruce trees resembling dugout canoes.

Who will lead the movement? Ask a beer geek, especially in the Northeast, and he or she might genuflect to the eighth-generation Vermonter Shaun Hill, who brews his Hill Farmstead beers—including some excellent sours, though they represent a small fraction of his production—on his family's rambling hundred-acre property, near Greensboro. Hill has attracted an almost crazed fan base; in just two years, the former philosophy major's operation has rocketed to the No. 1 worldwide ranking on RateBeer.com, although the brewery itself is, at present, a one-barn affair, so small that Hill's creations are almost impossible to find outside Vermont. With some frequency, visitors get their cars stuck on his property, so he has to fire up the tractor… again. It's a scenario that the thirty-three-year-old brewer—a self-taught perfectionist, with six years of brewing experience in Denmark, an abiding love of Dylan, and crowds of hundreds, even thousands of enthusiasts on weekends—regards with an air of disbelieving, proud misery. How will he ever keep up?

The demand is incessant, but more or less welcome. The endless attention, however, is less comforting. "I just want to be wanted," Hill told me on a snowy April night, as we sipped his latest (terrific) Flanders red, Prolegomena, a collaboration with the Boston-area brewer Will Meyers, of Cambridge Brewing Company. He was talking as much of his beers—usually named for his ancestors (i.e., Ephraim) or works of philosophy (Phenomenology of Spirit)—as the wounds of love. What motivates his devotees, in part, might be genetics: some biologists believe that humans evolved to enjoy low-level bacterial sourness to encourage probiotic health. High-proof pucker, on the other hand, can indicate spoilage. According to a study described in Nature, PKD2L1, the sour protein receptor, also resides along the entire length of the spinal cord, possibly monitoring cerebrospinal health. Sour beer lovers sometimes speak of being ruined on conventional beer styles—forever. It must be love. Or is it lightning, bottled? The ions of acidic foods, it turns out, can penetrate the cell walls of our tastebuds, triggering an electrical response, exchanging free radicals, like our skin in the open ocean.

Christian DeBenedetti, the author of The Great American Ale Trail and editor of Weekly Pint, is starting a sour-beer brewery on his family's hazelnut farm, outside Newberg, Oregon.

From The New Yorker

Our guest speaker for the February meeting is Kyle Kohlmorgen

Kyle Kohlmorgen was born and raised in a small Indiana farm community, He took off to Rose-Hulman to get a big, fancy engineering degree. It was here that he learned to love craft beer and eventually started homebrewing. Beer quickly took deep roots in his life, persuading him to specialize in Biochemical Engineering. He designed a brewery and production schedule for his senior project!

Fast-forward to 2013: I have been out in the real world for five years, working for various chemical and beverage companies. His homebrewing "hobby" has matured into a life goal, and continues to push his career and personal obsession together. His wife and he talk about their future, "the brewery" is always in the discussion. He is passionate about creating beers that, one day, people will ask for at establishments outside the South House Pilot Brewery Tasting Room (i.e. my basement).

After tasting La Folie, he began brewing sour beer, and his basement has been littered with pellicle-laden carboys ever since. Between brew days, he is a process engineering consultant for the food and beverage industry. Kyle is doing a presentation at 2015 AHA National Homebrew Conference, Practical Blending and Post-Fermentation Adjustments for the Homebrewer.

BeerSmith Home Brewing News

Phenolics and Tannins in Home Brewed Beer

This week we explore the problem of phenolic (and tannin) flavors in beer. Phenolics are usually considered an off flavor, though in some beer styles they may be desirable at low levels. This week's article is part of my ongoing series on off-flavors in beer including the previous articles on Diacetyl, DMS, and Esters as well as my article on judging beer.

What is a Phenolic?

Phenolics cause some confusion because they can introduce a variety of flavors to home brewed beer which vary from clove and banana at the low end to spicy or smoky flavors or even medicinal or band-aid like flavors in the extreme. In certain styles, notably German weizens and many Belgian beers the clove flavor can be desirable, but in most beers phenolics are considered a flaw.

Phenols or phenolics are chemical compounds similar in chemistry to alcohols (though not alcohol) that tend to be highly acidic. In fact some phenols are actually used as cleaning agents. They come in many varieties (polyphenols, chlorophenols, etc...), which is why they can drive several different off flavors in beer when present.

Phenolics are naturally produced by many yeast strains during the fermentation process, with some Belgian, German and British yeast strains being higher level producers. Another common source of phenols are wild yeast strains, which often contribute band-aid like flavors.

Sources of Phenolic Flavors in Beer

Because phenolics are produced by most yeast strains, they are present to some degree in any beer. However several key points in the brewing process and ingredient selection can drive how bad your phenolic problem will be in the finished beer.

Water Selection (Chlorine)

First, the use of chlorinated water for brewing is a bad choice. If you have water that is highly chlorinated, the chlorine will react with naturally occurring phenols in your beer and produce chlorophenols which have a very low taste threshold and are instantly picked up as a flaw when tasting. Chlorophenols manifest themselves in the finished beer with a strong band-aid or even diaper aroma and flavor.

Even if your regular tap water is relatively free from chlorine, you need to be aware that most US water sources are flushed about once a year with higher levels of chlorine to purge the system. If you happen to brew during that week, you may get a strong band-aid flavor. Using bottled RO water is a good alternative. Finally if you use chlorinated cleaning agents, such as bleach, you need to be thorough in rinsing your equipment before use as this can also introduce chlorine to the beer.

Mashing and Sparge Process

Another form of phenol is called polyphenols, which are more commonly called tannins. Tannins (polyphenols) tend to manifest themselves as an astringent or bitter flavor in the finished beer, and may also

lead to a permanent haze or chill haze (haze that shows up when the beer is chilled).

Tannins can be extracted by oversparging (continuing to sparge too long when mashing), sparging at too high a temperature (greater than 170 F or 77 C), or mashing at too high a pH level. pH levels above 5.5 are particularly prone to tannin extraction, with 5.1 or 5.2 being an ideal pH level during the mash. Any of these can lead to cloudy beer, chill haze and an astringent or bitter flavor in the beer.

Yeast Selection

As mentioned in the introduction, all yeast produces phenolics to some degree, but some yeasts are more prone to phenol production. In particular wild yeasts and Belgian yeasts tend to produce high levels of phenols in the finished beer. At low levels this manifests itself as a clove like flavor that is desirable in many Belgian beers as well as the classic German hefeweizen. However, if too many phenols are present it may morph into a smoky or spicy flavor or even the dreaded band-aid flavor.

Altering your yeast may be a good choice if you have a phenolic batch. Also be careful not to introduce wild yeasts which tend to produce very high phenolic flavor concentrations.

Other Phenolic Sources

In addition to wild yeast, many other wild organisms produce phenols including algae and bacteria. So if your water source is of questionable quality or from a surface source such as muncipal streams and lakes you may want to consider using bottled RO water for brewing instead. Bacterial infection can also produce a strong phenolic flavor, often in combination with sour off flavors. This can often come from infection of hoses, valves and taps used in brewing or serving the beer.

Summary on Phenolics

Phenolics can be one of the toughest flaws to properly diagnose because, as noted above, they manifest themselves as several different flavors and also have a variety of possible root causes. The critical areas to focus on are water selection, proper pH balance during the mash, sparging at the appropriate temperature, good sanitation throughout and finally yeast selection.

Thank you again for your continued support!

Cheers,

Brad Smith

BeerSmith.com

Presidential Ponderings

Elections are over for 2015 and the club is stuck with me for another year. You had your chance! We moving forward in 2015 with a new vice-president, Jeff Muse. Jeff will be a great addition to the officers. His brewing knowledge is an enormous asset to the club as proven by a few of his tech topics.

I wanted to thank Dennis Caplinger for his service as vice-president in 2014. Dennis was a great help to me as we navigated our way through last year as rookie officers. Dennis' advice and support was a resource I counted on from time to time in keeping the club on course. I hope Dennis considers serving as an officer again in the future.

Continuing in their duties for 2015 are Kent Robertson, treasurer, David Nitzche, secretary and Ryan Crump, brewmeister.

Kent does a great job tracking the club's nickels and dimes. He is ever vigilant. David has served as an officer on every level. He is one of the original members of the St. Louis Brews, a true treasure to the club. David can always use stories for the Brew Note so if you have anything brewing items to share with the club pass them along to David to put in the Brew Note. Ryan shared brewmeister duties last year with Kim. This year he handles the brewmeister duties by himself. Ryan has great ideas on pairing food with beer styles for the coming year. We look forward to the experience. Ryan can always use assistance in the kitchen. Please consider helping when you can.

There are two competitions quickly approaching. First up is the first round of the National Homebrew Competition at the end of March. Mike Walters is the competition coordinator for it. Much help will be needed for it. Along with the competition, Mike, Chris Rahn and Jeff Muse will be teaching a Beer Judge Certification class starting at the end of February and running through May. The other completion we have it Microfest. Matt Buck is the coordinator for it. We are looking for it to take place April 25.

With all this happening we will be working to squeeze in a celebration or two for the clubs 30th anniversary. If anyone has suggestions please contact me.

It will be a busy year and will be asking frequently for volunteers and beer donations. The St. Louis Brews is a volunteer organization, and we can only survive with the help of our members. There are so many opportunities and needs for volunteer help within the club. I hope you will take a minute to see where you can help out this year, and make this our best year ever!

Tim

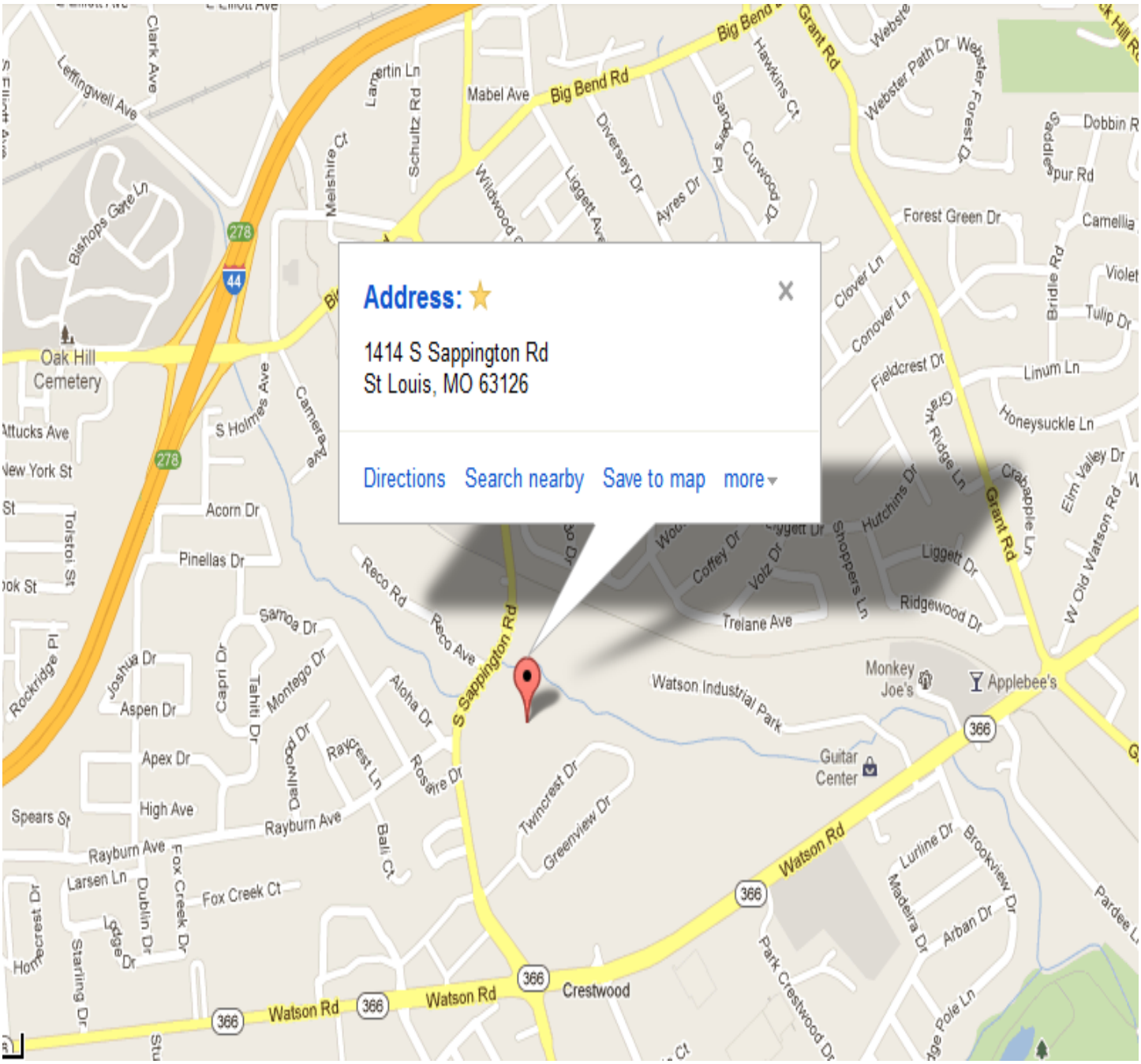
Lord of the Brews

Next meeting: February 5, 2015 7:00 PM

Please note the location:

St. Elizabeth's Cafeteria

It is located at 1420 Sappington Rd, Crestwood, MO 63126



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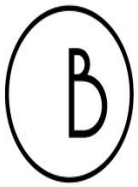

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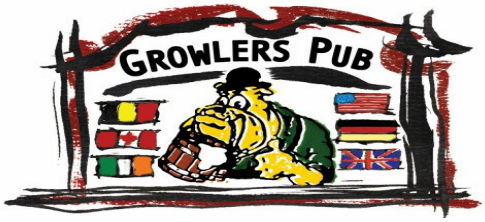

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