

Mark Brewer's
Brewology
ˈbrü-ˈä-lə-jə\

An Illustrated Dictionary
for Beer Lovers



Foreword by **Guy Gilchrist**, artist and writer
of the syndicated comic strip *Nancy*

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The only thing I love more than drinking a craft beer, is sharing one with my family and friends. Thank you for your love and support.

—Mark



Foreword

A Toast! To Mark Brewer! Creative Genius, Beer Drinker! And not necessarily in that order!

When Mark asked me to write a foreword to *Brewology*, I jumped at the chance. Not because of my well-known love of beer, but because of my admiration and love for the author. I consider Mark to be my second son. I have known Mark since he was about 15.

I remember well the day he came by my Connecticut studio with about 20 pounds of cartoon sketches under his arm, and big dreams in his head. I remember I looked through his artwork and sent him home with about a month's worth of art lessons from me as "homework." I watched him walk out my studio door with the idea I would never see him again. After all, I had given assignments like this to many aspiring artists who wished to work with me, and the vast majority just quit and never did the work and never got back in touch. I was a pretty tough teacher. After all, cartooning is a pretty tough business.

So imagine my surprise when this kid showed up at my door with a month's worth of drawing lessons done in a week! While still going to school full-time! I knew right then that Mark Brewer was special and that he wanted a career in cartooning and humorous illustration. He had *it*. The desire. That feeling inside you that turns dreams into reality. That need down deep that makes wanting to draw and write and entertain people your oxygen.

I took Mark on as a student at my studio, giving him art lessons and a small salary in return for his sweeping and cleaning the studio, running errands, and, if there was time left in the day, possibly helping on backgrounds and erasing one of the many projects we had going—from my Mudpie and Tin Dinos children's books, to Teenage Mutant Ninja Turtles, to Disney, to Muppet Babies. Within two weeks, Mark was working on the Disney stuff right alongside me and my veteran staff artists!

I never in my life had seen, and still have not seen after all these years, a more driven, hard-working creative force of nature than Mark Brewer! Mark has endless talent—that is for sure—but when you combine that talent with his drive and "never quit" attitude and a pure love of cartooning, you have the perfect recipe for success!

Mark and I went on to work on many wonderful projects together through those early years of his career, and, yes, we shared a good many beers. We both also play guitar and sing and write country music, so there have been many a beer sung about as well!

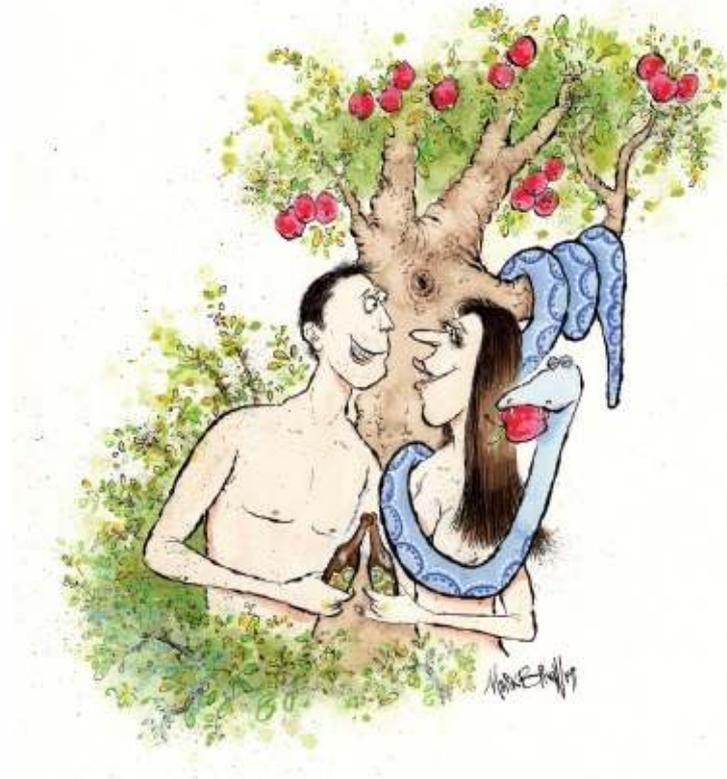
I truly have loved reading this new book of Mark's that you hold in one hand, with your brew of choice in a frosty mug in the other! So, while we all hoist a cold one, let me make a toast! To Mark Brewer! Cartoonist, illustrator, country singer, and master of brewology! Long may you rock!

Oh, and Mark? The bar tab is on you this time.

Guy Gilchrist

A BRIEF HISTORY OF BEER

(A true gift from the gods)



Beer is one of the oldest beverages known to man . . . and woman! In fact, women were the first brewers since one of their primary responsibilities involved cooking. Years ago beer was considered a food as well as a drink. Beer provided many of the calories needed for one's daily diet. Dating back all the way to the fifth millennium BC, beer was recorded by the Ancient Egyptian scribes, who also created an extensive hieroglyph specifically for "brewer." Historians tell us that beer was used as a method to compensate laborers who were building the pyramids. And would you believe that if an Egyptian man offered a woman a sip of his brew and she accepted, they were betrothed? Try that move on a woman today, and you're lucky to get out of the situation with only a few bruises. My question is how did these marriages fare in the years to follow, after the women graduated from sips to gulps to eventually handing him back an empty mug?

It has been said that Noah requested beer on his ark, and around 4300 BC the Babylonians recorded nearly twenty different types of beer recipes on clay tablets. Back then, water was not always clean and most certainly not as filtered as it is now. Some of it contained bacteria and parasites, which caused people to get sick. Many even died from drinking water. But you wouldn't die if you drank beer! Since the beer brewing process requires the water to be boiled, beer was a pure drink. It was powerful enough to be used for medicinal purposes, proper enough to be presented as a gift to the Egyptian Pharaohs, and great enough to be sacrificed to the gods. Early civilizations believed the altering effects that beer had on them were supernatural. Intoxication was purely divine, and the drink as a whole was considered a gift from the gods. Many of us still believe this today!

Egyptians produced beer by fermenting bread or grain, and added dates to improve the taste. It was cloudy and completely unfiltered. Because there were no natural preservatives used in the process, beer had a short shelf life. While celebrating together, early cultures often drank beer from a communal bowl.

using reed straws to avoid ingesting the grain hulls and other sediment in the brew.

~~With the rise of Christianity and the cultivation of barley came a more mature brewing process.~~ Christian monks played an important role in the production of beer as they used their knowledge of agriculture and science to refine the brewing process. Not only did they brew beer for trading purposes but monks also provided beer to visiting travelers and offered their breweries for shelter. Consequently there are a number of Christian saints who are patrons of brewing, including Saint Augustine of Hippo, Saint Luke the Evangelist, and Saint Nicholas, among others.

Prior to brewers using hops to preserve beer, bark or leaves were used. Gruit, which is a combination of herbs and spices, was used sometime after bark and leaves to flavor and preserve beer. Although some forms of gruit still exist today, it was never an equal match for the preservative that hops is. The first recorded use of hops was in 1079 in Germany. By the thirteenth century, hops began to be more commonly used than gruit to flavor and preserve beer. Soon after, hops would become the most widespread ingredient used as a preservative. In 1516, German brewers from Bavaria enacted the Reinheitsgebot purity law, which stated that only water, malted barley, and hops (this was before yeast was understood) were permitted to be used in the brewing process. This law not only assured local beer drinkers and consumers all around the world that German beers were of the highest quality; it also gave Germany a reputation for a brewing craftsmanship that exists to this day. The world-famous Oktoberfest fair, held in Munich each September since 1810, still allows only beer that has been brewed under the Reinheitsgebot standard to be served.

In 1620 the Pilgrims landed in Plymouth Rock carrying beer with them. It's safe to assume beer was served at the first Thanksgiving gathering. Beer was the main beverage back then. Both George Washington and Thomas Jefferson brewed their own beer. We all know that Sam Adams did too, although that's not the founding father's recipe we're drinking. That's Jim Koch's family beer recipe, which is another topic for another day. Hmmm, perhaps another book?

By the 1800s immigrants from Germany were bringing their brewing expertise to their new home in America. In the 1800s, Louis Pasteur discovered the role yeast played in the fermentation process while educating others on how it worked. Although yeast was already being used as an ingredient in brewing and is essential to the process, its importance had not yet been fully realized until then. To this day, the main ingredients in beer have not changed. They consist of water, grain (mostly malted barley), hops, and yeast. With the development of commercial refrigeration, automatic bottling, and pasteurization in the late 1800s came the big brands of beer. Some of these brands are still around today, many of which taste and look the same. There is speculation that the reason these big beer companies' brews all taste and look similar is because they are from recipes dating back to when women were the primary brewers in the kitchen. And since women preferred a lighter beer to a hearty meal in a glass . . . voila! I know what you're thinking—"this is just another example of how women run this world." Well, keep it to yourself, guys!

Around 1880 there were approximately 2,300 breweries in the United States. By 1914 the large commercial breweries drove the number of smaller operations down to around 1,400. Since then, the brewing conglomerates have worked hard to get us to drink the same commercial lagers over and over again. In fact, the only thing that ever changes is the can or bottle they put their brew in. I think it's really interesting that the scar from 1914 is still prevalent today, even though craft brewing is growing by leaps and bounds. Next time you walk into a store to buy beer, notice all the space that just one of the big brewing companies takes up. Then look at the puny amount of space your favorite craft brewing company gets. Craft brewers provide quality beer brewed with interesting ingredients that produce a wide variety of sorts of unique tastes to satisfy most any palette. Big beer marketers provide gimmicks of wide-mouthed

frost-brewed liner cans that are cold-mountain-filtered. They also provide fun commercials that show off the latest line of bikinis. Now there's an interesting ingredient!

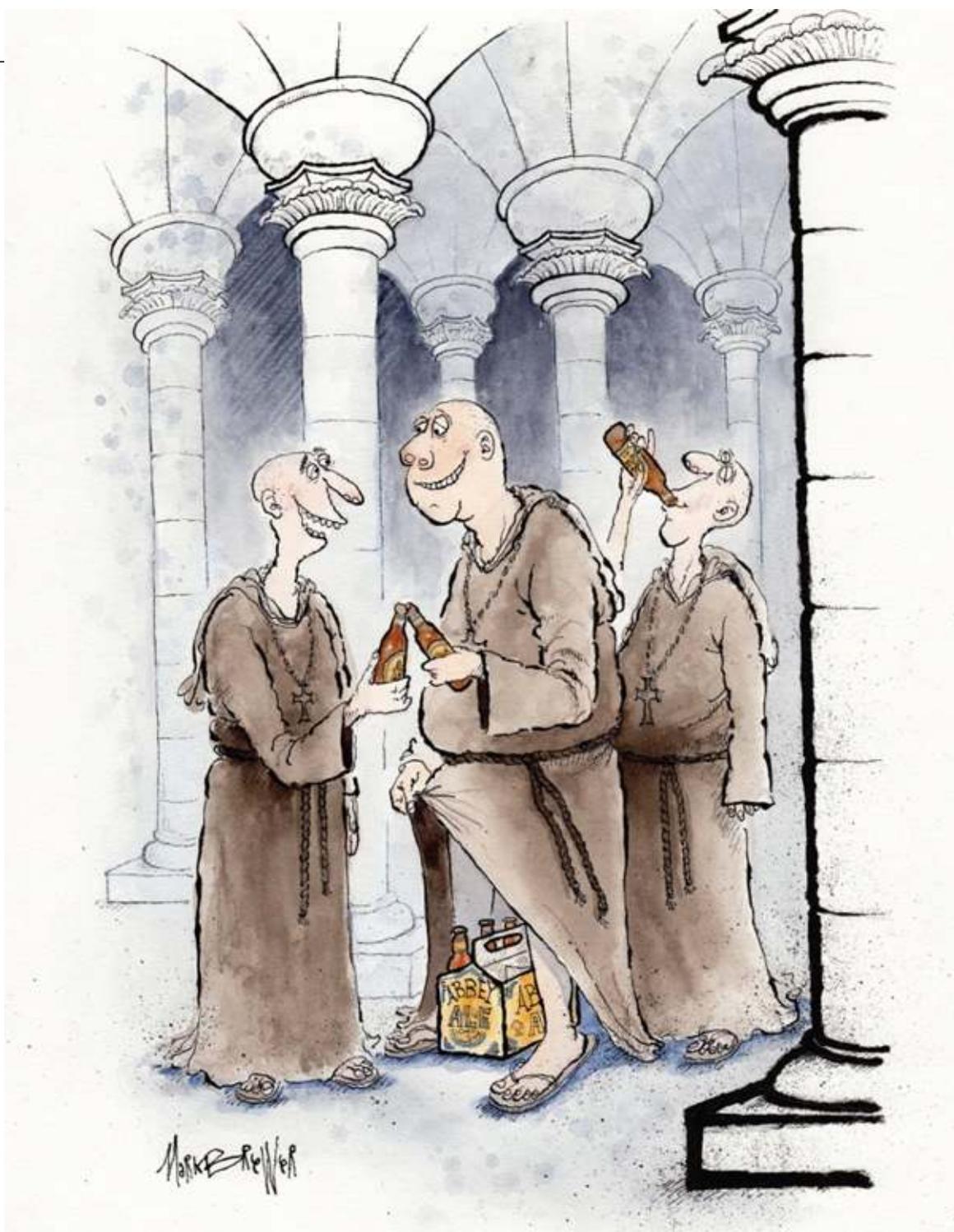
Perhaps the only thing more devastating to the American beer industry was Prohibition—the nationwide ban on the production of all alcoholic beverages in effect from 1921 to 1933. By 1935 there was said to be only 160 operational breweries left in existence because of this. By the year 1960, fewer than 60 had survived. Flavorful beer was an endangered species that was almost as extinct as the T-Rex.

I have one last bit of factual history to include that I find remarkable. This final bit of history is something that you and I are experiencing right now. Around the early 1990s in the United States, craft breweries started popping up everywhere. Even as I write this in 2014, breweries are multiplying faster than brewer's yeast can turn sugar into alcohol. Despite a few big commercial companies offering cans of beer without taste, we have the largest variety of flavorful beer to choose that we have ever had. I like to think that the ghosts and descendants of the brewers who were shut down by the big commercial operations back in the early 1900s are responsible for the throng of breweries popping up today. Back to reclaim what is rightfully theirs. Sweet (or maybe in this case, bitter) revenge that you and I get to enjoy in every glass. Statistics currently show that more than 35 billion gallons of beer are produced globally each year with a revenue greater than 300 billion dollars. Nearly one-third of that revenue is attributed to the American consumer who has asked and continues to receive some of the best beer from the most qualified brewers all over the world. Let's drink to that (like we need an excuse)!

Mark Brewer



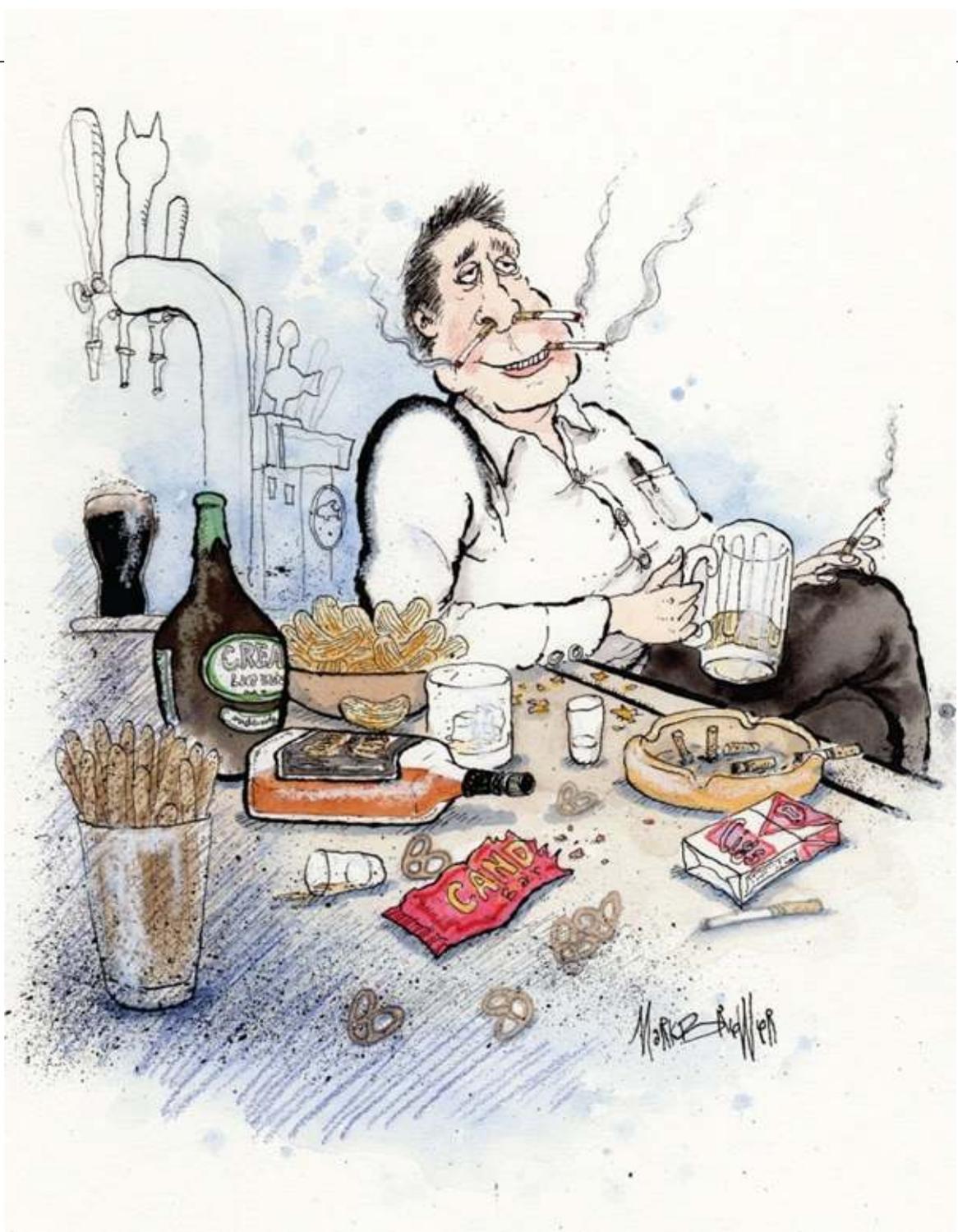
Abbey Beer \ˈa-bē ˈbir\: A type of beer originally brewed by monks in monasteries, in a method that came to be known as the monastic brewing style. In modern times the term *abbey beer* has come to be known as any beer made or presented in a monastic style but without having to actually be brewed in monasteries or controlled by monks. In 1999 an official label certifying *Belgian Abbey Beers* was established to distinguish the monasteries that still brew or control aspects of the brewing operation from the breweries that only imply religious connections without actually being in a monastery or under any monastic supervision.



Abbey Beer

Additive \ˈa-də-tiv\: An ingredient added to simplify the brewing process, prolong the shelf life, or impart a specific flavor of characteristic of a beer. Beer produced strictly under the Reinheitsgebot (German Beer Purity Law) cannot contain additives. Often beer that is naturally carbonated or bottled with living yeasts in it will not have additives due to the fact that they would kill any living yeast.

Adjunct \ˈa-,jəŋ(k)t\: A non-essential ingredient used in beer to supplement the main grain ingredient in the mash. An adjunct can be used to cheapen the cost of production overall as well as to enhance the flavor. In addition to adjuncts being unmalted grains such as corn, oats, barley, and wheat, they may also be spices used for flavoring such as chocolate, nutmeg, orange, coffee, and pumpkin.



Adjunct



Aging \ˈāj ēn\: The amount of time various types of beer are left to mature. Over months and even years the flavors of a freshly brewed beer start to change primarily due to oxidation. Hop flavors fade over time while beers with a high alcohol content (ABV) tend to mature quite nicely. Both light and heat will speed up oxidation so aging in a dark place with a cool temperature between 50 and 55°F is optimal.

Alcohol \ˈal-kə-,hòl\: When yeast converts starches into sugar during the fermentation process it produces this intoxicating byproduct.

Alcohol By Volume (ABV) \ˈal-kə-hòl ˈbī ˈvöl-yüm\: A measurement used to determine the percentage of alcohol within the beer in terms of volume. The measurement is sometimes indicated on the product in the abbreviated form, *ABV*.



Aging



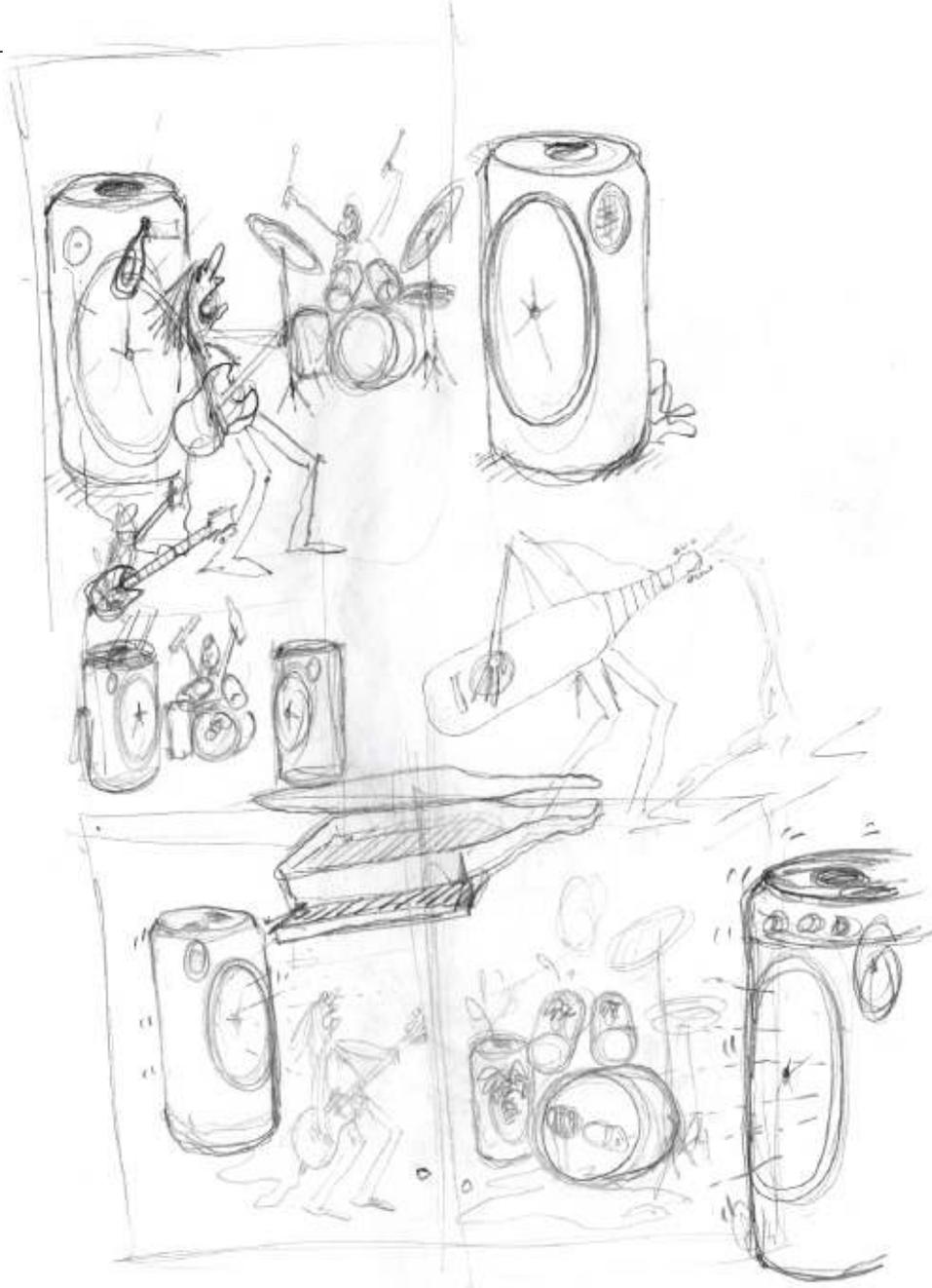
Alcohol By Volume



Alcohol By Weight (ABW) \ˈal-kə-hōl ˈbī ˈwāt\ : A measurement used to determine the percentage of alcohol within the beer in terms of weight. Since alcohol is lighter than water, alcohol by weight is lower than alcohol by volume. This measurement is often abbreviated as *ABW*.



Alcohol By Weight



Ale \ˈāl\ : A type of beer produced with yeast strains that ferment on top of the fermenting liquid. These yeast strains typically ferment at warmer temperatures of 59-68°F, although there are yeast strains that ferment at even higher temperatures. This is much warmer than that of the bottom fermenting strain used to produce lagers. Yeasts used in ales tend to produce a byproduct with distinct flavors and aromas of fruits and esters. Ales tend to be served at slightly warmer temperatures than lagers to help enhance these characteristics.

Alpha Acids \ˈal-fə ˈa-səd\ : Alpha acids contribute to the bitterness we taste in beer. These acids are found in the flowers of the hops plant. Alpha acids are converted into iso-alpha acids by isomerization when hops are introduced to the boiling mixture of ingredients. These alpha acids can produce a varying degree of bitterness depending on when they are added.

Altbier \ ältbir\ : Means “old beer” in German. This style was first brewed in the region of Westphalia. Technically an ale, this style offers a bit of fruitiness with a dark copper to brown color. Commonly it is matured in cooler temperatures, which give altbiers a crisp taste that is more often associated with

lagers. As a result, alts are often referred to as “hybrid” beers.

Amber Ale \ˈam-bər ˈāl\: A style produced with a portion of amber malt and other various colored malts to attain a varying degree of copper to light brown color. Many Irish and British pale ales are produced using colored malts to achieve the amber color.



Banana Beer \ bə-'na-nə bir\ : A type of beer that is light yellow to amber in color and is fermented with bananas. Banana beers tend to have a thinner body with a light frothy head. They are largely produced in Africa but are available all over the world. Banana beer is called *Urwaga* in Kenya and *Lubisi* in Uganda. Typically the aroma of malt and strong presence of bananas is balanced with a taste to match.



Banana Beer



Barley \ˈbär-lē\: A cereal grain used for brewing beer. Once malted, the barley is mashed (often with supplementary grains) in water and heated, which converts the starches into sugars that will be consumed by the yeast to create alcohol.

Barley Wine \ˈbär-lē ˈwīn\: A type of beer with a high alcohol content that rivals that of wine. American-style barley wines are produced with a generous amount of hops to balance this sweetness while creating a bitter taste. European-style barley wines use less hops and therefore are less bitter than their counterparts.

Barrel \ˈba-rəl\: A standard measurement used in the United States that is specifically 31.5 gallons. A barrel may be used to store, ferment, or age the beer until it's ready for consumption. Brewers may store or ferment beer in previously used wine or spirits barrels to extract those tastes, which add to the beer's final character.



Barrel



Beer \ˈbɪr/: One of the oldest and most consumed alcoholic beverages in the world. Beer is made up of four main ingredients (water, malted grain, hops, and yeast). Together these ingredients are combined with other non-essential ingredients for color, smell, body, and taste, which ferment together before being consumed.

Belgian Blonde \ˈbɛl-jən ˈblænd/: A variation of a pale ale-style beer often brewed with Pilsner malts that give them a slight sweetness. Belgian blondes are typically yellow to amber in color. They are usually well carbonated and offer aromas of fruity esters with little to no hop bitterness. It is common for Belgian blondes to have a lighter body and a lower alcohol content, although a few of the most popular Belgian blondes have higher ABVs.

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