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A taste for temperance: how American beer got to be so bland

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This article examines the historical origins of bland American beer. The US was not strongly associated with a particular beer type until German immigrants popularised lager beer. Lager, refreshing and mildly intoxicating, met the demands of America's growing working class. Over time, American lager became lighter and blander. This article emphasises America's uncommonly strong temperance movement, which put the industry on the defensive. Brewers pushed their product as 'the beverage of moderation,' and consumers sought out light, relatively non-intoxicating beers. The recent 'craft beer revolution' is explained as a backlash aided by a changing consumer culture and improved information technology.

Keywords: beer; beer tastes; temperance; prohibition; craft beer; lager

Introduction

Americans drink bland beer. Whether that is a good or a bad thing is subjective; one person's 'insipid' is another's 'refreshing'. But compared with traditional beer-drinking countries like England, Germany, and Belgium, America is notable for the lightness, paleness, and relatively un-hopped character of its beer. A prominent importer said 'the American palate tends to go for "less challenging" beers, when compared to the world level of bitterness and body'.¹ Even before 1900, Americans drank a domesticated version of Bohemian pilsner beers, with corn or rice adjuncts to lighten the taste. It is widely believed that American beer has become blander and weaker since then, especially with the rise of light beers, a top brand of which 'has been described as "wet air" and "the nearest thing to nothing in a glass"'.² The beer industry in the second half of the twentieth century is typically associated with increased concentration, advertising, and homogeneity. Today, despite the much-vaunted 'craft beer revolution', light beers still account for more than half the American market and craft beers are only about 10%.³ This article examines how the distinctively bland American beer came to be.

Upscale beer drinkers often attribute the blandness of most American beer to sinister forces such as monopolistic corporations that manipulate a gullible public with slick advertising campaigns, cost-minimising measures such as the addition of tasteless adjuncts, and the displacement of small, quality brewers due to Prohibition and predatory competition from the big brewers. Historians tend to find these explanations unsatisfying. [Table 1](#) shows that America's dominant beer styles and their alcohol content have not changed a great deal since 1880. What did change was the beer's composition, with traditional malt and hops content falling, and the availability of alternatives like ales and porters, which fell to near-zero before rising dramatically in the late twentieth century.

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Table 1. American beer styles and strength, 1607–present.

Period	Dominant beer style	Beer strength* (where available) and notes	Sources
1607–1630	British porter/stout (brought over)	~6% alcohol	Lender and Martin, 5
1630–1780	'Small beer' and 'strong beer,' often with barley substitutes. Cider overtook beer.	'Small beer': ~1–2.5%; home produced to go with daily meals. 'Strong beer': for commerce.	Arnold and Penman, 35–36; Baron, 31
1781–1840	English ale; secondarily, porter and stout.	'Lustier, more alcoholic, darker and flatter' than today's beers.	Baron, ix–x
1840–1880	Cider more common. 'Lager bier'; secondarily, ale	Cider: ~5%, as high as 10%. ~3.5–8.25% Similar to German lagers.	Lender and Martin, 61
1880–1918	American pilsner lager (hereafter <i>pilsner</i>)	4.25–5.61%; up to 7.85%	Fox 1908, 66; <i>USBA Year Book 1913</i> , 267; Baron, 313; Persons, 14; Rorabaugh; Warburton, 24
1919	Pilsner	Corn or rice used as adjuncts. Increasingly bottled. 3.4% (2.75% by weight)	
1920–1932	Homemade or 'needle beer'	Wartime prohibition 4.0%	Lender and Martin, 46; Warburton 1932, 32, 72, 107–108.
1933	Pilsner	Prohibition. Beer consumption is estimated to have nosedived to 1/15 th of its pre-WWI level before rising to 30% of that level. 4.0% (3.2% by weight)	
1934–1947	Pilsner	Beer-Wine Revenue Act (pre-repeal of Prohibition). 4.0–4.7% Depression and WW2-related scarcity. Average ABV of ale got as high as 5.3%.	Persons, 14; Rorabaugh; Schwarz and Laufer, 22, 44
1948–1974	Pilsner	4.5–5.0%	Kerr et al. 2006, 1589; LaVallee et al.; Rorabaugh
1975–1994	Light pilsner; pilsner	3.5–4.9%	Kerr et al. 2006, 1589; <i>Modern Brewery Age</i> , 15 January 1990, 24 June 1991
1995–present	Light pilsner; pilsner	Light beers as low as 3.3%? 4.5–4.75%; range of 4.2–4.7% for most beers, 6–8% for craft beers.	Bamforth, 11; Kerr et al. 2004, 1529; Tremblay and Tremblay

Note: *Beer strength is in terms of alcohol by volume (ABV). Earlier figures given in terms of alcohol by weight have been converted to ABV by multiplying by 1.25.

Maureen Ogle agrees that, relative to European beers, American beer started off bland and became even more so during the twentieth century and emphasises consumer sovereignty.⁴ Anheuser-Busch, Pabst, and the other top brewers of the late nineteenth century pioneered a product that was uniquely suited to American tastes. In addition to having a high-protein diet that did not require additional nourishment from the grains in beer, Americans tended to drink faster, without food, and in more social settings. The American way of drinking demanded a lighter, less-filling beer. Ogle points out that Anheuser-Busch's use of rice adjuncts in its Budweiser lager actually made it more costly to produce at the time. No inferior good, it sold for a higher price than other beers and won the top prize at a Paris competition against 100 other beers and ales.⁵ The blanding down of beer in the twentieth century was similarly a response to demand, in Ogle's view. The national palate, 'since the 1920s, had gravitated toward the sugary and the bland, both of which can be seen as hallmarks of a modernising society'. The rise of bland processed foods was a market signal for the brewers to make their products even easier to drink. Miller High Life was a classic example.

The homogeneity of American beers prior to 1990 is something that Ogle says less about. It is a puzzle that in an affluent, growing economy famous for its high beer consumption and its consumerism in general, the selection of beer was so limited. While craft and high-end imported beers may be a niche market, this is a niche in the largest economy in the world, and the explosive growth of that market since the late 1980s suggests that its potential may have been ignored in earlier decades. Amy Mittelman says the niche is not new: 'Some three to fifteen percent of the American beer-drinking public didn't and still doesn't like drinking Bud, Schlitz, Miller, or Pabst,' she writes.⁶ That 3–15% range is roughly the combined share of craft beers and imports of total beer sales over the past century. Until recently that share was less than 5%, so it seems that the public's demand for something other than American adjunct pilsners not only can fluctuate a lot but fell sharply and stayed at a very low level for a long time. The shrinking of that niche, and its subsequent expanding in the past quarter-century, still need an explanation.

David Y. Choi and Martin H. Stack say the lack of variety in the American beer market reflected a 'sub-optimal equilibrium' in which non-generic-tasting beers were not demanded because consumers were 'no longer familiar with the full range of what beer is and can be'.⁷ Therefore, such beers were not supplied. Consumers' lack of familiarity with different beer style was a 'behavioral lock-in' due to such factors as Prohibition, competition from soft drinks, refrigeration and packaged beer, and the demand for consistency and national brands. Citing Paul Krugman, they compare the situation to the state of English food for most of the twentieth century.⁸ Despite rising affluence, the English did not demand better food because they had forgotten what good food tasted like.⁹

Regarding the recent surge in craft beers, the academic literature is slim next to the vast popular literature. Glenn R. Carroll, Anand Swaminathan, and Carroll and Swaminathan have applied the ecological concept of resource partitioning theory to explain the rise of microbreweries as a natural and endogenous outcome of the growing concentration of the industry.¹⁰ As the biggest mass brewers drove other mass brewers and regional brewers out of business with their superior scale economies and marketed to the middle with an ever more homogenous product, they opened up space for fringe and specialty producers. The industry's consolidation was a century-long trend, however, so this theory is hard pressed to explain why craft brewing took off when it did. Swaminathan's paper also considers niche formation theory, in which exogenous forces like changing consumer tastes and new technology lead to the entry of new firms.¹¹ State-level regressions indicate that consumer tastes, as proxied by consumption of imported beer, were more important than industry

concentration in explaining the launching of microbreweries. What, then, explains changing consumer tastes and the widening of that niche? Ogle seems to give most of the credit to the high-profile pioneers of craft and home brewing, while also noting the cultural context of environmentalism, food purity concerns, and distrust of big business.¹² Craft brewers and brewpubs market themselves as well as their products, appealing to people's non-gustatory tastes for adventure, non-conformity, and artisanship. Carroll and Swaminathan have noted this marketing strategy,¹³ and Jill J. McCluskey and Sanatan Shreyay have linked beer preferences to identity economics, in which individuals' conceptions of themselves influence the utility they derive from particular products.¹⁴ Wes Flack, and Steven M. Schnell and Joseph F. Reese argue that a growing 'neolocal craving' for locally produced goods and foods helps explain the craft beer explosion.¹⁵ Craft beer names and labels tend to be heavy on geography, as if to appeal to this neolocalism.

This article focuses primarily on the brewers and what they said about their product, particularly in trade journals such as *Western Brewery*, *American Brewer*, and *Modern Brewery Age*, as well as a tabulation of the nearly 1300 brewery profiles in the *Western Brewer's* 1903 publication *One Hundred Years of Brewing*. A consistent theme in their communications is that beer is a temperance beverage, consumed for different reasons and deserving different treatment from intoxicating drinks like whiskey and rum. The brewers emphasised the low alcohol content of their product and claimed that it was not only refreshing but non-intoxicating. They treated the prohibition movement as a real threat, even decades after repeal, and constantly sought to reassure the public and policymakers that beer was 'the beverage of moderation'. This line of argument and the desire of most of the public for an easy-drinking light beer were mutually reinforcing and made for beer that was weak in alcohol content and taste. Until the late twentieth century, nearly all other developments affecting the supply and demand for beer also tended to keep American beer weak or make it weaker.

From colonial times to 1850

The first beer consumed by British colonists in North America was a dark beer, similar to porter or stout and about 6% alcohol, which they had brought over from England. Beer was a staple of the British diet at the time – 'small beer' for family dining, 'strong beer' for social occasions – partly because the water was undrinkable. Adam Smith (1776) noted that 'in the country, many middling and almost all rich and great families brew their own beer'.¹⁶ The water in the colonies was much cleaner than in England, but the tradition stayed for some time. Colonial housewives typically made their own small beer, and there was a ready demand for brewers to make the stronger 'common beer'. However, the traditional main ingredient, barley, did not grow well in the early settlement areas, so barley malt was typically imported from England by brewers and some colonial households. Some others imported English beer itself. Imported English malt and beer was not cheap, so most colonial households improvised, with such substitutes and adjuncts as Indian corn, wheat, sassafras, molasses, and spruce. Thus the American departure from traditional all-malt beers has a long history.

Beer had a long tradition of being promoted as a 'temperance beverage' in England. 'It has for some time past been the policy of Great Britain to discourage the consumption of spirituous liquors, on account of their supposed tendency to ruin the health and corrupt the morals of the common people,' wrote Smith.¹⁷ He noted popular sentiment for reduced taxes on malt, in line with this policy, so as to shift consumption from spirits to 'the wholesome and invigorating liquors of beer and ale'.

Beer was popular for a time in Virginia and the northern colonies, including Dutch New Netherlands.¹⁸ Because beer did not keep well, most commercially produced beer was consumed locally. Perhaps because of the high cost of overland transportation, even as barley production increased in the eighteenth century in the New York colony, many producers continued to use adjuncts and substitutes, even after independence and increased cultivation. Among them were home producers Thomas Jefferson (Indian corn and wheat), George Washington (molasses), and Benjamin Franklin (spruce). Among the earliest recorded complaints about watered-down American beer was an 1821 letter in which Jefferson says the public breweries use too much wheat, 'which makes their liquor meagre and often vapid'.¹⁹

At some point cider overtook beer as the colonies' and then the new nation's most popular fermented beverage. Apple trees had been introduced in Massachusetts Bay in the 1620s and grew well in Virginia and the other beer-drinking colonies. By the mid-seventeenth century they were nearly ubiquitous in colonial farms. Hard cider was easier to make than beer, as well as easier to dilute for children's consumption. 'Ciderkin', or cider-water, replaced small beer on many colonists' tables. Cider was naturally about 5% alcohol and rose to about 10% with additional fermentation or sugar, so 'strong cider' served much the same purpose as strong beer. In fact, it may have served it better. By the mid-eighteenth century if not earlier, Americans had developed a decided taste for harder liquors and were on their way to becoming 'the alcoholic republic' that William J. Rorabaugh (1979) describes.²⁰ Strong cider may have been preferred simply because it was stronger than beer. As for small beer, it appears to have lost ground not only to ciderkin but also to the myriad nonalcoholic drinks that became increasingly available in the colonies: tea, water (fresh or well water in rural areas, bottled water in cities), and hot chocolate.²¹ Families may have preferred these everyday alternatives for a variety of reasons.

By the time of the Revolution, beer had faded from the American palate. What little beer and ale was consumed was mostly brewed domestically, and much of that would likely have been home produced. Rum had always been more popular than beer in the southern colonies, and many colonists had begun producing whiskey, which tended to be more amenable to local ingredients (e.g. corn) and kept better. Import statistics from 1790 suggest that English beer was a tiny niche market in the new republic. In the twelve-month period ending September 1790, total imports of beer, ale, and porter amounted to just 0.1 gallon per free adult (age 16 +) white males. Americans imported more than 42 times as many gallons of spirits as beer, and almost 10 times as many gallons of wine as beer.²²

Some Americans, alarmed at the popularity of whiskey, recommended beer as a milder alternative. Among them was Alexander Hamilton.²³ His *Report on Manufactures* urged a tariff on imported malt liquors to promote the quantity and quality of domestic beer and ale. Hamilton's belief in the moderating potential of malt beverages is evident in the Excise Act of 1791, which included the infamous 'whiskey tax' that sparked the Whiskey Rebellion of 1794, but no taxes on beer.²⁴ Thomas Jefferson agreed that beer would be a good temperance beverage, telling a correspondent in 1815, 'I have no doubt, either in a moral or economical view, of the desirability to introduce a taste for malt liquors instead of that for ardent spirits, the difficulty is changing the public taste & habit'.²⁵

Other Founding Fathers who expressed the wish that Americans would drink beer instead of spirits included Presidents John Adams and James Madison, and early America's preeminent doctor and temperance reformer, Benjamin Rush. His essay *An Inquiry Into the Effects of Spiritous Liquor* (1784) was republished for decades, totaling more than 170,000 copies by 1850.²⁶ Particularly eye-catching was the illustrated 'Moral and Physical Thermometer,' added in 1790, which literally classified beer as a

'temperance' beverage. At the top of the thermometer, water, milk, and small beer were grouped together and described as promoting 'Health, Wealth, Serenity of mind, Reputation, long Life, and Happiness'; the next group was cider, wine, porter, and strong beer, described as promoting 'Cheerfulness, Strength and Nourishment, when taken only at meals, and in moderate quantities'; and at the bottom, under the heading of 'intemperance', were all the ardent spirits, associated with long lists of Vices, Diseases, and Punishments. Rush was held in such esteem that prohibitionists and anti-prohibitionists alike would selectively use his arguments for more than a century. Brewers would cite him as a medical authority who considered beer a temperance beverage. Prohibitionists would simply ignore that part of his argument. The essay did induce many Americans to give up spirits but failed to spark any discernible renaissance of brewers. Even its impact on spirits consumption was short lived; after falling about 10% in the 1780s, it rose sharply in the next two decades (as measured by gallons per age 15 + population).²⁷ In Massachusetts, the legislature's attempt at the time to encourage beer at the expense of spirits by making brewing equipment tax-exempt failed to reduce spirits consumption.²⁸

The religious-based American temperance movement took off in the 1820s, about a decade after Rush's death. This pre-1850 phase of the temperance movement focused more on the demand side than the supply side; that is, it was less about prohibition than about giving up drinking. 'Temperance pledges' never to drink ardent spirits were at the heart of the new temperance societies. Some temperance reformers eschewed beer and wine as well, but others thought teetotalism was too extreme to win many recruits. The movement was a smashing success in terms of lowering spirits consumption, which fell from 9.2 gallons per drinking-age population in 1825 to 3.6 in 1850 and continued to fall through 1900, all the way to 1.8.²⁹ (See also [Figure 1](#)).

Cider was an even more complete casualty of the temperance movement. Leaders in the movement specifically warned that cider could lead to backsliding. 'Cider, cider, cider', wrote the legendary abolitionist, philanthropist, and prohibitionist Gerritt Smith. 'This is one of the grand difficulties in the way of the reformation of drunkards.'³⁰ Cider consumption had been strongest among rural Protestant Yankees, exactly the same people who made up the bulk of the temperance movement. It had been produced mainly in the home, by housewives who tended to be at the forefront of the movement. The switch to cold water was a natural for this group, many of whom took the 'teetotal pledge' of complete abstinence in the 1830s.³¹ By 1840 annual cider consumption among the drinking-age population had fallen to just 0.4 gallons of absolute alcohol, or one-eighth of its level in 1800 ([Figure 1](#)).³²

The decline of hard liquor and the near-disappearance of cider provided a natural opening for beer. According to Rorabaugh's estimates, beer made a big comeback, from negligible consumption levels in 1815–1835 to 2.3 gallons of beer per adult in 1840, nearly double the level in 1810, and rose further to 2.7 in 1850.³³ The very low base must be kept in mind, however. 2.7 gallons in a year equates to about one 12-ounce beer every two weeks. In terms of absolute alcohol per drinking-age population, beer consumption was roughly 0.1 gallon, compared with 1.6 for spirits. The temperance movement would seem to have had much to celebrate, as absolute alcohol consumption fell by more than half in the 1830s and by 1845 was down 75% from its 1830 level.³⁴ But temperance activists wanted a more complete victory, and many argued that beer was another agent of drunkenness or a gateway to ardent spirits.³⁵ Beer would no longer be a temperance beverage in the eyes of leading temperance organisations.

What kind of beer was being produced in the first half of the nineteenth century? Although the numbers are small relative to population and to the latter half of the century,

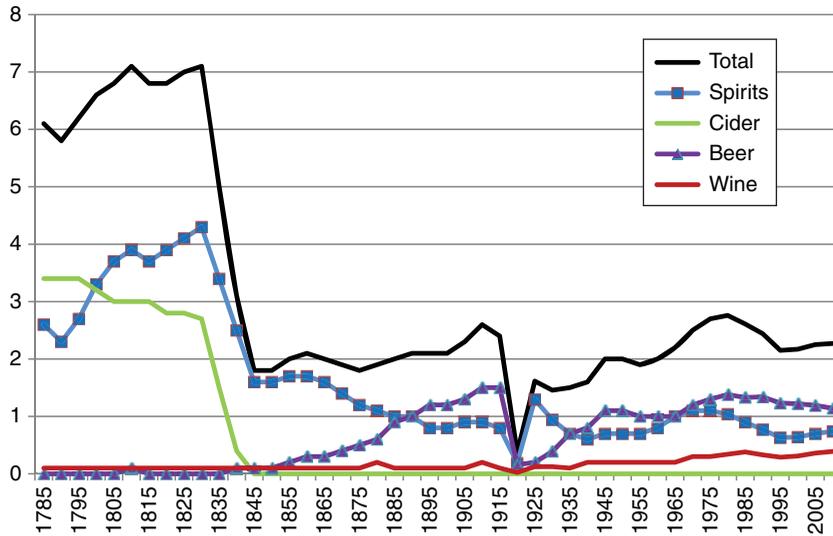


Figure 1. American consumption of beer, cider, wine, and spirits, 1785–2010. In gallons of absolute alcohol per drinking-age population.

Sources: Rorabaugh, *The Alcoholic Republic*; Warburton, *The Economic Results*; LaVallee, Kim, and Yi, "Apparent";

Drinking-age population defined as age 15 + before 1975, age 14 + thereafter (following LaVallee, Kim, and Yi, "Apparent").

there were still 431 breweries in 1850 (up from 150 in 1810), producing a total of 750,572 barrels (up from 185,636), or an average of 1741 barrels (up from 1238).³⁶ Some of the new brewers in 1850 were Germans making traditional German (Bavarian) lagers, such as David G. Yuengling, Frederick Lauer, John Wagner, and George Manger, all in Pennsylvania. Other Germans were likely doing the same, considering the large numbers of German immigrants in 1830–1850. (Germans came to America in much larger numbers in 1851–1890, when they were the largest immigrant group in all four decades³⁷) The German lagers were and are bottom-fermented, meaning that they use a particular type of yeast that settles at the bottom of the vat during fermentation. The non-German beers, like the beers in England, were top-fermented, with yeast that rises to the top of the vat. They were less carbonated than the German lagers or today's beers. 'Common beer' or 'strong beer' was the norm, though many big-city breweries produced ales and porters. Philadelphia, perhaps America's leading beer centre at the time, produced a porter that was said to rival London's best.³⁸ Albany, New York was the nation's ale centre.³⁹ Among the most successful high-end breweries was M. Vassar and Company, or Eagle Brewery, in nearby Poughkeepsie. Established by English immigrant James Vassar in 1797, the firm specialised in ale and porter and grew tremendously under the leadership of his son Matthew. The brewery produced 20,000 barrels in 1848.⁴⁰

The German lager-bier craze

The rise of German lager beer in the 1850s transformed much more than just the alcoholic beverages industry. The new, Bavarian-style lager was mellower and more stable and consistent than English-style ales and strong beers (though darker and heartier than the pilsners that would come next) and kept better. Before long, lager's popularity spread well

beyond the German immigrant community, which itself had become large enough by mid-century to constitute a substantial market. *The New York Times* hailed the rise of lager over liquor as ‘a change for the better—a choice of the least injurious of a class of evils.’⁴¹ Others saw no evil in beer at all and insisted that it was non-intoxicating and no more than 3% alcohol, but temperance advocates were more concerned than ever that beer could derail their drive toward a dry America.⁴² Their wariness of beer had proved prescient, as beer had already overtaken spirits as the working-class beverage. In terms of total gallons, Americans were consuming more beer than spirits by 1855; by 1895 they would consume more absolute alcohol in the form of beer than in spirits and wine combined (Figures 1 and 2). Absolute alcohol consumption (per drinking-age population), after two decades of decline, rose in the 1850s, as beer consumption more than doubled and even spirits consumption rose by almost 10%.

Changing demographics due to the large influx of Irish and German immigrants was undoubtedly a factor in the increased beer consumption, as was the popularity of the new and highly palatable lagers, especially among working-class Americans. Nativist fears of out-of-control immigrant saloons became intertwined with prohibitionist concerns that the beer craze was undoing their movement’s gains. The first state-level prohibition laws, known as the ‘Maine laws’ after the pioneering prohibition state, were enacted in the 1850s in several states, mostly in New England or on the Great Lakes. They shut down or mothballed many a brewery, but they did not survive the Civil War decade. Their failure appears to be rooted in enforcement issues, such as successful legal challenges to the laws’ extreme search-and-seizure provisions and open resistance that took the form of ‘lager beer riots’ in several cities.⁴³ The Maine laws might have fared better if they had banned spirits but allowed beer as a temperate alternative. The brewers did not propose such legislation at the time, but they did their best to distance themselves from the distillers,

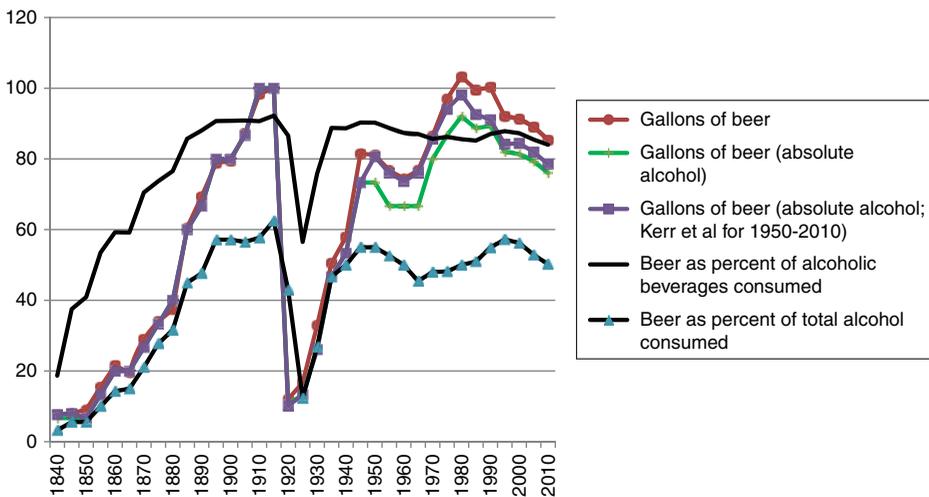


Figure 2. American beer consumption, 1840–2010. In gallons of beer, and gallons of absolute alcohol, per drinking-age population (1915 = 100).

Sources: [Rorabaugh](#), *The Alcoholic Republic*; [Warburton](#), *The Economic Results*; [LaVallee, Kim, and Yi](#), “Apparent”; Kerr et al. Drinking-age population defined as age 15 + before 1975, age 14 + thereafter (following [LaVallee et al.](#) “Apparent”).

The estimates by [Kerr et al.](#) (“National and State Estimates” and “Estimates”) differ from the others because of a different method of estimating beer’s ABV.

sometimes savagely. An article in *Western Brewer* even called whiskey ‘the arch-enemy of our race’.⁴⁴ The failure of the Maine laws, and the federal government’s growing reliance on the excise tax on alcoholic beverages after 1862, may have emboldened the brewers into believing that they could continue to prosper by positioning their product as the ‘temperance beverage’.

A temperance beverage was in keeping not only with the need to fend off the strong American temperance movement but also with the needs of workers for refreshment. Workers frequently visited saloons twice a day, for lunch and then after work. Compared with their European counterparts, American wage earners worked longer hours, were held to a faster pace, and had fewer union or guild protections than in Europe, so strong drink would have been in low demand at lunch. One or two beers, by contrast, offered refreshment or relaxation. After work, the saloon was the workingman’s social club, so the ideal product was one that *could* be drunk to the point of intoxication. Lager beer served that role, too. One or two beers were indeed non-intoxicating for most men, but multiple beers were a different story. If the beers were drunk quickly, perhaps with shots of whiskey, one could get drunk quickly; if the beers were drunk slowly, one could achieve a relaxed state in between sobriety and drunkenness, while enjoying the society of the saloon for several hours. In today’s terminology, these were ‘session beers’, strong enough to give pleasure but weak enough to allow a person to have several in an afternoon or evening.⁴⁵

Thus lager was not a completely temperate beverage, and the brewers surely knew that. Lower-alcohol alternatives like wheat beers and especially near beer (actually called ‘temperance beer’) never attained much popularity in the nineteenth century.⁴⁶ The public wanted a drink that was mildly intoxicating and mildly flavourful. As a longtime brewer put it in 1932 in testifying for an allowable alcohol content of 4% ABV instead of 3.3%, ‘all brews improve in taste, flavor and aroma directly in ratio with the increased alcohol content. ... This is one of our prime reasons for desiring the maximum permissible alcoholic strength of our products’.⁴⁷ In most of their public statements, however, the brewers and their allies downplayed the alcohol content of beer, stating it in terms of alcohol by weight instead of ABV (which is 1.25 times higher) and not publishing their beers’ alcohol content but repeatedly claiming that it was only about 3–4% ABV. ‘The average percentage of alcohol in draught beer is from three to three and one-half per cent, and in bottled beer from three to four per cent,’ wrote United States Brewers Association (USBA) Secretary Hugh F. Fox in 1909 in *The Annals of the American Academy of Political and Social Science*. USBA President Jacob Ruppert said in his 1912 convention address that American lager was only 3% to 4% alcohol.⁴⁸

By the 1860s brewing had grown into a substantial industry, with America’s first trade association, the United States Brewers Association, which formed in reaction to federal taxation of malt beverages during the Civil War. The rise of the brewing industry paralleled America’s post-Civil War industrialisation. Industrial work had long been incompatible with drunk workers; as far back as 1811, a rules sheet at a Du Pont gunpowder works stated, ‘no kind of spiritous liquors is allowed to be fetch and drinke in the factory. any of the men that would appear to be in a state of entoxication shall be dismissed’.⁴⁹ As the scale and capital intensity of American industry reached great heights in the second half of the nineteenth century, ‘the necessity of having a clear head during the hours of labor [became] imperative’, noted the Committee of Fifty, an alcohol study group, in 1899.⁵⁰ Most of America’s big railroads had made drinking on duty a firing offence by that time, and the railroads were about to crack down further with Rule G, which made ‘habitual’ drinking ‘sufficient cause for dismissal’.⁵¹ In about three-fourths of

manufacturing and mining companies, however, while being drunk on the job could get one fired, there was no rule against drinking during working hours. The brewers themselves, in a USBA trustees report, approvingly noted: ‘The intemperate man is a marked man in business and in society. Public service corporations will not employ intemperate men, and the great pressure of modern industrial competition puts a premium on sobriety and physical fitness. It is clearly recognised by organised labor that drunkenness is a proper cause for discharge.’⁵² The nearby saloons, where lunch was cheap or ‘free’ with a drink, were popular lunch spots for workers. But workers who valued their jobs would avoid strong drinks in favour of those that were non-intoxicating in small quantities. Since the alcohol content of beers was not published at this time, characteristics like colour and taste were natural ways for one to approximate the strength of a particular beer, so there was an opening for a lighter alternative to the then-dominant dark Bavarian lagers.

The opening was filled by a new beer from Bohemia, Bavaria’s neighbour to the east. In the Bohemian city of Pilsen a ‘pilsener’ lager had been developed in the mid-nineteenth century and had spread through much of Europe, including German states. Pilseners, or pilsners, are much lighter and blander than Bavarian lagers. The clearer beers looked cleaner as well, a key concern in those decades before food safety laws. Now that such a beer was technically possible, it was preferred to its darker, turbid predecessors. People ‘want a clear beer of light color, mild and not too bitter taste’, wrote Dr Joseph Bersch in *Western Brewer*. ‘People in general consider turbid beer unhealthy by their medicinal intuition . . .’⁵³ Meanwhile, several German brewers in the American Midwest, had found a way to make the beer smoother and blander still by adding corn, rice, or other adjuncts to the malted barley. Anheuser-Busch’s Budweiser, with its all-rice adjuncts, began at this time. The use of adjuncts was less a cost-cutting measure than a response to demand; Budweiser actually sold for a nickel more than its competition. By 1880, lager had become Americanised.

Thus the clear, bland American pilsner dates back to the nineteenth century. Beer consumption skyrocketed in the early decades of the pilsner, nearly tripling in per capita terms from 1875 to 1915, as to demand an explanation. Key factors in the increase include the heavy immigration of young male blue-collar workers, increased disposable income among working-class Americans, and a general switch from whiskey to beer in the second half of the nineteenth century. Spirits consumption per adult fell more than 50% from 1860 to 1900, and more than 80% from its 1830 peak (Figure 1). Beer consumption also got an assist from the new federal excise taxes on liquor, which began during the Civil War and taxed spirits more heavily than beer. Despite numerous adjustments to the tax rates, for the half-century after 1863 spirits were consistently taxed more than beer, an average of four times more per ounce of alcohol. The average tax on a 1.5-ounce shot of spirits (\$.009) was potentially enough to raise its price by a penny and ‘made whiskey at two cents a shot a thing of the past’.⁵⁴ By contrast, the average tax on a pint of beer (\$.0023) was low enough for the saloonkeeper to absorb.⁵⁵ ‘Nickel beer’ was still commonplace in the early 1900s.⁵⁶ The brewers, largely of German descent, were well aware that government policy in much of Europe favoured brewers over distillers, and constantly argued that the beer tax should be lower still. Gustave Pabst, speaking before the USBA convention in 1916, noted ‘the discrimination in favor of light beers in those countries where the anti-alcohol sentiment is strongest’, implying that the same should obtain in America.⁵⁷

Yet the rising tide of beer consumption lifted ale and porter boats as well. Prior to the German lager invasion, beer and ale consumption had been slight, just 2.4 gallons per American adult per year, equivalent to one 12-ounce beer every two weeks. Table 2, based

on a tabulation of profiles of nearly 1300 nineteenth-century breweries listed in *Western Brewer's* almanac *One Hundred Years of Brewing*, shows that ale production remained common even at the start of the twentieth century. Roughly two-thirds of the brewery profiles included information about the styles of beer produced. Among those firms, ale production was just as common at newer firms as at older ones, at least among those that began after 1840: the fraction that produced ale was 23% for breweries that began in the 1840s, 23% in the 1850s, 25% in 1862–1875, and 26% in 1876–1902. The stability of beer styles is striking. Lager was already dominant by the 1850s, but only slightly more so afterward, at least in terms of the number of breweries making it. The percentage of breweries making ale was fairly constant, rising slightly after 1861, and the percentage making porter rose continuously. Weiss and steam beers gained a foothold. Only top-fermented beers virtually disappeared. Most of the surviving older breweries made multiple styles, perhaps for their old customer base and new lager drinkers, but the number of breweries after 1840 making multiple styles rose steadily from 24% to 34%, as did the average number of styles made. Even after 1875, when average brewery size became dramatically larger, many of the new breweries made ales and porters. Although the industry was highly localised compared with today, with most beer was served on premises, it appears that beer drinkers had a lot of choices and that the degree of choice was increasing.

The second part of [Table 2](#) provides additional information on all the breweries that were still operating in 1902, when *One Hundred Years of Brewing* was compiled. This sub-table includes almost of the breweries in the previous tabulation, because the almanac identified beer styles for 791 breweries that were still open in 1902 and only 36 that had closed. The lager takeover was far from complete. Only 59% of breweries produced lager exclusively, 16% did not produce lager at all, and 8% had discontinued it. Twenty-six per cent brewed some ale; only 3% did so exclusively, but only 2% had discontinued it. At the dark end of the spectrum, 27% made porter or stout, none exclusively, and 6% had discontinued them. About 5% of breweries specialised in weiss or steam beers. Non-lager beers were more than just regional specialties. In the brewery entries in *One Hundred Years of Brewing*, the first-listed style is ale in breweries in 19 states, porter in nine states (only one of which is in the east), and weiss beer in 13 states and the District of Columbia. The entries also indicate that at least three dozen active ale, porter, and other non-lager breweries bottled their wares, though it is uncertain how far they shipped them. Many smaller breweries had begun bottling in the 1890s.⁵⁸

Many ale producers grew large by the standards of the time. *One Hundred Years of Brewing* listed 42 breweries with output of at least 40,000 barrels in 1877, of which 17 brewed ale ([Table 3](#)). Most of those produced ale and/or porter only, with only two also producing lager. Among the breweries that produced at least 40,000 barrels in 1877, some 37% of total output was ale and porter. Among the top 16 breweries, the corresponding figure was 39%. Comparing these numbers with those in [Table 2](#), which show that ale was brewed at only about one-fourth of the 800-plus breweries in *One Hundred Years of Brewing* for which styles were listed, it appears that ale was well suited to large-scale specialty production.

The decline of non-lagers in the early twentieth century

By 1900 the total barrelage of ales and porters more than doubled from its 1870s level, to an estimated 1.24 million, more than the entire beer industry produced in the early 1850s.⁵⁹ Yet ales and other non-lagers were rapidly losing market share. Industry sales had quadrupled overall, and ale's approximate share of the output of the 16 largest brewers fell from 39% to 18%. In 1877 half of the 16 largest brewers in 1877 had produced ale, and

Table 2. Beer styles of American breweries through 1902.

Beer styles by period when brewery opened									
Period	Percent of breweries producing . . .							Avg. # of styles	# of breweries
	Lager	Ale	Porter	Weiss	Steam	Top- ferm.	2 + styles		
1775–1840	52	65	44	0	0	23	55	1.93	28
1840–1850	83	23	17	4	0	5	24	1.35	78
1851–1861	79	23	22	3	8	2	29	1.39	196
1862–1875	85	25	24	4	5	2	31	1.48	206
1876–1902	86	26	29	6	3	1	34	1.56	327

Beer styles of breweries still operating in 1902	
Style	Number (percent of total)
Lager	669 (84%)
Exclusively	469 (59%)
Discontinued	6 (8%)
Ale	209 (26%)
Exclusively	20 (3%)
Discontinued	16 (2%)
Porter	207 (26%)
Exclusively	0
Discontinued	5 (6%)
Stout	9 (1%)
Exclusively	0
Discontinued	0
Weiss	35 (4%)
Exclusively	17 (2%)
Discontinued	3 (0%)
Steam	37 (5%)
Exclusively	23 (3%)
Discontinued	4 (1%)
Top-fermented beer	16 (2%)
Exclusively	6 (1%)
Discontinued	27 (3%)
Other	13 (2%)
Exclusively	1 (0%)
Discontinued	2 (0%)
Breweries with single style	536 (68%)
Breweries with multiple styles	254 (32%)
Two styles	118
Three styles	122
Four styles	14
TOTAL	791

Note: The above table includes only breweries for which beer style(s) were listed. It includes the styles that each brewery was producing in 1902, not discontinued styles. It includes 36 closed breweries and what they were producing at the end.

Source: One Hundred Years of Brewing.

none of those eight had made lager. By contrast, in the top 16 of 1895, 12 produced lager only, three produced lager and ale, and only one produced ale only. Even Ballantine, the most successful ale brewery in American history, felt compelled to add lager in the interim (Table 3).

Ale's share fell further by 1909, when USBA Secretary Hugh F. Fox stated that lager was 95% of the US beer market;⁶⁰ in 1911 an expert gave the same figure and said that pilsner was 90% of it.⁶¹ Taking those numbers at face value, the market would be 85% pilsner, 10% bock and dark lager, and 5% ale, porter, weiss, and all other beers. 'The production of bock beer [a popular spring "special brew of strong dark beer"] in the US has sensibly diminished during the past few years, the modern public taste calling for a milder and paler beverage,' the USBA told the Board of Food and Drug Inspection in July 1911.⁶² Of the five largest ale producers in 1877, four had since added lager and one, William Massey, had closed by 1902. Matthew Vassar's legendary ale brewery closed in 1896.⁶³ The lagers continued to move away from their European predecessors. In 1902 Pabst, which had produced a dozen different brands the previous year, began producing just four. Pabst discontinued its Bavarian lager, which had stopped selling, and focused on its Bohemian and Blue Ribbon adjunct pilsners. Pabst still made an all-malt beer, but it accounted for no more than a tenth of its output.⁶⁴

What accounted for this near-total shift to adjunct pilsners? Four factors seem worthy of consideration. A first is technology, which removed much of the seasonality from lager production and consumption. Lagers need cold storage, and the long, hot summers in many American cities had originally made several months of the year off limits to lager production, whereas ales could be produced year round. Artificial refrigeration allowed lager to be produced year round as well. Central heating, which became the norm in US homes after 1885, meant that lager could be comfortably consumed in the colder months as well as the warmer ones. The second and third factors are related: increasing concentration and the rise of the tied-house system. Although the great brewery consolidations of 1880–1902 do not appear to have led to the widespread closing of acquired ale plants,⁶⁵ the big reduction in the number of breweries also reflects high failure rates, especially among smaller breweries. In 1904–1914, all brewers were squeezed by higher production and selling costs. The tied-house system benefited larger local breweries, who could afford to buy saloons, over smaller ones who could not.⁶⁶ The tied-house system, in which the saloon exclusively sold a particular brewery's beer, was bad for ale breweries that had sold their kegged or bottled beer to bars. The breweries that owned their own saloons were of course free to offer a diverse selection of lagers, ales, and porters, but between the high costs of adding a new style (recall that only about one-fourth of breweries made ale) and the public's shrinking demand for non-lager styles, not many would have been eager to produce non-lagers. Tied-house saloonkeepers, feeling the brewery's pressure to maximise sales, may have been inclined to keep only the most popular styles on tap.

The final factor is the temperance movement, which gained new strength after 1900 with a wave of state-level prohibitions. The American temperance movement, much more so than its counterparts in European or even some of its pre-1850 American predecessors, took an absolutist stand that gave no quarter to malt beverages. Beer and ale had supplanted spirits one for one among Americans, with the result that the total per capita consumption of absolute alcohol was the same in 1900 as it had been in 1860 (Figure 1). The brewers, claiming to be advocates of 'true temperance', hailed this shift as a great victory, but the rise of beer and saloons only energised the temperance movement. Beer became their logical target. How could it not? At the time of the WCTU's founding (1874), beer accounted for about 74% of total alcoholic beverage consumption; in the Anti-Saloon League's first year (1893), that figure was 90% (Figure 2). The temperance movement's inability to make a further dent in overall alcohol consumption, as well as the spread of the saloon, meant that their job was not yet done. Meanwhile, public revulsion at the excesses of the saloon gave them an ideal wedge issue.

Table 3. Large American breweries in 1877 and 1895* and the styles they brewed.

Brewery	1877 output (barrels)	1877 styles; * = 250,000 + bls in 1895
George Ehret (Hell Gate), New York	138,449	lager*
Ph. Best (Pabst), Milwaukee	121,634	lager*
Bergner & Engel, Philadelphia	119,807	lager*
P. Ballantine & Sons, Newark	107,592	ale only (lager added in 1879)*
Conrad Seipp, Chicago	95,167	lager*
H. Clausen & Son, New York	90,642	lager
Flanagan & Wallace, New York	88,677	ale only (+ lager and porter after 1887)
Jacob Ruppert, New York	84,432	lager*
Beadleston & Woertz, New York	79,658	ale and porter (lager added in 1881)
J. Schlitz Brewing Company, Milwaukee	79,538	lager*
Wm. Massey & Co., Philadelphia	75,193	ale only (closed by 1902)
Albany Brewing Co., Albany	72,723	ale and porter (lager added in 1896)
Christian Moerlein, Cincinnati	72,588	lager*
Frank Jones, Portsmouth, New Hampshire	71,471	ale and porter only*
Rueter & Alley, Boston	67,121	ale and porter only
Clausen & Price, New York	64,896	ale only (as of 1882)
Boston Beer Co., Boston	62,881	ale only (as of 1882)
David Yuengling & Co., New York	62,740	lager and ale (lager-only after 1884)
W. J. Lemp, St. Louis	61,229	lager*
Windisch, Muhlhauser & Bro., Cincinnati	59,475	lager
Louis Bergdoll, Philadelphia	57,735	lager
Bernheimer & Schmid, New York	54,471	lager*
Taylor & Son, Albany	53,453	ale and porter (no mention of lager)
George Weber, Cincinnati	52,894	weiss
Downer & Bemis, Chicago	51,140	lager (ale and porter discontinued, 1865)
John Greenway, Syracuse	50,913	ale only
Conrad Stein, New York	50,000	lager
Eckert & Winter, New York	47,922	lager
V. Blatz, Milwaukee	47,663	lager*
Tracey & Russell, New York	47,391	ale and porter only
Elias & Betz, New York	46,969	lager
E. Anheuser & Co.'s Brewing Assn., St. Louis	44,961	lager*

F. & M. Schaefer, New York	44,895	lager
T. C. Lyman & Co., New York	44,754	ale, porter, and lager
Quinn & Nolan, Albany	44,571	ale
Jacob Hoffmann, New York	44,462	lager
John F. Betz, Philadelphia	44,184	porter and ale (lager added, 1880)
Geo. Ringler & Co., New York	42,840	lager
Amsdell Bros., Albany	41,282	ale and porter
Peter Doelger, New York	40,576	lager*
George Bechtel, Staten Island, N.Y.	40,568	lager, including dark
Rubsam & Horrmann, Staten Island, N.Y.	40,100	lager
<i>Total ale and porter production by top brewers</i>		
Total barrels		Share of total output of top brewers
1877 – brewers with output ≥ 40,000 barrels	1,012,066	37%
1877 – top 16	560,210	39%
1895 – top 16	1,237,500	18%

*Roughly following Cochran, the cutoff for 'large' is 40,000 barrels in 1877 and 250,000 in 1895. An asterisk indicates a brewery that produced at least 250,000 barrels in 1895. The 1895 barrelage figures are reported as ranges. I used the midpoint of each brewery's range to get a point estimate of its production. For breweries that produced both ales and lagers, I assumed a 50–50 split between the two.

Two of the breweries in 1895's top 16 are not in the above list of breweries. They are James Everard, which made lager and an ale-stout mix, and the Bartholomay Brewing Company, which made lager and ale. Both were from New York State. Sources: Cochran, *The Pabst Brewing Company*, 73–74 (ale information from *Tovey's Brewers' Directory*, 1882); *One Hundred Years of Brewing*; 'The Death Roll,' *American Brewers Review* 27(1): 6 (1 January 1913) (for Doelger); 'The Emerald and Phoenix Brewing Company,' *The Railway News* 52: 136 (20 July 1889) (for Lyman); *George Winter v. Margaret Eckert, et al.: Case on Appeal*, Supreme Court of the State of New York: City and County of New York, New York: C. G. Burgoyne Law Printer, 1882 (for Eckert & Winter); Mark P. Schiess, 'George Ringler and Company,' *Schiesshouse.com*, 1 September 2003, http://www.schiesshouse.com/george_ringler_and_company.htm; Sarah Stephens, *Images of Cincinnati's Breweries*, Chicago: Arcadia, 2010, 25 (for Windisch, Muhlhauser); Rich Wagner, *Philadelphia Beer: A Heady History of Brewing in the Cradle of Liberty*, Charleston, SC: The History Press, 2012, 39 (for Bergdoll); Francis A. Walker, editor, *International Exhibition, 1876: Reports and Awards: Volume IV: Groups III–VII*, Washington, DC: United States Centennial Commission, 1880, 206–207 (for Clausen, Rubsam & Horrmann, Stein).

Although beer consumption continued to rise through 1914, drinkers were on the defensive to a degree not seen in decades. Many employers joined the crusade, often staying aloof from the prohibition movement but arguing that drinking and drunkenness were incompatible with industrial work. The brewers had maintained that beer was ‘the drink best adapted to the energetic and progressive civilisation of the United States’,⁶⁷ but increasingly it seemed that other capitalists had draconian views on all forms of drink. Some required total abstinence from their employees. The industrial safety movement and state workers compensation laws, which rapidly overtook industry in the early 1910s, added to the pressure for an alcohol-free workplace. ‘The fixing of drink as a large factor in accidents has turned all the [company] safety sheets into temperance advocates,’ Ida Tarbell wrote in 1916.⁶⁸ The USBA moderated its blanket defence of beer as a temperance beverage to a more specific defence of the ‘light beer made by American brewers’, which ‘is peculiarly adapted to a nation of moderate drinkers’.⁶⁹ Ale, by implication, was not. As a WCTU president put it much later, ‘Everyone knows that ale has a much stronger alcohol content than beer and has always been considered a strong drink.’⁷⁰ To employers’ apparently increased requirements for worker sobriety we can add the distressed labour market of the time as a reason for workers to prefer ‘a milder and paler beverage’. The years from 1893 to 1914 were characterised by high unemployment, record immigration, and frequent financial panics and recessions. With stiffer competition for jobs, workers would naturally have been more cautious in their choice of what beer to drink before heading back to work or when one had to work the next day.⁷¹

Prohibition

An assassin’s bullet on 28 June 1914 touched off a world war and with it a wave of wartime prohibition, in much of Europe and Canada as well as the US. Light beer did receive an exemption during the wartime prohibition that preceded the Eighteenth Amendment. Congress banned the production of spirits in August 1917, but beer was essentially left alone until December, when President Wilson signed a proclamation limiting its alcohol content to 2.75% by weight (3.3% ABV), which, with minor exceptions and some confusion over whether 2.75% was the threshold for ‘intoxicating’, was the limit for the rest of the decade. So for two years the strongest legal beer was only 3.3% ABV. Memories of well-crafted, full-bodied beer would become even more distant over the next 13 years.

Comparing pre-war alcohol consumption and the wartime prohibitions in Europe and North America indicates that the temperance movement in the US was exceptionally strong. [Table 4](#) shows prewar alcohol consumption in the US and 11 other countries. US alcohol consumption was in the middle for beer, wine, and spirits, and eighth overall, yet the US had the most sweeping and long-lasting prohibition. Historians often cite the upturn in American alcohol consumption in the early twentieth century as a cause of prohibition, but relative to their counterparts in other countries, the American temperance movement seems to have been remarkably successful in reducing alcohol consumption in the nineteenth century and keeping it low. Their success in enacting national prohibition despite seemingly nonthreatening alcohol consumption levels was similarly remarkable. The brewers had long regarded the temperance movement as a serious threat, and Prohibition would cast a long, inhibiting shadow on the industry.

Prohibition was bad for beer, even more so than for wine and spirits. Even before the Eighteenth Amendment took effect, the number of breweries in 1919 had fallen to 669, just half the level in 1916.⁷² Initially, even after the passage of the Eighteenth Amendment,

Table 4. Beer, wine, and spirits consumption in twelve countries on the eve of World War I.

Country	Gallons of beverage			Gallons of pure alcohol Total
	Beer	Wine	Spirits	
France	8.87	37.49	2.04	5.12
Italy	.57	33.79	.35	3.58
Belgium	59.66	1.11	1.49	3.29
United Kingdom	32.43	.31	.92	3.29
Switzerland	21.12	15.05	1.05	2.88
Denmark	22.76	.37	2.84	2.38
Germany	27.46	1.24	1.52	2.03
United States	20.53	.59	1.47	1.69
Sweden	13.00	.15	1.78	1.41
Canada	8.22	.16	1.48	1.11
Holland	7.52	.34	1.41	1.05
Norway	5.62	.40	.89	.73

All data are in gallons per capita and are averages of figures for 1911–1914 or similar intervals.

Source: Warburton, *The Economic Results*, 26. His estimates were derived from data in statistical abstracts from the US and France and *Year Books* from the UK and Canada.

which banned the production and sale of ‘intoxicating’ beverages, the brewers and such allies as the American Federation of Labor hoped that the threshold for ‘intoxicating’ would be 2.75% or 3.2% ABW (3.3% or 4% ABV), but the Volstead Act, passed three months before national prohibition went into effect in January 1920, set the limit at 0.5%, effectively outlawing all but the weakest near beer. For years the brewers and their allies called unsuccessfully for the modification of the Volstead Act to allow light beers of up to 2.75% or 3.2%. During national prohibition, black markets filled the void for other alcoholic beverages much more effectively than for beer, the bulkiest and therefore the hardest to transport and conceal. Breweries themselves were hard to conceal, so the vast majority shut down their brewing operations and brewery beer became near-impossible to obtain, except in areas with a strong mafia presence, such as Chicago and New Jersey. The price of beer soared twenty-fold, far more than that of wine or spirits, and beer consumption fell by two-thirds, whereas wine and spirits consumption actually rose, according to estimates by Warburton (1932).⁷³ Some families took to brewing their own beer, but the general trend was that upper and middle class Americans switched to wine and cocktails, and many working-class Americans did without.⁷⁴ Americans may not have completely lost their taste for beer during Prohibition, but many did lose their familiarity with it and the newest generation of drinkers had hardly any exposure to beer.

Considering that beer is an acquired taste, and ale and heartier beer even more so,⁷⁵ we would expect Prohibition to have had a long-term negative impact on both the quantity and quality of American beer. Reintroducing Americans to beer after thirteen years of Prohibition, and after more than 16 years without full-strength legal beer, would naturally be difficult. Consumers are more favorably disposed to things that have become familiar through repeated exposure, including bitter beverages like coffee that are initially rejected.⁷⁶ Once people become conditioned to a particular food or beverage, they typically expect it to taste a certain way and reject differently flavored versions of it.⁷⁷ And the few consumers who did seek out full-bodied beers and ales upon repeal may have had difficulty finding them, as ale and other non-lager breweries appear to have been disproportionate casualties of Prohibition. (Data on brewery styles for this era are elusive, but we do know that hundreds of breweries did not survive Prohibition, whereas some of

the larger ones did and even positioned themselves for a larger market by investing in trucks.)

Repeal and the Great Depression

The end of national prohibition came gradually. As the Twenty-first Amendment made its way through state ratifying conventions, the Beer-Wine Revenue Act of March 1933 achieved the brewers' longtime goal of raising the 'intoxicating' threshold from the Volstead level of 0.5% to 3.2% ABW (4% ABV). Throughout the hearings for this bill the brewers had insisted that '3.2' beer was not intoxicating and similar in strength to what they had produced before Prohibition. Until the new amendment became effective on 15 December 1933, and ended national prohibition altogether, weak beers and wines were the only alcoholic beverages that were legal. And most were even weaker than 3.2. Early testing of 109 samples of beer in April–May 1933, done by Schwarz Laboratories, indicated that the brewers had erred on the side of caution, producing beers that averaged just 2.87% ABW (3.6% ABV), with only 20 of 77 being as high as 3% ABW.⁷⁸ Nevertheless, the new '3.2' beer was by all accounts a sensation, the perfect tonic for a thirsty nation in the depth of the Great Depression. The excitement over beer was partly a function of its scarcity, due to extreme production lags with the industry having to start anew (and many old breweries having been permanently retired), but the public's ready embrace of 3.2 beer indicated a strong demand for weak beer, which might last even after Prohibition was finally over.

Despite the depression and the brewing industry code under the National Industrial Recovery Act (NIRA), which encouraged cartelisation, the number of breweries was actually higher than before Prohibition, about 750 in each of the years from 1934–1937, compared with 669 in 1919.⁷⁹ With stronger beer now legal, the average alcohol content rose, to just under 3.6% ABW (4.5% ABV), according to studies by Schwarz Laboratories of beers from March, April, and May 1934. In May's study of 91 beers and ales, 16 beers were '3.2' beers (ABV of 4%), the other 59 beers averaged 4.5% ABV, and the 16 ales averaged a remarkable 6.4% ABV.⁸⁰ The proportion of ales in the sample seems much higher than their actual market share, which could be a function of ale's shorter brewing time and the relative ease of small-scale ale startups. Estimates for 1936 were that dark beers (a category that typically includes ales) accounted for just 2% to 3% of total barrels produced, down from 14% to 15% before Prohibition. Robert Schwarz and Stephen Laufer wrote later that many of the early beers were 'too hoppy' and said 'a corrective trend ... reduced the average hop rate by over 11%'.⁸¹ Likewise, they noted that brewers cut their malt content by 1.6 pounds per barrel, which 'definitely tended to make beers less full-bodied and less satiating. Most of us now realise that in the early post-repeal years many lager beers were too heavy and too filling'. Yet they bemoaned the lack of variety: 'Our industry, in comparison [with the wine industry], offered a rather meagre bill of fare.'⁸²

The discrepancy between the brewers' tastes and the public's is clear in this reminiscence from a veteran brewer:

Most of the brewmasters had returned to their old formulas and to the brewing methods they had successfully used prior to Prohibition. One of my first visits was to a very large brewery in Pittsburgh where I found the brewmaster in despair. They had already brewed several hundred thousand barrels ahead of opening day, in 1933. When their beer reappeared on the market, he was dismayed to find it did not meet with the ready acceptance it always had before.

A whole generation of new beer drinkers had appeared and all were anxious to try 'legal beer,' but they did not relish it. He brought me samples and I found it an excellent beer, well hopped, as was the custom, and I found no fault with it. But it was not selling as it should ...

We packed up a case of the beer and sent it on to our laboratory in New York City. They could find no fault with it except, as Dr Graf said, 'It is just too much hop for this new generation.' So we immediately brewed up a number of new brews with only a light amount of hop and blended it with the original. Immediately their trade quickly responded and today it is still one of the leading brews in Pennsylvania.⁸³

Brewers had other reasons to be conservative in their choice of beer styles. National prohibition may have been repealed, but brewers still paid close attention to the temperance movement. Articles and editorials in trade publications make clear that the brewers remained fearful for decades that prohibitionists, if not Prohibition itself, might make a comeback. Industry publications continued to call beer the 'beverage of moderation' and to closely monitor proposed alcohol restrictions at the federal, state, and local levels. Congress held nine hearings in the 1940s and 1950s on restricting liquor advertising at the behest of the dregs. But the real battlegrounds were the states and localities.⁸⁴ Repeal had ushered in a patch-work quilt of state and local regulations on alcoholic beverages, notably their availability in retail outlets and the excise tax rates on beer, which varied wildly from state to state. A few states had not yet re-legalised beer, several permitted local option (dry counties or towns), and some allowed only 3.2 beer, so marketing strong beers could have been bad public relations and undercut the brewers' continuing claims that theirs was a temperance beverage. Getting and staying in the good graces of state and local authorities was good business, as long as the beer-buying public was satisfied with weak pilsners. Then there was the obvious point that brewers might not sell as strong beer because people could not drink as much strong beer before reaching their satiation point. In *Modern Brewer*, William F. Traudt decried the 'alcohol-mindedness' that followed repeal and called it self-defeating for the industry: 'The alcohol content of beer was increased in some communities to a point where the consumption of beer was reduced to the great disadvantage of the Brewer. The fallacy of creating 'Alcohol-Mindedness' in the public was eventually recognised and in most communities no longer exists.'⁸⁵ The Federal Alcohol Administration (FAA) Act of 1935 prohibited ABV information on beer labels, as did the NIRA brewing code that preceded it, and the brewers went along with the ban, fearing that disclosure of alcohol content would lead to 'strength wars'.⁸⁶

In addition, many of the new breweries soon disappeared. The year-long recession that began in mid-1937 lasted almost twice as long for beer sales, discouraging innovation and ushering in a return to the trend of increased concentration that had begun decades earlier.⁸⁷ By the time the US entered World War II in 1941, the number of breweries was 25% less than in 1935, while production per brewery was 63% higher.⁸⁸ Advances in refrigeration and trucking (the latter of which had been a major investment of the big brewers during Prohibition) aided the consolidation. Growing concentration is generally associated with decreased consumer choice, and the beer industry seems to have followed this pattern.

By and large, the public seemed content with weak pilsners. Pilsners had been dominant in the last years before national prohibition, and many of the high-end consumers who went over to wine and spirits during the 1920s seemed to stay there. In the market for alcoholic beverages, beer's share was way down, from 63% of all alcohol consumed in 1915 to 47% in 1935 (Figure 1). Part of pilsners appeal before Prohibition had been its cheapness compared with beer and wine, and the Great Depression obviously heightened consumers' price sensitivity, so cheap and simple seemed to be the way to go. As in the 1910s, with demand limited, it seemed logical to bring only the most popular product to market, instead of taking chances with ales, dark lagers, and other specialty

brews. Moreover, most states, fearing the return of the 'saloon', established a three-tiered distribution system that stifled variety by separating brewers from retailers and banning brewpubs. Most banned homebrewing as well.⁸⁹ An adventurous brewer would have to find a willing distributor, who would then have to find retail outlets willing to give up scarce shelf, refrigerator, or bar space for his unestablished styles. Public policy generally favoured 'package' sales of bottled or canned beer at stores over beer sold in bars or restaurants, where space constraints might be fewer and variety more valued.

World War II and postwar prosperity

World War II dealt a further blow to alternative beer styles and to stronger beers in general. Grain rationing and price controls made production of high-end beers virtually infeasible, and the use of substandard adjuncts became common. The rationing and price controls continued into the early 1950s, on account of the Marshall Plan and the Korean War. On the demand side, a generation of American males received 3.2 beer in their Army rations. The US military had reversed its dry policy of WWI and decided that beer would aid morale, but Congress's 1901 ban on intoxicating beverages in the military still stood, so the Beer-Wine Revenue Act's 3.2% (4% ABV) threshold became the military standard. By war's end, beer at home was nearly as weak. According to Schwarz and Laufer, beer strength fell gradually but steadily from 4.64% in 1939 to 4.14% in 1944 and fell further to 4.04% in 1946.⁹⁰ The malt content per barrel fell from 35.4 pounds in 1941 to 33.6 pounds in 1943, and the hops content fell from 0.56 to 0.49 pounds. Ale strength fell slightly, from 5.32% to 5.11% ABV; it is unclear whether ale held its share of the market.⁹¹

At the end of the war, Phil Berkes, President of the Master Brewers Association of America, prophetically envisioned 'the streamlined beer of the future. . . . It seems to me that the majority of consumers will probably favor a beer pale in color and with an agreeable, mild hop flavor without any bitter after-taste. Above all, perhaps, the beer should not be satiating'.⁹² Schwarz and Laufer called for greater variety in beers and ales, as well as a return to greater craftsmanship in malting barley, which had become stereotyped, but trends once again pushed American beer in a blander direction.⁹³ The end of glass and tin rationing, and the rise of supermarkets and convenience stores, hastened the move away from draft beer to packaged beer, which rose from 56% of sales in 1941 to 72% in 1950 to 81% in 1960 and to 86% in 1970.⁹⁴ The top three brewers reaped much if not most of these gains, having launched a concerted campaign to sell 'to the home'.⁹⁵ Women, as their families' grocery shoppers, increasingly bought the beer, and beer advertisements predictably catered to them by emphasising the light, pale, 'never bitter', even low-calorie nature of their products. *Modern Brewery Age* reported:

Women's tastes have never favored strongly hopped beers – hence a shift over the past few years to lower hopping rates for milder brands. The trade has learned that men will accept the same product which women prefer much more readily than will women accept the beer which men prefer.

The article asked, 'What does the public want?' in a beer and answered, 'Blandness.' The author described an increased preference for bland food in general: milder cheeses, tobaccos, whiskeys, and even milder processed foods such as white breads. Furthermore, with the rise of long-distance shipping, beer had to be more stable than ever, which could be aided by removing 'character-building substances'.⁹⁶

Much of that shipping was to the American South, where consumption grew by far the fastest. Beer had never been popular in the South, but by 1974 Southern per capita beer consumption was above the national average. In the three Southern Census regions it had

grown by an average of 94% since 1943, compared with 29% in the other Census regions and – 13% in the Mid-Atlantic, which historically had been the nation's ale stronghold. (By 1997 the Mid-Atlantic would actually have the nation's *lowest* per capita beer consumption.⁹⁷) Temperatures were hotter and dry sentiment stronger in the South, two more factors favouring light beer. Some of the South's rising beer consumption may simply reflect migration of jobs and workers from the North, which points to another trend: a more national and homogenous market. Increased national advertising by the big brewers seems to have been successful: A consumer study found that beer drinkers regarded nationally advertised brands as more trustworthy and had a definite favourite brand.⁹⁸ Increased national brand identification left less room for specialty brewers.

Postwar prosperity was a mixed blessing for the brewers. With rising affluence, beer sales regularly set new records each year, but beer consumption per drinking-age population trended downward through 1965, as did beer's share of the alcoholic beverages market. As in the early years of repeal, much of the high end of the beer market had deserted it for wine and spirits (Figures 1 and 2). The meteoric rise of soft drinks since Prohibition presented consumers with a new competitor, a true 'temperance beverage', adding to the pressure on the brewers to keep their beers pale, clear, and light. They did. By 1969, the average hop content of beer had fallen 50% and the average malt content had fallen 8.5% relative to 1948.⁹⁹

Less competition, less filling

Industry consolidation reached new heights. The number of breweries fell roughly by half in every decade, from 684 in 1940 to just 44, an all-time low, in 1979.¹⁰⁰ The consolidation may have been necessary considering how low industry profits were. They averaged 2.4% of revenues in 1955–1982, compared with 5.4% for manufacturing as a whole. In none of those years did beer's profitability rise above 71% of manufacturing's.¹⁰¹ There were no successful newcomers during this time.¹⁰² Most breweries only made lager.¹⁰³ Studies in the 1960s and 1970s found that beer drinkers regularly failed tests of their ability to distinguish between different brands.¹⁰⁴ This did not make for product innovation. The case of Ballantine Ale is instructive. Ballantine was the most successful American ale brewery in both the nineteenth and twentieth centuries. It had added a lager brewery in 1879 but was best known for its ales, including a legendary India Pale Ale, strong, hoppy, and aged for a year in oak tanks with Bullion hop oils. The company survived Prohibition and continued to grow into the 1950s, when it produced five million barrels a year. After a decade of declining sales, it was acquired by Falstaff, who moved its production to its Narragansett brewery in Rhode Island in 1971. The oak tanks and hop oils were replaced with cheaper substitutes, and the aging period was reduced from 12 months to nine, then six, then five. After Falstaff was acquired by a holding company in 1975, Ballantine production was moved to Indiana in 1979. Production of the IPA soon ceased, and Ballantine's ales 'stopped tasting like Ballantine at that time', according to a former brewmaster at Pabst (which later acquired Ballantine). 'It must have been a different formula and maybe not even an ale yeast.'¹⁰⁵

Yet another contribution to the blandification of American beer came from the phenomenally successful marketing of 'lite' beer, which began with the introduction of Miller Lite in 1975. The brewers had introduced low-calorie beers before, in the 1950s, with advertising campaigns aimed at women, but without much success. Miller Lite's now-classic slogan 'Tastes great – less filling' does not literally say that their beer is less fattening (though it does imply that and therefore was a good fit with the national dieting

craze that began in the 1970s). What it does say literally is that it does not fill you up as fast, with the implication that you can drink more of them. A large part of beer's appeal had always been that one could drink it for refreshment and social comfort without getting drunk.¹⁰⁶ Now beer was even more sessionable than before: a person could drink more, or could drink longer, without feeling tired or bloated. A slick advertising campaign featuring professional athletes underscored the macho appeal of light beer. Miller Lite became the industry's most successful new product ever.¹⁰⁷ Coors Light's slogan a decade later was even more direct: 'It won't slow you down.' The implication that Coors Light could not get a person drunk brought on a two-year battle with the US Bureau of Alcohol, Tobacco and Firearms.¹⁰⁸ The company lost the battle, but Coors Light eventually became the number two light beer in America, and light beers are more than half the US market today. The 'lite beer' boom coincided perfectly with the anti-drunk driving movement spearheaded by Mothers Against Drunk Driving in the 1980s, which the brewers described as 'neoprohibitionist.' Light beer was somewhat less intoxicating than regular beer – the average ABV of American beer had been 5% until the early 1970s but fell gradually to 4.6% in 1988¹⁰⁹ – though probably less than the average light-beer drinker assumed. It was definitely blander, however. The ascent of light beer accelerated the reduction in basic brewing materials, with malt and hops content both falling to all-time lows by 2004. Hops content fell 35% from its 1970 level, and malt content fell 18%.¹¹⁰

The craft beer revolution

Even as light beer came to dominate the market, ales and all-malt lagers gradually staged a comeback. The craft beer 'revolution' was worthy of the name as it brought thousands of new breweries and greater consumer choice than ever, to the point that beer styles that had not been visible in America for more than a century are now easily available in many if not most supermarkets and convenience stores. The contours of this revolution can be seen in the number of breweries over time. 'Specialty breweries' were not tabulated at all before 1966; the many small local breweries before Prohibition may have eluded classification, and the ones after, if they existed, may have been too small to detect. From 1966 to 1976 there was only one, San Francisco's Anchor Steam, which made a full-bodied amber lager and did not turn a profit until 1975. A second California microbrewery, New Albion of Sonoma, followed in 1977 and produced ale, porter, and stout, but went out of business in 1982.¹¹¹ Six more entered the business in 1980, and the number of microbreweries went up in every remaining year of the century, to 22 in 1984, 150 in 1988, 605 in 1994, 1277 in 1996, and 1553 in 1999. Growth has remained strong and steady into the twenty-first century. By 2013 the distinction between specialty brewers and traditional brewers had again become murky, as top 'craft' breweries like the Boston Beer Company (Samuel Adams) and Sierra Nevada had become large and others had been acquired by Anheuser-Busch or MillerCoors, but the total number of breweries, 2822 (including 2768 craft breweries), was the highest ever.¹¹²

Several factors contributed to the growth of the upscale beer market. For one, much of the demand was always there. As noted previously, non-pilsners were about 15% of the market at the start of World War I and a much larger share in the late nineteenth century. Yet by the late 1960s non-pilsners were rare, malt and hops content was way down, and imports were only 1% of the market. The taste spectrum of available beers had shrunk to such a degree that beer drinkers with tastes even slightly outside the mainstream could feel underserved. As Carroll noted in 1985, the US market was ready for a small-brewer revolution but it had not yet arrived.¹¹³ Americans who preferred heartier lagers or

different styles had few options. Some turned to homebrewing; a handful joined the British-inspired Committee for Real Ale, which issued bumper stickers that called for 'real ale' and a newsletter that promoted good taverns and local beers; and some bought imported beer.¹¹⁴ Imports rose from less than 1% of total US sales in the late 1960s to 5% in the late 1980s.¹¹⁵ 'But a lot of the imports were skunky or just not really different from American lagers to begin with,' according to Ogle, so there was still a niche to be filled.¹¹⁶

The crucial decade appears to be the 1970s, even though the craft beer movement was still tiny and largely invisible. The backlash against bland corporate beer occurred in a context of heightened suspicion of big business and mass society.¹¹⁷ Anti-big business sentiment rose to record levels in the 1970s; more than 80% of respondents to a survey said that corporations were too big, cold, and impersonal.¹¹⁸ The popular *Whole Earth Catalog*, first published in 1968, offered an idealistic do-it-yourself alternative. So did the *Mother Earth News*, a magazine that began in 1970 and had a circulation of 400,000 by 1978.¹¹⁹ *The Mother Earth News* even ran an article titled 'How to Home Brew Beer' in its first year. The article cautioned that homebrewing was illegal in some areas. In fact, it was illegal in most states and also subject to the federal excise tax on beer, but enforcement was notoriously lacking.¹²⁰ A key figure was Charlie Papazian, a nuclear engineering major turned schoolteacher in Boulder, Colorado. Papazian began homebrewing in 1973 and was soon offering a class in it, which became popular. By decade's end he had founded the American Homebrewers Association and launched a homebrewing magazine and annual conference.¹²¹ Homebrewers pressured state governments to legalise homebrewing, and by the late 1970s it was permitted in many states. California homebrewers got their US Senator, Alan Cranston, to insert an amendment that eliminated excise taxes for homebrewers into a 1978 tax bill. Although the taxes and related registration requirements had been largely ignored, the law change was a shot in the arm to homebrewers.¹²² States moved quickly to repeal their bans on homebrewing; by 2009 it was legal in 46 states and by 2013 it was legal in all 50. Homebrewing is widely regarded as the farm system for craft breweries, so its importance can hardly be overstated.¹²³ Moreover, while the vast majority of homebrewers did not become professional brewers, the experience may have given them and their friends a more demanding and sophisticated palate for beer.¹²⁴

Dissatisfaction with mainstream American beer also had a cosmopolitan cast, as it became commonplace to disparage domestic beer relative to the beers of Germany, England, and other countries. American beer drinkers who had traveled abroad were particularly influential. Among them was New Albion's Jack McAuliffe, who had enjoyed ales, porters, and stouts while stationed with the US Navy in Scotland and lamented the lack of such beer upon returning home. The Boston Beer Company's Jim Koch, a sixth-generation brewer of German descent, emphasised an old lager recipe and adherence to the Bavarian purity law.¹²⁵ Also influential was a British organisation called the Campaign for Real Ale (CAMRA). Although ales, porters, and stouts had never disappeared in the UK, members of CAMRA felt that brewing had become too corporate and called for a return to traditional methods, especially cask conditioning. Launched in 1971, CAMRA had 5000 members by 1973. By the decade's end it could take credit for a surge in the number of traditional brewpubs and small breweries in the UK.¹²⁶ CAMRA became an inspiration to specialty brewers and drinkers in the US, including Matthew Reich, whose New Amsterdam beer was one of the top 1980s microbrews, and Mark Ruedrich, whose North Coast Brewing Company began in 1988 and is one of the leading craft breweries today.¹²⁷ CAMRA helped give rise to numerous new brewpubs and microbreweries in the UK, helping pave the way for a similar explosion in the US. British microbrewing pioneer Peter

Austin's brewing system was adopted by 74 American breweries.¹²⁸ The first American brewpub since Prohibition opened in Yakima, Washington, in 1982. A few more followed in the next few years, and the trickle became a deluge as state after state moved to legalise brewpubs. The number of states in which brewpubs were legal rose from 6 in 1984 to 10 in 1988 to 30 in 1990 to 50 in 1999.¹²⁹ Brewpubs, like homebrewing, were a vital stepping stone for craft beer makers; in a chapter profiling 11 key microbreweries, Hindy notes that nine of them began as brewpubs.¹³⁰

Yet another important trend that began in the 1970s is rising inequality. The productivity slowdown that began in 1973 coincided with increased income inequality and stagnant median real incomes in the US, two trends which have continued into the twenty-first century. Much of the increased inequality comes from new entrants to the ranks of the rich, as well as wealthier Americans pulling away from the rest of the pack. The creation of more millionaires would tend to raise the demand for luxury goods like expensive craft beers and imports. For middle-class Americans, posh beer was still much cheaper than posh wine or spirits and thus an area where they could keep up with the rich: 'champagne on a beer budget'. A 1989 advert for a German beer made a naked appeal to status-consciousness: 'Life is too short to drink cheap beer. Warsteiner. The most expensive beer around.'¹³¹

As would be the case later through online social media, much of the early promotion of craft beer came from consumers rather than producers. Perhaps the most influential promoter was the English writer and journalist Michael Jackson, a CAMRA member with an encyclopedic knowledge of beer and an infectious enthusiasm for craft beers and hard-to-find imports. Jackson's 1977 book *The World Guide to Beer* became an international bestseller and spawned numerous sequels. His 1982 *Pocket Guide to Beer* was sufficiently popular in the US to warrant three more editions by 1994 (and another three by 2000), several US lecture tours, and a television series, *The Beer Hunter*, which the US-based Discovery Channel first aired in 1993. Exposure to Jackson's evangelising whetted many an American's appetite for 'real' beer and lent definition to an 'oppositional identity' that rejected watery corporate beer in favor of something more finely crafted and traditional.¹³²

Technology may have been indispensable to the craft beer revolution. With the rise of the Internet and social media in the 1990s and 2000s, beer enthusiasts could now communicate their preferences and demands conveniently, quickly, and efficiently. Countless beer blogs and websites like ratebeer.com and beeradvocate.com allowed word to spread quickly about enticing new beers, brewpubs, bars, and beer stores. Brewers and vendors could advertise for free just by announcing what they had. Distributors and retailers could read these sites for a better sense of what brands to carry. The craft beer explosion is analogous to technology-fuelled developments in music, films, and books, where consumers are buying 'less of more': less of the top hits but more different items than ever and possibly more in the aggregate. The craft beer explosion paralleled a general trend in the food industry toward greater variety, aided by bar code scanners and improved inventory management systems, among other innovations. In supermarkets, for example, the number of unique products offered per store went from 14,145 in 1980 to over 30,000 by 2004.¹³³ Technology, by making that content readily available through people's computers and smart phones, makes it easier than ever before for people to indulge their curiosity and taste for variety.¹³⁴ Beer will never be quite that instantly accessible, but it can now be ordered online and shipped to one's home; although state regulations vary, nearly all states allow home shipments to some degree. One popular beer club ships a preselected half-case of 'beers of the month' to homes in 47 states, and another ships customised cases to homes in almost two dozen states.¹³⁵ The shrinking number of distributors and the reluctance of many distributors to carry new craft beers has long been

noted as a key bottleneck to craft beer sales,¹³⁶ but online beer sales have chipped away at it, to the point where many of the big distributors have now embraced craft beer.¹³⁷

Another informational breakthrough began in 1992 when a federal judge in Denver voided a longtime federal ban on the listing of alcohol content on beer labels. The law dated back to the 1930s, rooted in regulators' fears that making such information public would lead to 'strength wars' among the brewers. The brewers generally supported the ban and historically had omitted that information from their containers. The brewers did not want a strength war either, likely because stronger beer could bring on tighter regulation or new restrictions, and because people would not drink or buy as much beer if they reached a satiation point earlier.¹³⁸ But Coors, who brought the suit, was on the opposite end of that problem. Coors lager is famously pale and watery – its advertising even touts its 'Rocky Mountain spring water' – which it made it vulnerable to rumors that it was weaker than its competition. The company sought to dispel those rumors by printing the beer's ABV, 3.6%, on the label. To do so, they would have to take the government to court. The government appealed the Denver judge's verdict, and the case went to the Supreme Court, which in 1995 unanimously upheld the earlier verdict. Justice John Paul Stevens wrote, 'Although some regulations of statements about alcohol content that *increase* consumer awareness would be entirely proper, this statutory provision is nothing more than an attempt to blindfold the public.'¹³⁹

Removing the blindfold made for a more efficient market, apparently without a 'strength war.' While Coors Light raised its alcohol content, to 4.2% today, and many craft beers have ABV's of 6% or higher, a weighted average ABV of the top 20 brands in 2013, representing 75% of total sales, was 4.42%, down from Kerr et al.'s estimate of 4.59% for 1992.¹⁴⁰ Many, perhaps most, beer bottles and cans now include the beer's ABV; bars and restaurants often provide ABV information on their menus; and where that information is not given, it can be found on the Internet with a few keystrokes on one's smart phone. Some consumers will seek out high-ABV beers, for the flavour or the kick, consistent with the new slogan 'Drink less but better.'¹⁴¹ But others will opt for a craft beer that looks and tastes strong but whose ABV is not appreciably higher than old standbys like Budweiser (5%) or Heineken (5%). Of the six craft beers in the Top 100 of 2013, the top four had ABVs of 5.5%, 5.6%, 4.9%, and 5.2%.¹⁴² And session ales are rapidly rising in popularity.¹⁴³ The 'beverage of moderation' ideal is not dead.

Conclusion

Stanley Baron wrote in 1962: 'It has taken a hundred years to arrive at the beer most popular today, and it may take just as long to develop any noticeable difference. This is an industry which has never been given to tampering with its product and changes dictated by consumer preference have been cautious and slow.'¹⁴⁴ American beer has changed more in the past half-century than Baron could have anticipated. Low-calorie light beers, after flopping in the 1950s, had a phenomenal re-launch in the 1970s and rocketed to the top. Over the past quarter-century, the segmentation of the American beer market has become severe, with light beers by the big brewers still dominant but craft beers as the fastest-growing segment, up to about 10% of the market.¹⁴⁵ Modern information technology has enabled consumers with non-mainstream tastes to communicate their preferences more clearly than ever, and even to satisfy them via online mail orders. The industry remains highly concentrated, with Anheuser-Busch InBev and MillerCoors accounting for more than 80% of total sales, yet the number of small breweries and total breweries are poised to set new records. As many microbreweries have outgrown the

'micro' level, the term 'microbrewery' has given way to 'craft brewery,' and the distinction between craft breweries and regular breweries has gotten murky, especially as the two giants have co-opted the craft beer revolution by acquiring numerous small breweries such as Goose Island and creating imprints like Blue Moon that appear to be separate entities. MillerCoors's website lists over two dozen 'craft beers.' Even the pilsners that continue to dominate the market may have been affected by the new competition: the average hop content of American beers, after reaching an all-time low in 2003 and 2004, quadrupled to 0.63 pounds per barrel by 2012.¹⁴⁶ It is unlikely that craft beers alone could account for that change, in view of their small share of the market. Yet American beer, which is hoppier today than at any time since the 1930s, is likely to become hoppier still. Craft beer is by far the fastest-growing segment of the beer industry, nearly doubling in production in 2007–2013 even as overall US beer production fell slightly.¹⁴⁷ 'Drink less but better' indeed.

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Notes

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2. Jackson, *The Simon & Schuster Pocket Guide*, 137.
3. Craft breweries are defined by their principal trade association, the Brewers Association, as 'small, independent, and traditional.' Until recently, a craft brewery's flagship beer had to be all-malt. 'New BA Craft Definition Will Add Regional Brewers,' *Modern Brewery Age*, 16 April 2014, np. The 10% figure is a rough approximation of craft beer's 2013 market share either by volume (7.8%) or dollar sales (14.3%). Brewers Association, 'National Beer Sales & Production Data,' accessed 12 January 2015. <http://www.brewersassociation.org/statistics/national-beer-sales-production-data/>
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5. Ogle, *Ambitious Brew*, viii–ix, 72–84.
6. *Ibid.*, 227.
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9. Carroll, "Concentration and Specialization"; Swaminathan, "Entry Into New Market"; Carroll and Swaminathan, "Why the Microbrewery Movement."
10. Krugman, "Supply, Demand," 32–33.
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14. McCluskey and Shreay, "Culture and Beer."
15. Flack, *American Microbreweries*; Schnell and Reese, "Microbreweries."
16. Smith, *An Inquiry*, 419.
17. *Ibid.*, 422.
18. Downard, *Dictionary*, xv–xvi.

19. Baron, *Brewed in America*, 148.
20. Rorabaugh, *The Alcoholic Republic*, 113.
21. Swindell, "George Washington" and "What Was In."
22. Arnold and Penman, *History*, 42.
23. Hamilton, *Report*.
24. Downard, *Dictionary*, xvi.
25. Quoted in Baron, *Brewed in America*, 142.
26. Rorabaugh, *The Alcoholic Republic*, 40–50, Table A1.2.
27. Tyrrell, *Sobering Up*, 135–138; Williams, "The Mysterious Demise".
28. See also Rorabaugh, *The Alcoholic Republic*, Table A1.2.
29. Rush, *An Inquiry*, 12.
30. Rorabaugh, Table A1.2.
31. *Ibid.*, Table A1.2.
32. Tyrrell, *Sobering Up*, 136–140.
33. Arnold and Penman, *History*, 74.
34. Rorabaugh, Table A1.2.
35. Tyrrell, *Sobering Up*, 138.
36. Dinnerstein and Reimers, *Ethnic Americans*, 19.
37. Arnold and Penman, *History*, 54, 56, 61.
38. Mittelman, *Brewing Battles*, 18.
39. Downard, *Dictionary*, 194, 200; *One Hundred Years*, 188.
40. Rorabaugh, Table A1.2.
41. Blocker, *American Temperance Movements*, 58–59.
42. W.A. Lawrence, "Brewing in the Mining Camps," 15 May 1877, 154.
43. "Session Beers, Defined" (no byline). *Beer Advocate*. 10 December 2005, accessed 17 April 2015 <http://www.beeradocate.com/articles/653/>
44. See Table 2 for wheat beers and Fox, "Prosperity," 53 for temperance beers.
45. Quoted in Baron, *Brewed in America*, 321.
46. Fox, "Prosperity," 53; 1912 *USBA, Year Book*, 13.
47. Eleuthera Bradford du Pont Collection, 1799–1834, File 30, Manuscripts Collection, Hagley Museum and Library, Wilmington, Delaware.
48. "Lager Bier – Changes in the Beverages of the City," *The New York Times*, 17 September 1855.
49. "Will Lager Bier Intoxicate?" Letter to the editor, *The New York Times*, 1 June 1858.
50. Quoted in Timberlake, *Prohibition*, 67.
51. *Ibid.*, 68.
52. *USBA, Year Book 1911*, 10.
53. 15 April 1878, 227.
54. Cochran, *The Pabst Brewing Company*, 71.
55. Fox, "The Saloon a Social Problem," 263.
56. *USBA, Year Book 1916*, 1.
57. Cochran, *The Pabst Brewing Company*, 180–181.
58. Arnold and Penman, *History*, 74.
59. Fox, "Prosperity," 55.
60. *USBA, Year Book 1911*, 181.
61. *Ibid.*, 72.
62. Downard, *Dictionary*, 200.
63. Cochran, *The Pabst Brewing Company*, 204, 216–217.
64. 'Historical Tax Rates,' Alcohol and Tobacco Tax and Trade Bureau, US Department of the Treasury, 4 September 2012, accessed 5 July 2014, http://www.ttb.gov/tobacco/94a01_4.shtml.
65. Tabulations of the brewery profiles in *One Hundred Years* find 35 consolidations or consolidated breweries for which beer style are listed. This sample was deemed too small to include in Table 2, but it is possibly worth noting that of the 32 plants that were kept open, 11 made ale and 2 of those discontinued it. The resulting percentage, 28% (9/32), is about the same as for the full sample in Table 2 (26%). All 3 of the plants that were closed made lager, one in conjunction with ale.
66. Cochran, *The Pabst Brewing Company*, 181.

67. *One Hundred Years*, 448.
68. Tarbell, *New Ideas*, 125.
69. Jacob Ruppert in *USBA, Year Book 1912*, 10.
70. Geo. W. Eads, "WCTU Conclave Maps Renewed War Against Advertising," *Modern Brewery Age*, September 1949, 110.
71. Vernon ("Unemployment Rates") estimates high unemployment rates for the 1890s, even after the mid-decade depression ended. Nonfarm unemployment is estimated to have exceeded 10% in more than half of the first 12 years of the twentieth century (US Department of Commerce, 1975, Series D 10).
72. *Brewers Almanac 1944*, 47.
73. Murdock, *Domesticating Drink*, 94–95.
74. McCluskey and Shreay, "Culture and Beer," 164; Mosher, *Tasting Beer*, 30–31.
75. Zajonc, "The Attitudinal Effects."
76. Zellner, "How Foods."
77. *American Brewer*, June 1933, 9.
78. *Brewers Almanac 2013*, np.
79. *American Brewer*, June 1934, 74.
80. Schwarz and Laufer, "Composition."
81. *American Brewer*, January 1937; *Brewers Almanac 1944*, 47; *American Brewer*, November 1947, 22, 48.
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83. Warburton, *The Economic Results*, 107, 174.
84. Pennock and Kerr, "In the Shadow," 390.
85. *Modern Brewer*, June 1936, 77.
86. *American Brewer*, November 1934, 30, 42; Mittelman, 192–193.
87. *Brewers Almanac 1940*, 8–12.
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97. *Brewers Almanac 1944*, 64; 1975, 57; 1998, 41.
98. "Consumer Attitudes Toward Beer Advertising Appeals," *Modern Brewery Age*, December 1951, 41–42, 84.
99. *Brewers Almanac 1970*, 34.
100. *Brewers Almanac 2013*, n.p.
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102. Elzinga, "The Beer Industry," 232.
103. Mittelman, *Brewing Battles*, 162.
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105. Greg Glaser, "The Late, Great Ballantine," *Modern Brewery Age*, 27 March 2000, 4.
106. "Consumer Attitudes Toward Beer Advertising Appeals," *Modern Brewery Age*, December 1951, 41–42, 84.
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110. *Brewers Almanac 1995*, 25, and 2013, n.p.
111. Ogle, *Ambitious Brew*, 276–298.
112. *Brewers Almanac 1979*, 12–13; 'US Breweries and Wholesalers – 1887–2012,' *Brewers Almanac 2013*, np; Brewers Association, 'Number of Breweries,' accessed 12 January 2015. <http://www.brewersassociation.org/statistics/number-of-breweries/>
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