REACHING FOR THE SOUL OF BEER AND BREWING

BEER IS PROOF GOD LOVES US

CHARLES W. BAMFORTH

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Institute of Brewing and Distilling,
London, England

Beer Is Proof God Loves Us

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Reaching for the Soul of Beer and Brewing

Charles W. Bamforth

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For my growing family.

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About the Title

It is now generally believed that, whereas Benjamin Franklin made many great observations, he did not actually say that "beer is proof that God loves us and wants us to be happy." It seems that he did write, in a 1779 letter to the French economist André Morellet: "Behold the rain which descends from heaven upon our vineyards, there it enters the roots of the vines, to be changed into wine, a constant proof that God loves us, and loves to see us happy." I am sure he had beer in his heart of hearts, though.

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Preface

This is not the book that I thought it was going to be.

Some while ago I started writing a book with the word "God" in the title. It wasn't really about beer. It wasn't really about God. It was rather more to do with me. Call it what you will. Midlife crisis? Narcissism? Writing therapy?

Whichever it was, or whether it was something entirely different, it clearly wasn't the right book. And, yet, there was a message in that manuscript that I felt I needed to put into the world.

Which is when Kirk Jensen called. I had worked with him on my first beer book.[1] I told him that I had a manuscript that was fundamentally autobiographical. I said it was part beer, part spirituality. I said I was feeling uncertain about it. He was keen to see what might evolve from the idea.

Which is how we arrived at what you have in your hands. It is indeed a book about beer, albeit perhaps one that comes to the subject from a somewhat unusual, even obtuse angle. And yet, egotistically perhaps, it is also a somewhat personal perspective. To a large extent I have employed endnotes to collect many of these nostalgic ramblings, so that they do not detract from the hoped-for flow of the main text. However, perhaps the perusal of those notes might just strike a chord with the reader. The endnotes are also intended as a repository of other facts, figures, and clarifications (and I see that I have already used my first endnote). I do realize that many people studiously avoid endnotes, but I really do encourage you to read mine, for there is more than the occasional take-home message there. And some of them may even make you smile.

People often ask me how I find the time to write so much.[2] The answer is that, of course, I enjoy it, and that is nine parts of achieving anything. The other reason of course is that I am blessed—not to have talent, but rather to have the most beautiful wife, Diane. I have known her since February 12, 1972, and we have been married since October 9, 1976.[3] She is the heart of our growing family in every respect. Without her I would not be who I am today. She is the one who should really write a book about God.

In writing this book I am grateful to a number of people, not least Kirk Jensen for his steady and forthright guidance. I also acknowledge Larry Nelson, the indefatigable editor of the *Brewers Guardian*, in whose pages over the years I have developed many of the ideas that are built upon in this book.

Introduction

My regular haunt as a boy was a pub called *The Owl* (see Figure 0.1). I was not yet 17, and the legal drinking age in England was (and still is) 18. Friday evenings. One or two pints of Walker's Best Bitter.[1] A bag of crisps (a.k.a. chips) with a tiny blue bag of salt in every pack.[2] And Woodbine cigarettes, of which perhaps three or four would tremble on my lips. I would observe the comings and goings, mostly of the male gender (women then, as now, pleased my eyes more, but in those days they were heavily outnumbered in the pub). Many of the men were tough-as-teak workers, some clad in clogs, leaning against the bar, throwing darts, or rattling dominoes as they took their accustomed places in the dusty oaken furniture solidly set on rustic flooring. No television, no piped music. The food was restricted to pickled eggs, crisps, scratchings,[3] and perhaps the offerings from the basket of the fish man who did his rounds of the pubs, with his cockles, whelks, and mussels.[4] He jockeyed for position with the bonneted Sally Army woman and her *War Cry*.[5]

Figure 0.1 The Owl in Up Holland, with thanks to Sarah Mills.

Arthur Koestler[6] wrote, “When all is said, its atmosphere (England’s) still contains fewer germs of aggression and brutality per cubic foot in a crowded bus, pub or queue than in any other country in which I have lived.” Not once in the pubs of 1960s Lancashire did I witness anything to contradict this truth.

Who were these men, in their flat caps and overalls, or their simple and well-worn woolen suits? What unfolded in their lives? Were they drinking away their babies’ or teenagers’ futures, or were they rather savoring precious moments of content amidst the harsh cruelty of their labors? Were they stoking the fire of violence that would afterwards roar through the family home or were they merely rejoicing in bonds of brotherhood with others who knew only too well the rocky roads and unforgiving fields that each of them traversed as laborers and farmers, bricklayers, and quarrymen? This was no less their sanctuary than St Thomas’s church[7] or Central

Park, the home of nearby Wigan's prestigious Rugby League team.[8] This was oasis.

And in their glasses would be English ales, nary a lager in sight. Pints (seldom halves) of bitter or mild.[9] The occasional bottle of Jubilee or Mackeson.[10] Perhaps a Bass No. 1 or a Gold Label.[11] Beers with depth and warmth and, yes, nutritional value to complement their impact on conviviality and thirst.

Wigan, immortalized by George Orwell in his *Road to Wigan Pier*,[12] was a few pennies away on a Ribble[13] bus. The pier was a landing stage by the Leeds-Liverpool canal, a place for goods to be offloaded, notably cotton for the mills of the grimy but glorious town. The folks lived in row upon row of small houses, all joined together in grey, damp blocks. Two rooms down and two up and a toilet a freezing trek away down the narrow back yard, with newspaper to clean oneself up and often no light to ensure a satisfactory result. Baths were taken in front of the coal fire in the living room, in a pecking order of father first, mother next, then the children. For those with coal-miner dads it was no treat to be the youngest offspring.

Was it then a wonder that the pub held appeal? Warm, cozy, buzzing with camaraderie and escape.

In England today, pubs are shuttering their doors at a rate of 52 every week. I blame Thatcher, whose ill-judged Beer Laws of the late 1980s led to revered brewers like Bass and Whitbread and Watney selling their breweries to focus on serving the brews of others in spruced-up pubs that are now more restaurant and sports bar than back street boozer. Cleaner, smarter, livelier? Sure. But do they have heart or soul? Yes, they are smoke-free zones,[14] but there are as many folks on the sidewalk outside, spilling into the roadway and littering the pavement with butts and spittle.

Perhaps it is small wonder that many choose no longer to head to the pub and prefer to stay in front of their 70-inch surround-sound televisions, chugging on canned lager bought at fiercely competitive rates from a supermarket chain that commands one in every seven pounds of disposable income in the British Isles and which squeezes the remaining UK brewers to the measliest of margins as they entice the shopper to become solitary suppers of beers with names very different from those of yore.

Beers from breweries like the multinational behemoth Anheuser-Busch InBev, which commands nearly 25 percent of the world's beer market, more than twice as much as the nearest competitor, South African Breweries-Miller. Stella Artois, Budweiser, Becks: all brands owned by the biggest of breweries. Excellent beers, of course, but at what risk to other smaller traditional labels?

The world of beer is hugely different from that I first glimpsed as a too young drinker close to the dark satanic mills[15] of my native Northern England. Has beer, I wonder, lost its soul?

Or is it, rather, me that is the dinosaur? Is the enormous consolidation that has been the hallmark of the world's brewing industry for decades nothing more than business evolution writ large as survival of the fittest? Do the beers that folks enjoy today—and the latter day "near beer" which is the malternative (think *Smirnoff Ice*)—speak to a new age of Kindle, Facebook, and fast food?

In truth, there remains much for this hoary old traditionalist to delight in: the burgeoning craft beer sector in his new motherland, the United States. A growing global realization that beer, rather than wine, is the ideal accompaniment to foods of all types and (whisper it) is actually good for you, in moderation.

All is not lost in the world of beer. Let's go there.

1

Global Concerns

I was on the legendary Sixth Floor of the time-honored St. Louis Brewery of Anheuser-Busch. A dozen or more glasses of Budweiser were before me. Around the table was the cream of the company's corporate brewing staff and me, the newly incumbent Anheuser-Busch Endowed Professor of Malting and Brewing Sciences at the University of California, Davis.[1]

Doug Muhleman, a wonderful Aggie alum[2] and god of matters technical within the august brewing company, invited comments on the beers before us. One by one, the folks around the table proffered their opinion on the samples, which represented the venerable Bud as brewed in all of the locations worldwide where it was produced. In due sequence, my turn arrived. I gulped, thought about my new job title, and said "well, they are all great, all very similar, but this one I find to be a bit sulfury" as I gestured to the lemon-colored liquid in one of the glasses. I needed to demonstrate that I was one smart dude.

A hush fell over the surroundings. I felt all eyes on me. And then I heard someone tapping into his cell phone, as the journey of investigation started into what it was that the esteemed professor had “discovered” in the brew.

I had visions of airline tickets being purchased, jobs being lost, brewers consigned to the Siberia of the company wherever that was (Newark perhaps?). And in an instant I knew that it would be the last time I would pass critical comment in that room. For on the one occasion that I had, with a remark founded on a desire to be perceived as being knowledgeable rather than any genuine ability to find fault with the remarkably consistent product that is Budweiser, the potential impact was too immense to even think about.

There are many people in the United States and beyond who decry Bud. They would be wrong to. For here is a product that, for as long as it has been brewed, which is for rather more than 130 years, has been the ultimate in quality control excellence.[3]

Let there be no confusion here. That a product is gently nuanced in flavor does not make it somehow inferior. The reality is that it is substantially more challenging to consistently make a product of more subtle tone, there being far less opportunity to disguise inconsistency and deterioration than can be the case in a more intensely flavored beverage. And to make such an unswerving beer in numerous locations worldwide, with none but the acutely attuned brewmasters resident in the corporation able to tell one brewery’s output apart from another, is a truly astonishing achievement.

* * *

Doyen of the company from 1975 was August A. Busch III. I recall a former student of mine, newly ensconced at the Fairfield brewery in Northern California, telling me of his first encounter with Mr. Busch. “It was awful,” he said. “Mr.

Busch breezed in and spent the whole time firing out questions, challenging and finding fault with pretty much everything that we were doing. Being really critical." I smiled, replying, "You know, that is really a very high class problem. To have a man whose name is on the label showing such interest, commitment, and determination for the best is a wonderful thing. This is someone who will throw money at quality, who believes in being the best. Never knock it. Would you prefer to have a bean counter in corporate headquarters, someone who never comes near the brewery, making decisions solely on the basis of the bottom line and profit margins?"

The stories about August Busch are legion. He is supposed once to have pulled up alongside a Budweiser dray in a midwest city and, noticing that it needed a wash, gave the distributorship five days notice to get their act together or face losing the Bud contract. I am told of the time that a young brewer was summoned to the Busch home to bring some beer for the great man to taste. The youngster duly opened all the beers and placed the bottles in a line alongside sparkling fresh glasses. In came Mr. Busch, took one look at the scene and remonstrated with the young man for throwing away the crown corks from the bottles, for he needed to smell those to make sure that they were not going to be a cause of any flavor taint in the beer.

The same attitudes pervaded the entire company. The commitment to the best started in the barley breeding program of Busch Agricultural Resources in Idaho Falls, Idaho, and the hop development program in the same state and ever onwards through all aspects of the company's operations. The motto in the breweries was "taste, taste, taste." No raw material, no product-in-process, no process stage was excluded from the sampling regime. Brewers would taste teas made of the raw materials, they would taste the water, the sweet wort, the boiled wort, the rinsings from filtering materials, and so on. Nothing (except the caustic used to ensure the pristine cleanliness of the inside of vessels and pipes) was excluded from such organoleptic scrutiny.

Small wonder, then, that the Anheuser-Busch Corporation grew to become the world's leading brewing company in terms of output as well as quality acumen. And yet they could not control everything.

In April 2008 I was a guest at an Anheuser-Busch technical meeting in Scottsdale, Arizona.[4] I was honored to kick off the proceedings with a talk based on my newly published book where I was comparing the worlds of beer and wine.[5] Straight afterwards came a man to the podium from the business operations nerve center in St. Louis. I was reassured to hear him say that Anheuser-Busch was too big to buy when judged against the available dollars that a suitor might have at their disposal. But, in a cautionary afterword, he did stress that the company would never be invulnerable and that it was always prudent to be mindful of size and, therefore, acquisitions should be seriously considered. I knew already that the company had for the most part achieved its magnitude by organic growth, albeit with some additional major investments in China, Mexico, and the United Kingdom.[6]

Less than three months later the aggressive bid of InBev was announced and thus in November 2008 Anheuser-Busch InBev was formed.[7] August Busch III was out.

To search for the root of InBev, we must locate seeds in Belgium and Brazil.

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The history of beer in Brazil commenced early in the nineteenth century with its import by the Portuguese royal family. It was an expensive commodity, accessible only to the privileged classes, and it was not until 1853 that the first domestic brewery was opened in Rio de Janeiro, producing a brand called Bohemia. In 1885, a group of friends started Companhia Antarctica Paulista in Sao Paulo, at first to sell ice and prepared foods but, not long afterwards, beer. Within five years Antarctica was brewing more than 40,000 hectoliters.[8] Meanwhile in 1888 the Swiss Joseph Villiger began brewing beers in the style of his European roots and named it for the Hindu god, Brahma. As the twentieth century dawned, the substantially grown Antarctica and Brahma began to stretch their hinterland deep into other regions of Brazil, adding breweries and brands, such as Chopp,[9] which enabled the Brahma company to gain ascendancy. Brahma and Antarctica were fierce rivals in both the beer and soft drinks markets. Each grew organically but also through acquisitions as they expanded throughout Brazil. Among the key investments by Brahma was the Skol[10] brand in 1980, a move that soon shifted the company into one of the top ten beer producers worldwide.

Perhaps it was 1990 when the surge of Brahma truly began, with a new chief executive, Marcel Telles, who introduced incentive programs while slashing the payroll and introducing new production and distribution technology. The era of least costs had dawned, as well as global horizons, with Argentina being a first target. For their part, Antarctica was building up their Venezuelan interests. Meanwhile those outside South America were interested in the burgeoning beer business, and thus Brahma made arrangements with Miller to distribute Miller Genuine Draft while Antarctica formed Budweiser Brazil with Anheuser-Busch, while rebuffing a takeover by the US giant. Ironically, when viewed against subsequent events, Antarctica merged at the end of 1999 with Brahma, to produce Companhia de Bebidas das Américas, better known as AmBev, thereby becoming the fourth biggest brewing company in the world, controlling 70 percent of Brazil's beer market, and with expansion plans throughout South America, soon acquiring companies in Uruguay, Paraguay, and undercutting the Quilmes rivals in Argentina to the extent that they too were acquired in 2003. Thus did AmBev control 70 percent of the Argentina beer market, 80 percent in Paraguay, and 55 percent in Uruguay to add to the 70 percent control of the Brazilian business.

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If the Brazilian beer market is not much more than two centuries old, that in Belgium is rather more long-standing. The Artois brewery, which lends its name to the historic and now global brand Stella Artois (established 1366), was founded in Leuven in the late fourteenth century. Another great brewing company, that of Piedboeuf, was established in 1853. By the 1960s both companies started a three-decade expansion into the Netherlands, France, Italy, and elsewhere in Belgium by acquisitions. They cooperated on the purchase of a third Belgian brewery and, in 1987, merged and hired as CEO José Dedeurwaerder, a Belgian-US joint citizen, to rationalize the operations and deal with organized labor issues. Interbrew, as the company now was known, continued its expansion through acquisition, buying Belgium's Belle-Vue, Hungary's Borsodi Sör, Romania's Bergenbier, and Croatia's Ozujsko.

Interbrew was Europe's fourth largest brewer in the early 1990s, distributing beer in 80 countries. Signs of decline in the European market, however, made the company hierarchy look beyond, and they purchased Canada's John Labatt Ltd. in 1995, the latter company preferring a brewing concern over the Onex Corporation as buyer. Interbrew quickly divested itself of Labatt's nonbeer interests, such as its hockey and baseball clubs. At a stroke, Interbrew gained an extensive North American distribution system that could now ship products such as Stella Artois and Hoegaarden. It brought, too, a 22 percent interest in Mexico's Dos Equis brand as well as the iconic Rolling Rock.

Interbrew began exporting Stella Artois to China via joint ventures, recognizing the world's fastest-growing beer market, while continuing doubts about the European market led to it rationalizing some of its European interests, such as Italy's Moretti, sold to Heineken. However, Interbrew built major stakes in breweries in Bulgaria, Ukraine, Russia, Bosnia, Ukraine, Slovenia, and Germany, such that by 2000 it operated in 23 countries and was number three worldwide, behind Anheuser-Busch and Heineken.

Interbrew's next two major acquisitions were Bass from the UK and Beck's in Germany. As we see in Chapter 2, "The Not-So-Slow Death of a Beer Culture," Margaret Thatcher had severe misgivings about what she perceived to be a monopoly scenario in the UK and very rapidly a number of major brewing companies came into the market. Bass enjoyed 25 percent of the British market, and competitor Whitbread had almost 16 percent. Both companies went on the market in 2000 as Interbrew declared its intention to go public. By June, Interbrew had bought the breweries and brands of both Whitbread and Bass (the British companies themselves survived as hotel and retailing concerns), although the perception that this huge inroad into the UK industry would also constitute a monopoly situation led to Interbrew divesting itself of Bass's major brand Carling Black Label and the breweries that brewed it to Coors. Even then, Interbrew had 20 percent of the British beer business.

The public listing of Interbrew shares now made cash available for further international acquisitions, and Beck's was first. Rumors were that the next purchase would be South African Breweries, but that company itself was intent on globalization, shifting its headquarters to London, and purchasing the likes of Pilsner Urquell in the Czech Republic and Miller from Philip Morris, thereby becoming SAB-Miller, the second biggest brewing company on the planet.

On March 3, 2004, Interbrew and AmBev merged into a single company named InBev, at a stroke giving it a 14 percent share of the global beer business, with interests in 140 countries and making it the world's number one, pushing Anheuser-Busch into second place. And on November 18, 2008, the acquisition of Anheuser-Busch by InBev closed at an inconceivable $52 billion, creating one of the top five consumer products companies in the world and a company producing around 400 million hectoliters of beer annually, with the next biggest competitor, SAB-Miller, standing at 210 million hectoliters.

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As 2009 dawned, Anheuser-Busch InBev announced the closure of the Stag Brewery in Mortlake, London, with the loss of 182 jobs. Anyone who has watched the Oxford-Cambridge boat race will know of it, right there by the River Thames, close to the finishing line. Rationalization. And what stories that brewery can tell about brewery history and the march of the megabreweries.

The brewery dates from 1487 when it was associated with a monastery. By 1765 it had become a major common brewer[11] and a century later was rebuilt as the 100-acre site that would be bought by Watney in the 1890s and would go on to be a primary brewery for the production of the reviled Red Barrel.[12] Watney's became part of the Grand Metropolitan leisure group and was soon brewing Germany's Holsten and Australia's Foster's under license. Come Thatcher (see Chapter 2), Watney's sold all its plants, including Stag, to Courage, which in turn became part of Scottish & Newcastle, who leased the Mortlake brewery to Anheuser-Busch for the brewing of Budweiser. Scottish & Newcastle became the last of the "big six" British brewers to survive PMT (Post-Margaret Thatcher) and sold out to a Heineken and Carlsberg joint assault, the latter two dividing up the company between them.[13]

Thus did the Stag Brewery find itself vulnerable within the new Anheuser-Busch InBev giantopoly. Result: More than 520 years consigned to the history books and a prime piece of real estate available for regeneration.

It was ever thus. Brewing companies have been bought and sold for generations. Take, for instance, the Bass company that was acquired by Interbrew and then rent asunder in the Coors deal.

The monks started brewing in Burton-on-Trent in the twelfth century. Among the commercial brewers that would make the East Midlands town truly famous, surely the "big cheese" was William Bass who started his operation on High Street in 1777 after previously being a transporter of beer for Benjamin Printon. Bass shot to international fame in 1821 with its famed East India Pale Ale, shipped to the Raj.[14] By 1837, the company had become Bass, Ratcliff & Gretton, reflecting the partnership of Bass's grandson with John Gretton and Richard Ratcliff. As the railways expanded, so did the fame and hinterland of the company, and by 1860 the brewery was churning out more than 400,000 barrels a year. There were some 30 or more brewing competitors in the town, but Bass became Britain's biggest brewing company. The popularity of its bottled ale obliged the company to become the first firm to use the Trade Marks Registration Act of 1875 with the registration of the red triangle emblem.[15]

In 1926, the company bought another Burton brewer with a countrywide reputation, Worthington & Company Ltd. A year later, the company bought Thomas Salt's brewery, and six years later, that of James Eadie. But the company, under the chairmanship of Lord Gretton, who was seemingly somewhat stubbornly resistant to change and distracted by a political career,[16] did not embrace the change that it might have done, in particular not buying into tied public houses for the selling of its beer. It was Arthur Manners, assuming the chairmanship in 1947, who drove the company forward in a more businesslike way. Bass acquired holdings in William Hancock & Company and Wenlock Brewery Company. Soon there were 17 subsidiaries throughout the British Isles.

In 1961, then-chairman Sir James Grigg, who had been in Winston Churchill's government cabinet,[17] merged Bass, Ratcliff & Gretton with Birmingham's Mitchells & Butler, a company that itself had grown through acquisitions and which had ruthlessly rationalized production operations, but most importantly had rejoiced in a strong tied house portfolio. This was followed with the merging in 1967 with London-based Charrington (founded 11 years before Bass), with Sheffield's William Stones Ltd. coming under the umbrella a year later. And Hewitt's of Grimsby was snaffled in 1969. So it was now a case of Bass, Mitchells & Butler and Bass Charrington in different regions of the country.

The most critical aspect of the Charrington move was that it had previously merged with United Breweries, owners in the UK of the rights to the Canadian Carling Black Label brand, which would go on to become by far and away Bass's biggest beer.[18] Under ruthless chairman Alan Walker there followed tremendous rationalization as breweries were closed and production consolidated in strategic locations. And the company now had a huge estate of tied houses, to go alongside growing interest in hotels, betting shops, and other leisure activities. By the end of the century, with Margaret Thatcher's Beer Laws that we will visit in the next chapter, the hotels (notably Holiday Inns) became the focus—and Bass as a brewing legend died. The cask Bass brand[19] is these days owned by Anheuser-Busch InBev and is brewed under license in Marston's—a brewery in Burton since 1834[20] and thus a longtime competitor of Bass.

* * *

So what of this consolidation, ancient and modern? Does it represent nothing more than an incessant quest for domination, profits, and shareholder satisfaction, with the invariable reduction of choice and quality in the products available to the customer? Or is it an unavoidable consequence of economic reality (survival and growth of the fittest) and might it even benefit the consumer?

Consolidation and growth invariably lead to a reduction in employment, as a consequence of the pooling of production into fewer, larger, strategically placed breweries with the closing of inefficient, highly staffed smaller locations. Furthermore, advances in sensor and control technology mean that breweries are increasingly automated: Go into even the largest of breweries and you will see very few employees, with the greatest numbers to be found in packaging, warehousing, and distribution. As can be seen in Figure 1.1, a major component of the cost of a bottle of beer is personnel in production (including packaging). How much more efficient, for example, to have one 2,000-hectoliter fermenter as opposed to ten vessels of 200 hectoliters. The latter are unavoidably less efficient as they individually need to be filled, monitored, emptied, and cleaned.

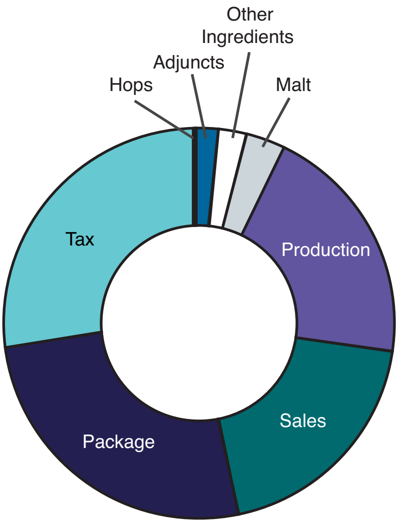

Figure 1.1 The costs within a bottle of beer.

Responsible brewing companies enter into consolidation issues with their eyes and minds open from a technical perspective. (I wonder, however, quite what their hearts are doing, should they give pause for thought about the humanitarian issues surrounding job losses and the inevitable slicing at the heart of local communities when a major employer center is lost.)

Consider, for instance, the act of changing the type of fermenter. A perfect example was given by the shift within Bass during the early eighties from the Burton Union system[21] to cylindro-conical vessels[22] for the fermentation of the legendary Bass Ale. This was not a consequence of any takeover activity, merely the desire of the company to move away from a traditional mode of beer production, one that is more labor intensive and associated with a greater spoilage rate, to a more modern, streamlined, and controllable approach. A reputable company only makes such a move after a very large number of trials, in which process variables are tweaked to ensure that, at the end of the day, there is no impact on smell or taste or any other manifestation of product quality. The changeover in fermentation approach predated me at Bass, but the variables that they played with must have included fermentation temperature, wort composition, and the amount of oxygen supplied to the yeast.[23] I know—because Bass's mentality as regards quality was identical to that of August A. Busch III—they would have ensured that the product "match" was perfect. And yet, inevitably, when it became known that the change had been made, there were the draught Bass aficionados who insisted that the product was "not a patch on what it was before they started buggering about with it." Perception becomes nine parts of reality.

Brewers particularly run into this type of problem when they acquire companies with very different technology or when they seek to have their beers brewed under franchise by companies with alternate philosophies when it comes to beer production.[24] I very quickly learned when I was Director of Research at BRF International[25] and trying to identify research projects that would satisfy all my customers, that brewers quickly become adherents to favored brewing approaches. Perhaps the most strident are the Germans, but they are not alone. Some insist on "bright worts," others on "dirty worts."[26] Related to this, some prefer lauter tuns, others mash filters.[27] There are those who use horizontal fermenters, others vertical ones.[28] The list goes on. And each and every one of these differences impacts the flavor of the beer. However, by changing parameters of the type referred to previously, so can the differences be eliminated. It truly is possible to produce wonderfully matched beers in widely divergent breweries.

It is also axiomatic that recognition be taken of the importance of the raw materials. The correct yeast strain must be used (although this can be debated for some of the more strongly malty and hoppy brews[29]). The malt and hops must be within the declared specification; not least they must be of the declared variety. And the water must be right.

Much is said about the importance of water in brewing. Rightly so, for most beers are at least 90 percent water. The reality is that technology is such that the water specified for the brewing of any beer anywhere in the world can be produced very straightforwardly.[30] To make the very soft water prized in Pilsen involves simple filtration technology to remove salts. By adding calcium salts one can easily make water to match the very hard stuff from Burton-on-Trent—heck, the Germans even have a word for it ("Burtonization"). Rocky Mountain water is a charming concept (and I love the folks in the Golden brewery[31]—they are smart, capable, and fun), but that water is not magical. I can make it right here in Davis.

An old boss of mine (a chemical engineer and therefore coldly logical) once described beer as being "slightly contaminated water." I would contend that if such it is, then it is an awesome form of impurity, but nonetheless the observation does speak to the fact that beer is an extremely aqueous commodity. That being the case, it simply does not make sense to ship it vast distances. It is so much more sensible to brew as close to the drinker as possible; therefore the concept of franchise brewing.

The other reality is that of beer's inherent instability. There is more than a grain of truth in the adage that beer is never better than when first brewed and when drunk close to the brewery. For the majority of beers it is downhill from the moment that the crown cork goes on the bottle, the lid goes on the can, or the keg is racked. Beer is susceptible to a number of changes; the most challenging of all being staling. In Chapter 5, "So What Is Quality?," I discuss this issue, which spills into matters philosophical and psychological, even physiological. And indeed there are a very few beers, notably those of very high alcohol content, that may actually benefit from storage.[32] But for the vast majority of beers there will be a progressive development of cardboard, wet paper, dog pee, straw, and other aroma notes that I, at least, find reprehensible, characteristics that detract from drinkability.

This issue of flavor instability is highly pertinent in consideration of the globalization of the beer market and the growth of the mighty brewers. On the one hand, these brewers certainly should (and often do) have better control over the key agent that causes the flavor deterioration of beer, namely oxygen. They have invested in the latest in packaging lines that minimize air levels. They can afford the most accurate oxygen-measuring equipment and the systems to put in place to respond to it. And in theory at least, by brewing in plants local to the consumer base, they are able to deliver younger beer than would be the case if they were exporting their products. As we have seen, as long as the raw materials and processes are specified and controlled, it is entirely possible to re-create any brand in any brewery in the world (see my earlier Budweiser experience). Nonetheless, there are plenty of instances of major brands continuing to be exported to markets many thousands of miles from home base, taking advantage of the cachet of a certain provenance. Heineken, Guinness, Bass, and Corona are examples of imported brands in the USA that each speak to a national heritage, respectively Holland, Ireland, England, and Mexico. The US drinker seems to prize the import imprint, despite inevitable aged character in the products.[33, 34]

The bigger the company, the bigger the marketing strengths it possesses. And so brands such as Corona, practically unheard of in the US 25 years ago, have reached huge volumes very much on a platform of a trendy beverage from south of the border: the flint glass bottle, the slice of lime, with images of gently rolling surf, wide sandy beaches, and beautifully bronzed bodies. Silence to be savored. The risk, as companies get ever bigger, is that such marketing-forced consumerism will lead to a rationalization of brands and the loss of esteemed beers that are simply beyond the numbers capable of being handled efficiently, whether from a production and packaging, distribution, or promotional perspective. If we consider Anheuser-Busch InBev, for instance, then at the last count it owned more than 300 brands, from Bud to Boddingtons, Harbin to Hoegaarden, Michelob to Murphy's, and Spaten to St. Pauli Girl. One must wonder how many of these products will still be extant 10 or 20 years from now. There is already an approach in this (and many other) brewing companies to developing numerous new beers, trying them in the marketplace, and quickly withdrawing all but the most successful.[35] But there are also brands of much longer standing that seem to be hot potatoes.

Take for instance Rolling Rock. Let's shoot back to 1893 and the founding of the Latrobe Brewing Company in the tiny town in the foothills of the Allegheny Mountains in Pennsylvania. The locals reckon that it was a local enclave of Benedictine monks that first did the brewing, but with rather more certainty we can say that the company was victim of Volstead,[36] and the brewery closed as Prohibition was enacted. Under new owners, the Tito family, the brewery reopened in 1933, with two beers called Latrobe Old German and Latrobe Pilsner. Six years later, though, they launched the beer that made Latrobe famous: Rolling Rock, named in reflection of the river with its smooth pebbles that supplied water to the brewery and packaged in a green glass bottle bearing a horse head-and-steeplechase icon that to this day renders the brand unmistakable on retail shelving. The beer was barely marketed, yet fetched an intensely loyal following in southwest Pennsylvania as well as a presence in several states in the northeast. In 1974, 720,000 barrels of Rolling Rock were produced. As other companies aggressively promoted their brands, Latrobe held back, and volumes of Rolling Rock declined significantly. The Titos sold the company in 1985 to a buyout concern called the Sundor Group, which sought to turn around the business prior to a resale. Sundor boosted marketing strategies but throttled back on capital investment: a classic conflict between going gung-ho on sales, while jeopardizing the quality of the very product on offer. Two years after Sundor came in, it sold Latrobe to Labatt. Now the Rolling Rock brand was in the hands of a company that totally respected quality but also possessed a keen eye for marketing (witness its original concept of Ice Beer[37]). Indeed Labatt made a big play of the mysterious number 33 long since found on the green bottle, and this came at the heart of the marketing strategy. The June 20, 1994, issue of *Brandweek* gave the Labatt marketing man John Chappell's description of Rolling Rock as being "A natural, high-quality beer with an easy, genuine charm that comes from the Rolling Rock name and the traditional, small-town Latrobe Brewery that uses the mountain spring water in special green bottles." The sentence contained 33 words—by accident or to encourage brand devotees to come up with their own theories for the origin of the number? Whatever the reason, Rolling Rock was rolled out around the United States, and by the early 1990s the Latrobe brewery (which was attracting investment from Labatt) was churning out more than 1 million barrels per annum. And the product could be now marketed at a higher price.

Interbrew, since 1995 owners of Labatt and therefore Latrobe, seemed committed to the Rolling Rock brand. In 2000 the declared intention was to double production capacity with the expenditure of $14.5 million on a new packaging line. But what is constant in this world? In May 2006 the new InBev company decided it could offload the brand—and duly sold it for $82 million to Anheuser-Busch, subsequently selling the brewery to the company in La Crosse, Wisconsin, that runs the old Heileman brewery.[38] The good folks of Pennsylvania were up in arms: How could Rolling Rock possibly be brewed by Anheuser-Busch, especially anywhere other than by the Latrobe River? I had a different question of my friend, Doug, the chief technical officer at Anheuser-Busch. For I knew as well as he did that the overwhelming characteristic of Rolling Rock is a dimethyl sulfide (DMS) note[39] that most brewers consider a serious defect when present at the levels to be found in Rolling Rock. I remember offering "I guess you will gradually lower the DMS level over a period of time, so that nobody will notice that the product is changing." "No, Charlie," Doug replied, "we will learn to brew a defect." And they did, faithfully adhering to the recipe that they had inherited and sticking to the principle of delivering to the customer what the customer expects. In fact, knowing Anheuser-Busch, the product would, batch-to-batch, be more consistently adherent to its recipe and provenance than would have been the case prior to the acquisition.

With what irony, then, was the brand restored to the InBev portfolio with the acquisition by the latter of Anheuser-Busch. And so no surprise to read the *Wall Street Journal* article on April 13, 2009, saying that "Brewing giant Anheuser-Busch InBev is exploring the sale of its storied but struggling Rolling Rock brand, according to people familiar with the matter." The article went on to say, "When Anheuser bought Rolling Rock in 2006, it sought to reposition the brand to compete in the fast-expanding, small-batch 'craft' beer segment. But sales, which already were declining under InBev, have continued to wane. Last year, Rolling Rock sales slipped 13 percent from a year earlier in volume terms to 7.4 million cases, according to Beverage Information Group, a market-research firm in Norwalk, Conn. In 2004, Rolling Rock sold nearly 11 million cases."

As I say, when push comes to shove, there are only so many brands that a company can handle.

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Every year the indefatigable Emeritus professor Michael Lewis and I generate new recruits eager for brewing pastures in companies large and small. In 2010 there were 66 students in my main brewing class on campus, 32 in the practical brewing class, and 40 in the extension class.[40] Not all of the campus students aspire to the brewing industry (some set their sights rather lower—winemaking, for instance), but all those in the Extension class are already in the industry, or the greater number aspire to be.

Over the years there has been a gratifying flow of Davis graduates into the brewing industry. I fear for the future. As companies consolidate, the most recent example being Miller and Coors in the US,[41] it can only mean fewer openings. Many of the students, it must be said, are intent on the craft sector, however mistakenly regarding the big guys as corporate America, and some of them naively buying into the notion of "industrial beer."[42] The reality is that a rather more comfortable living, founded on the greater range of career-advancement opportunities, can be had in the "majors." The smaller companies do not generally pay well: Some appeal to one's passion to be hands-on in all aspects of the operation, allied of course to copious free beer and the opportunity to converse with the customer—"Hi, I'm Jack. I brewed this beer!"

Those joining the big guys need to recognize three things. First, the need is for brewers (more strictly speaking, brewery managers) in all of their locations, even the less sexy places. There is a big world outside California. Second, the candidate must never, ever have had a DUI.[43] Brewers need to be genuine role models for responsibility.[44] And, third, the company will be snipping a hair sample to check for any interesting social activity.[45] I swear that some of my students fail on at least two of the three, although to the best of my knowledge nobody has been rejected on all counts.

And so the reservoir of talent seems to be very full right now. While there is a trickle going to replace retirements and feed the gratifyingly growing craft sector, there is inevitable seepage for want of openings. I look to my conscience: Can we hand-on-heart continue to encourage all those who want to live their dreams through becoming brewers?

I was dismayed to hear a little while back of one chief executive saying that only a tiny proportion of his employees really mattered to him, because they represented the difference between success and failure. It straightaway put me in mind of my old boss, Robin Manners, chief executive of Bass Brewers and grandson of the company's erstwhile chairman. He said to me one day, "Two things matter to this company, Charlie: One is people, and the other is quality. And if you look after the people, they will ensure the quality." What a contrast.

It is fashionable to talk of a War for Talent, the argument being that really worthwhile recruits that will move a company forward are thin on the ground. I rather think that there is ample human resource available, either already employed in the brewing industry, located in other industries, or emerging through the academy. And I know of far too many excellent people downsized from the world's major brewing companies, surely a consequence of companies ripping out expense to present themselves as least-cost operators, thereby impressing the stock markets as they join the fight to get their products a competitive edge on the shelves of equally ruthless supermarkets. If only companies of all shapes and sizes considered employee and customer alike as an individual human being in a nurturing environment.

Buddhists speak of loving kindness. I think that is what my old boss, Robin, was really referring to: Treating everyone from the main board to the janitor as equally deserving of respect and regard for their contribution to the whole—and that esteem and goodwill extended to suppliers on the one hand and to the beer market on the other. We at Bass were simply great guys to deal with, and that counted for a great deal and made us the most successful company in our market. That is, we were, until the bean counters arrived.[46]

It is far too easy for in-your-face business sultans to scream the old adage that nothing is as inevitable as change and that it is only through change that success can be achieved. The simple reality is that business decisions, especially in publicly owned companies, are made on the basis of the bottom line and no consideration of tradition or status quo, unless it satisfies a marketing strategy. In relation to this, ponder for a moment Pabst Blue Ribbon, once the quintessential blue-collar low-cost beer. These days it is trendy, maybe even sexy for all I know, to be seen with a can of PBR. It is not for any rediscovered uniqueness about the brand. It is because "retro" sells. The traditionalists of course might legitimately argue that it would have been better still if the original brewers[47] of PBR had never been subsumed in the first place.

As we have seen from Figure 1.1, a huge slug of the cost of a bottle of beer goes to sales and marketing. Without doubt, a customer needs to be receptive, and no matter how catchy the advertising, a beer that is intrinsically wrong will not sell.[48] Yet nobody can mistake the power of persuasion and the ability of marketing (allied to technical advances) to shift drinking preferences. Thus we have, for instance, the baffling (at least to me) surge toward the iciest of lagers in soggy old England, a nation generally believed to cling to "warm" ale.[49]

It would be very easy for me to be perceived as a dinosaur, yearning for a better time much as a bicyclist[50] might resent the advent of Maserati. Yet the contemplative and meditative me savors what I like to call the Slow Beer Movement: Traditional brewers with long-standing names and values brewing beers of heritage and culture, rather than fast beers of short lifetime and dubious provenance that search out the lowest common denominator. I even hear that within one company the management don't speak of beer, but rather call it "liquid."

And so I applaud the craft sector, though even here the Hyde of extreme brewing (ludicrous hopping rates, bizarre ingredients) all too frequently escapes the common-sense calm and beauty of Jekyllian values. We go there in Chapter 4, "On the Other Hand: The Rebirth of a Beer Ethos." Let us first, however, head back to my heritage.

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