AWARD OF MERIT LECTURE

Survival of the Fittest

By William K. Coors

Coors Brewing Company, Golden, Colorado

This lecture was presented at the MBAA 112th Anniversary Convention, Keystone, Colorado, 1999.

ABSTRACT

The inability to recognize the changing environment and to adapt to these changes in a constructive manner has been a significant factor in the demise of family-owned breweries since Prohibition. The Coors Brewing Company has survived and prospered for over 125 years by recognizing that change is the normal course of events, and by emphasizing product quality above all else.

SÍNTESIS

La inhabilidad de reconocer los cambios del ambiente y de adaptarse a estos cambios de una manera constructiva ha sido un factor significativo en la disminución de cervecerías pertenecientes a familias desde la prohibición. La Compañía Cervecería Coors ha sobrevivido y prosperado por más de 125 años gracias a que reconoció que esos cambios son el curso natural de las cosas y a que enfatiza la calidad del producto sobre todo lo demás.

William K. Coors is chairman of the board and president of Adolph Coors Company. He also serves as chairman of Coors Brewing Company, the major subsidiary of Adolph Coors Company. In these roles, Bill Coors has responsibility for providing overall policy direction.

Additionally, he serves as chairman of the board of ACX Technologies, Inc., which spun off from Adolph Coors Company in December, 1992. ACX, based in Golden, Colorado, is a diversified technology company with businesses in ceramics, folding carton and flexible packaging.

Bill Coors is the senior employee at Coors with almost 60 years of service. His contributions to the Company and industry are innumerable. In the 1950’s, he played a major role in the development of the aluminum can, which today is the standard in the beverage industry. He also is credited with the introduction of light, pilsner beers and the development of a proprietary, sterile-fill packaging technology that enables Coors to provide consumers with brewery-fresh, packaged draft beers. He is a visionary in the areas of employee wellness and health care.

Born August 11, 1916, the grandson of the Company’s founder, Bill attended primary school in Golden, spent four years at Phillips Exeter Academy in Exeter, New Hampshire, before entering Princeton University where he earned a bachelor of science degree in chemical engineering in 1938 and a graduate degree in 1939.

Bill Coors has been involved with numerous civic, educational and business organizations throughout his career. Some of his more recent associations include president of Adolph Coors Foundation; past chairman of Colorado Outward Bound School; and member of the boards of trustees of Denver University, Colorado Symphony Orchestra, Denver Museum of Natural History, Denver Art Museum Foundation and Boy's and Girl's Club of Denver Foundation. In addition, he is founding/lifetime trustee of Colorado University President’s Leadership Class and trustee emeritus of Colorado School of Mines.

Bill’s efforts and strong commitment to improving the quality of life around him have earned him numerous awards.

Over my sixty years of experience in the brewing industry, I have been privileged to observe much constructive change and actually cause some of it. To the old saying that the only things you can count on are death and taxes, we have to add change. Change is inevitable, and those who cannot sense it and react constructively to it are bound to perish.

This calls to mind an experiment that was performed years ago in high school science classes. It is no longer considered nice, so we don’t do it any more. A lively green frog sits in a pan
of cool water croaking contentedly. The frog is transferred to another pan of hot, but not dangerously hot, water from which it frantically hops out. Replaced in the cool water, it again croaks contentedly. This pan is placed on a burner on low heat and slowly heated to boiling. Result? Boiled frog! The lethal change in the poor fellow’s environment was so gradual that it could not detect it and react constructively to it. Individuals who either cannot detect change, or fail to acknowledge and react constructively to it, are those who possess, in my terminology, a boiled-frog mentality.

This boiled-frog mentality, or to put it in more polite terms, complacency with the status quo, has been a major factor in the decimation that has befallen the brewing industry. Of the almost 750 family-controlled and family-operated domestic breweries that existed 60 years ago, I only know of six that exist today. This is a sad consequence of the ownership attitudes of the ’30s and ’40s that thought that the good times would go on forever.

To me, the most innocent and undeserving victims of the industry holocaust were the master brewers who, by the hundreds, became unemployed. As for myself, educated as a chemical engineer and mentally programmed to think analytically, the handwriting predicting the holocaust was already plainly on the wall. Forty years ago, I made a prediction based solely upon extrapolation of past and current trends, that by the millennium only a handful of the then-operating breweries would still be in business. I’m not going to miss it by very much. Any brewery principal could have seen that handwriting and could have devised the same long-range business plan we did -- survival!

Strategies to enable that survival were another matter. We picked only one, and that was quality. No stone was to be left unturned in our quest for quality, and it was not to yield to cost and efficiency factors. As breweries go today, ours is labor intensive. For example, we believe mash filters give us a quality edge over lauter tubs. Box fermenters give us a beer that conventional fermenters cannot. There are proprietary features to our box fermenters that perform wonders, that run-of-the-mill boxes don’t, and it took us repeated design modifications before we arrived at that design. Some of our earlier designed cellars are no longer operational as they could not produce the quality of product we needed. Filler speeds are set not to maximize output, but to minimize oxygen uptake.

Traditionally, the master brewer’s realm is bounded by the brewery itself. Results achieved there are limited to the capabilities of the brewery’s equipment and by the brewing materials commercially available. For the principal ingredient, malt, the master brewer is at the mercy of the commercial maltster who is at the mercy of the grain exchange who buys barley from local grain elevators who buy it from the growers. So he possesses inadequate knowledge and certainly no control over the sourcing and the processing of the barley he has to make into beer.

For Coors, this has never been an acceptable arrangement. From the very start, we determined to vertically integrate ourselves all the way back to the barley field and develop our own barley varieties genetically tailored for compatibility with the altitudes, latitudes, soil characteristics and the meteorological vicissitudes of the few select growing areas deemed suitable for growing the quality barley we coveted. Growers were contracted to raise barley from seed we provided, and the barley fields from seeding to harvest were monitored by the brewery’s staff of on-site agronomists. This system works for us today and supplies us with what has to be the world’s finest and most uniform brewing barleys. And to complement this program, we operate one of the world’s top barley breeding laboratories, which has the continuing mission of genetically refining the agronomic, malting and brewing qualities of our barleys.

The genetic complexities of brewing barley are awesome. For growers, it must be competitive with other varieties as to yield and resistance to stress, lodging, plant diseases and insect infestation. The growing time between planting and harvest must fit into the meteorological limitations of the farming area. For the maltster, the barley should germinate 100% and demonstrate uniform growth and modification of starch and protein. For the brewer, enzymatic strength, brewhouse yield and extract fermentability are the sought-after criteria. Simply put, barley is to beer as grapes are to wine. The finest wines come from the finest grapes.

An experienced brewer can accurately predict the brewing quality of any malt by chewing up a small mouthful. From the action of the salivary enzymes on the malt starches, how they liquefy, how they taste and the nature of the aftertaste, much can be foretold about the subsequent beer.

Many years ago, I toured the Eastside Brewery in California with the then brewmaster, a gruff, rather arrogant fellow with a very thick German accent. I chewed up a few kernels of the malt he was using and it was awful! I asked my host as diplomatically as I could why he was using such poor malt. I shall never forget his reply: “I make beer out of anything!” Sadly, his beer was barely drinkable, and Eastside was not long for this world. I learned early on that a brewmaster is not necessarily a master brewer. This is why the mission of your MBAA organization is so important to our industry: to continue to educate our brewers of today and tomorrow.

Over the years as I watched the brewery population precipitously decline, it became increasingly apparent to me that beer quality, or rather the lack of it, was the industry’s avenging angel. In the main, the brewery principals who I knew wouldn’t know a good glass of beer if it was staring them in the face. Beer was the blue-collar worker’s beverage - not theirs. In 1960, I took my older brother’s place on the board of directors of the then United State Brewers Association. At the big reception, which preceded my first meeting, I found myself in the midst of a heavy drinking crowd of brewery principals, owners, top executives, etc. I didn’t see anyone there, except for myself, drinking beer. Quality must be motivated from the top down, not the bottom up. With a gang like that at the top, it’s a small wonder that the mortality rate of our industry has been so devastating. But, back to my brewery’s problems.

Our next challenge was to develop and refine our malting facilities to bring out the best in our barley. Of all of the individual processes necessary to make beer from barley, malting is the most exacting and least forgiving. The old German observation that “beer is made in the malthouse” could not be truer. Of the three processes required for malting – steeping, germination and kilning – steeping is the one that must be controlled most precisely if anything good is to come from the other two. Getting each kernel in a batch of billions to absorb exactly the same amount of water, providing it with sufficient oxygen to assure vigorous growth, and preventing it from suffocating in self-generated carbon dioxide is an awesome engineering challenge.

The importance of uniform steeping cannot be over emphasized, nor can the importance of barley that will respond uniformly to its steeping treatment. German and other continental
brewers have long been challenged with non-uniformity in their barleys, mostly due to chronically unfriendly weather during harvest. Decoction mashing was a consequence of this. The German government imposed its excise tax on the malt rather than the beer, which provided an incentive to brewers to maximize yields. By successively boiling portions of the mash to raise temperatures of the whole when added back, they gelatinized a large portion of the starch that escaped modification in the malthouse due to non-uniformity of the barley. Thus gelatinized, the starch was receptive to subsequent saccharification.

Our melting facilities are non-conventional and both capital and labor intensive. To heat the air that dries the malt in our kilns, we use steam coils rather than direct heat from fuel oil or natural gas. As a result, there are no oxides of nitrogen to combine with protein substances in the barley to form nitrosamines. During the great nitrosamine scare some years ago, our beers, to the great consternation of our industry, were the only nitrosamine-free beers on the market. This was unanticipated dumb luck. We have always used pure air to dry our malt because it gives us a cleaner product. The penalty for doing this is a 25% loss in thermal efficiency.

More recently, we have had the same dumb luck with our barley. It is grown only on irrigated farmland where crop rotation with hay, potatoes, beans, etc., is practiced. The fungus that causes vomitoxin in the dry-land barley growing areas can’t get a toehold in the irrigated soils where rotation is practiced. So, at least so far, vomitoxin has not been a problem for us.

Along with integrating our operations back to the barley, we have also integrated ourselves forward into the marketplace.

Many years ago, we determined to face up to a beer-marketing bogey that our industry still seems content to keep under wraps. Unlike wine or spirits, which can actually improve in quality of several days before finding out whether or not you screwed it up. This is the risk you take when pasteurization is eliminated; and the more filling lines you operate, the greater the risk. It is a risk of fearsome dimensions which really takes getting used to. Several years ago, I visited a German brewery which had enjoyed much trade journal publicity as a pioneer in eliminating pasteurization. I was hoping to learn something. To my dismay, the brewery was back to pasteurizing everything. When I asked why, I got this answer: “Wir Schlaffen besser nachts.” “We sleep better nights.” We, though, stayed our course. Quality took precedence over our sleep.

Sterilizing bottles prior to filling was easily accomplished, but cans were not so simple. The bottom seam in the old three-piece steel can could collect foreign matter resistant to any practical approach. With 70% of our output going into cans and the cans themselves under intense and vindictive attack from environmentalists who were running “Ban the Can” campaigns countrywide, something had to be done.

The answer, of course, was a two-piece can that could easily be sterilized and was also acceptable to the environmentalists by being profitably recyclable. The only material that fit the bill was aluminum.

But there was no aluminum can. So, with a lot more bravado than brains, we set out to create one. The trials, tribulations, roadblocks and frustrations of that venture are too involved to get into here today. So let’s just say that despite the odds and opposition, we did create the aluminum can. It was such a success that consumer acceptance alone caused the entire metal container industry to convert to it, though resisting all the way.
It was 35 years ago that we finally had every filling line converted to sterile fill and every can-filling line to aluminum, but we found that our packaging problems were far from over. Cold, wet bottles don’t willingly accept labels; and cold, wet cans required 6-pack, 12-pack and 24-pack cartons that the folding carton industry could not provide. We had two alternatives here. We could warm up the containers prior to packaging which would accommodate the run-of-the-mill packaging to the sacrifice of the quality to be gained through refrigerated marketing, or we could develop a suitable labeling and packaging system all by ourselves. Once again, quality ruled the day and set us on the latter path.

Again, I will spare you the details of this developmental effort. It was not as traumatic as the aluminum can, but almost. It did launch us into the label printing and folding carton business, where we find ourselves today - the largest player in the folding carton industry.

Well, my friends, that about wraps it up. Adolph Coors Company, d/b/a Coors Brewing Company, was founded in 1873 by my grandfather, an orphaned German immigrant who stowed away on a boat to get to America. By 1914, when Colorado went dry and put him out of business, we was worth some $2,000,000 -- a lot of money back in those days when one dollar was a fair day’s wage. He spent it all trying to keep his company alive during the Prohibition Era, and he died in 1929 never dreaming Prohibition would be repealed. His was the great American dream.

During my 60 years with our brewery, sales have grown from 126,000 barrels in 1939 to somewhere around 22,000,000 barrels today. The driving force behind those of us charged with managing the company over the years has been to make my grandfather’s dream come true. So far, it has. There is no better example of the great American dream to be found. What is ahead? Like any responsible management we look into the future, prepare ourselves for the worst and hope that it won’t happen. I can give you our long-range strategic business plan in three words: Survive -- survive -- survive!