

COCA-COLA *and*
the RISE
of AMERICA



From Soda to Cola

Stronger! stronger! grow they all,
Who for Coca-Cola call.
Brighter! brighter! thinkers think,
When they Coca-Cola drink.
—Coca-Cola advertising slogan, 1896

Industrial Strength

INDUSTRIALISM AND CONSUMERISM first took root in Britain, but the United States is where they truly flourished, thanks to a new approach to industrial production. The preindustrial way to make something was for a craftsman to work on it from start to finish. The British industrial approach was to divide up the manufacturing process into several stages, passing each item from one stage to the next, and using labor-saving machines where possible. The American approach went even farther by separating manufacturing from assembly. Specialized machines were used to crank out large numbers of interchangeable parts, which were then assembled into finished products. This approach became known as the American system

of manufactures, starting with guns, and then applied to sewing machines, bicycles, cars, and other products. It was the foundation of America's industrial might, since it made possible the mass production and mass marketing of consumer goods, which quickly became an integral part of the American way of life.

The circumstances of nineteenth-century America provided the ideal environment for this new mass consumerism. It was a country where raw materials were abundant and skilled workers were always at a premium; but the new specialized machines allowed even unskilled workers to produce parts as good as those made by skilled machinists. The United States also mostly lacked the regional and class preferences of European countries; that meant a product could be mass-produced and sold everywhere, without the need to tailor it to local tastes. And the nation's railway and telegraph networks, which spread across the country after the end of the Civil War in 1865, made the whole country into a single market. Soon even the British were importing American industrial machinery, a sure sign that industrial leadership had passed from one country to the other. By 1900 the American economy had overtaken Britain's to become the largest on Earth.

During the nineteenth century America focused its economic power inward; during the twentieth century the nation directed it outward to intervene decisively in two world wars. The United States then settled into a third, a cold war with the Soviet Union; the two sides were evenly matched in military terms, so the contest became one of economic power, and ultimately the Soviets could no longer afford to compete. By the end of the century, justly called the American century, the United States stood unchallenged as the world's only superpower, the

dominant military and economic force in a world where different nations are interconnected more tightly than ever by trade and communications on a global scale.

The rise of America, and the globalization of war, politics, trade, and communications during the twentieth century, are mirrored by the rise of Coca-Cola, the world's most valuable and widely recognized brand, which is universally regarded as the embodiment of America and its values. For those who approve of the United States, that means economic and political freedom of choice, consumerism and democracy, the American dream; for those who disapprove, it stands for ruthless global capitalism, the hegemony of global corporations and brands, and the dilution of local cultures and values into homogenized and Americanized mediocrity. Just as the story of Britain's empire can be seen in a cup of tea, so the story of America's rise to global preeminence is paralleled in the story of Coca-Cola, that brown, sweet, and fizzy beverage.

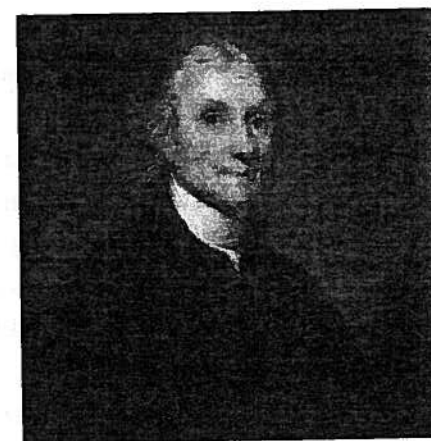
Soda Water Bubbles Up

The direct ancestor of Coca-Cola and all other artificially carbonated soft drinks was produced, oddly enough, in a brewery in Leeds around 1767 by Joseph Priestley, an English clergyman and scientist. Priestley was first and foremost a clergyman, despite his unconventional religious views and a pronounced stutter, but he still found time to pursue scientific research. He lived next door to a brewery and became fascinated by the gas that bubbled from the fermentation vats, known simply at the time as "fixed air." Using the brewery as his laboratory, Priestley

set about investigating the properties of this mysterious gas. He started by holding a candle just above the surface of the fermenting beer and noted that the layer of gas extinguished the flame. The smoke from the candle was then carried along by the gas, rendering it briefly visible, and revealing that it ran over the sides of the vat and fell to the floor. This meant the gas was heavier than air. And by pouring water quickly and roughly between two glasses held over a vat, Priestley could cause the gas to dissolve in the water, producing “exceedingly pleasant sparkling water.” Today we know the gas as carbon dioxide, and the water as soda water.

One of the theories circulating about fixed air at the time was that it was an antiseptic, which suggested that a drink containing fixed air might be useful as a medicine. This would also explain the health-giving properties of natural mineral waters, which were often effervescent. Priestley presented his findings to the Royal Society in London in 1772 and published a book, titled *Impregnating Water with Fixed Air*, the same year. By this time he had devised a more efficient way to make his sparkling water, by generating the gas in one bottle from a chemical reaction and passing it into a second bottle, inverted and filled with water. Once enough gas had built up in the second bottle, he shook it to combine the gas with the water. For the medical potential of his work Priestley was awarded the Copley Medal, the Royal Society’s highest honor. (Carbonated water was wrongly expected to be particularly useful at sea, for use against scurvy; this was before the effectiveness of lemon juice had become widely understood.)

Priestley himself made no attempt to commercialize his find-



Joseph Priestley, who in 1772 published a book explaining how to make soda water.

ings, and it seems that Thomas Henry, a chemist and apothecary who lived in Manchester, was the first to offer artificially carbonated water for sale as a medicine, sometime in the early 1770s. He followed the efforts to make artificial mineral waters very closely and was convinced of their health benefits, particularly in “putrid fevers, dysentery, bilious vomitings, etc.” Using a machine of his own invention, Henry was able to produce up to twelve gallons of his sparkling water at a time. In a pamphlet published in 1781, he explained that it had to be “kept in bottles very closely corked and sealed.” He also recommended taking it in conjunction with lemonade—a mixture of sugar, water, and lemon juice—so that he may have been the first to sell a sweet, artificially fizzy drink.

During the 1790s scientists and entrepreneurs across Europe went into business making artificial mineral waters for sale to

the public with varying degrees of success. Torbern Bergman, a Swedish scientist, encouraged one of his pupils to set up a small factory, but it was so inefficient that the woman employed to do the bottling had only three bottles an hour to seal. More successful was the venture established by a mechanic named Nicholas Paul in Geneva, in conjunction with Jacob Schweppe, a financier. Paul's method for carbonating the water was declared by physicians of Geneva in 1797 to surpass all others, and the firm was soon doing a thriving trade, even exporting its bottled water to other countries by 1800. Paul and Schweppe parted company and set up rival firms in Britain. Schweppe's firm produced more mildly carbonated water, which seems to have better suited British tastes; it was generally believed that water with fewer bubbles more closely imitated natural mineral water, and a cartoon from the period depicts drinkers of Paul's beverage as overinflated balloons.

Some of the new artificial mineral waters were prepared using sodium bicarbonate, or soda, so that *soda water* became the generic term for such drinks. They were strictly medical beverages until 1800; doctors prescribed them for various ailments, and they were considered a form of patent medicine by the British government, which imposed a duty of three pence on each bottle. One medical writer referred in 1798 to the "soda water" made and sold by Schweppe, and a London advertisement of 1802 states that "the gaseous alkaline water commonly called soda water has long been used in this country to a considerable effect."

However, soda water proved to be most popular in America. As in Europe, there was much scientific interest in the properties of natural mineral waters, and the possibilities of imitating them.

The eminent Philadelphia physician Benjamin Rush investigated the mineral waters of Pennsylvania and reported his findings to the American Philosophical Society in 1773. Two other statesman-scientists, James Madison and Thomas Jefferson, also took an interest in the medicinal properties of mineral waters. The natural springs of Saratoga in upper New York State were particularly renowned at the time. George Washington visited them in 1783 and expressed sufficient interest that the following year a friend wrote to him to describe attempts to bottle the waters: "What distinguishes these waters . . . from all others . . . is the great quantity of fixed air they contain. . . . The water . . . cannot be confined so that the air will not, somehow or another, escape. Several persons told us that they had corked it tight in bottles, and that the bottles broke. We tried it with the only bottle we had, which did not break, but the air found its way through a wooden stopper and the wax with which it was sealed."

In the United States, soda water moved from scientific curiosity to commercial product with the help of Benjamin Silliman, the first professor of chemistry at Yale University. He went to Europe in 1805 to collect books and apparatus for his new department and was struck by the popularity of the bottled soda water being sold in London by Schweppe and Paul. On his return he began to make and bottle soda water for his friends and was immediately overwhelmed by demand. "Finding it quite impossible with my present means to oblige as many as call upon me for soda water, I have determined to undertake the manufacture of it on the large scale as it is done in London," he wrote to a business associate. He began selling bottled water in 1807 in New Haven, Connecticut.

Others soon followed in other cities, notably Joseph Hawkins in Philadelphia, who devised a new way to dispense soda water: through a fountain. Hawkins's aim was to imitate the spas and pump rooms built over natural springs in Europe, where the mineral water could be dispensed directly into glasses. According to a description of his spa-room from 1808, "The mineral water . . . is raised from the fountain or reservoir in which it is prepared under ground, through perpendicular wooden columns, which enclose metallick tubes, and by turning a cock at the top of the columns, the water may be drawn without the necessity of bottling." Hawkins was granted a patent for this invention in 1809. But the idea of selling soda water in spalike settings proved unpopular. Instead, apothecaries came to dominate the trade. By the late 1820s the soda fountain had become a standard feature of the apothecary's shop; the soda water was prepared and dispensed on the spot, rather than being sold in bottles (though bottled waters were imported from Europe, and Saratoga water was successfully bottled for sale starting in 1826).

Like so many other drinks before it, soda water started out as a specialist medicine and ended up in widespread use as a refreshment, with its medical origins granting it a comforting underlying respectability. As early as 1809 an American chemistry book noted that "soda water is also very refreshing, and to most persons a very grateful drink, especially after heat and fatigue." As well as being consumed on its own, it could be used to make sparkling lemonade, almost certainly the first modern fizzy drink. It was also being mixed with wine on both sides of the Atlantic by the early nineteenth century; one English observer noted that "when mixed with wine it is found that a much smaller quantity

of wine satisfies the stomach and the palate, than wine does alone." Today we call this mixture a wine spritzer. But from the 1830s, and particularly in the United States, soda water was principally flavored using specially made syrups.

The *American Journal of Health* noted in 1830 that such syrups "are employed to flavor drinks and are much used as grateful additions to carbonic acid water." Syrups were originally handmade from mulberries, strawberries, raspberries, pineapples, or sarsaparilla. Special dispensers were added to soda fountains, which started to become increasingly elaborate. Blocks of ice were added to chill both the soda water and the syrups. By the 1870s the largest soda fountains were enormous contraptions. At the Centennial Exposition in Philadelphia in 1876, James Tufts, a soda-fountain magnate from Boston, displayed his Arctic Soda Water Apparatus. It was thirty feet high, towering over the spectators, and was adorned with marble, silver fittings, and potted plants. It was manned by immaculately dressed waiters and had to be housed in its own specially designed building. A testament to inventiveness and marketing prowess, this display generated plenty of orders for Tuft's American Soda Fountain Company.

The soda-water business was also becoming industrialized behind the scenes, thanks to businessmen such as John Matthews, a veteran of the British soda-water trade who moved to New York. Initially, he focused on making and selling his own soda water, and then on selling soda fountains, but when his son (also called John) joined the business, he expanded in a new direction. A prolific inventor, the younger Matthews devised specialized machinery to automate every aspect of the soda-water business, from carbonation to bottle washing, and he began sell-

ing this machinery to other firms. By 1877 the company had amassed over one hundred patents and had sold over twenty thousand machines. Its catalog offered "a complete establishment for making and bottling soda water, ginger ale, etc using corks" for the sum of \$1,146.45. This included the apparatus and raw materials to generate the gas, two fountains to carbonate the water, a bottling machine, fifty gross of bottles, flavoring extracts, and colorings. Matthews's inventions were displayed at exhibitions and won awards around the world. They epitomized the American approach to mass production: Specialized machines handled each step of the process, the bottles and stoppers were standardized, interchangeable parts, and the resulting drink, produced cheaply in large quantities, had mass appeal.

Indeed, soda water, produced on an industrial scale and consumed by rich and poor alike, seemed to capture something of the spirit of America itself. Writing in *Harper's Weekly* in 1891, the author and social commentator Mary Gay Humphreys observed that "the crowning merit of soda-water, and that which fits it to be the national drink, is its democracy. The millionaire may drink champagne while the poor man drinks beer, but they both drink soda water." Her suggestion that soda water could claim to be America's national drink was, however, only half right. A new national drink was indeed emerging at the time—but soda water was only the half of it.

Coca-Cola's Creation Myth

In May 1886 John Pemberton, a pharmacist who lived in Atlanta, Georgia, invented a drink. According to the Coca-Cola

Company's official version of the story, he was a tinkerer who stumbled on the right combination of ingredients by accident, while trying to devise a cure for headaches. One afternoon he mixed various ingredients in a three-legged pot to create a caramel-colored liquid, which he then took to a nearby pharmacy, combining the liquid with soda water to create the sweet, fizzy, and invigorating drink—Coca-Cola—that would eventually reach nearly every corner of the world. The real story is rather more complicated, however.

Pemberton was, in fact, an experienced maker of patent medicines, the quack remedies that were hugely popular in America in the late nineteenth century. These pills, balsams, syrups, creams, and oils were generally triumphs of advertising over pharmacology. Some were harmless, but many contained large amounts of alcohol, caffeine, opium, or morphine. They were sold through newspaper advertisements, and their production became a huge industry after the Civil War, as veterans took to dosing themselves. The popularity of patent medicines reflected a general distrust of conventional medicines, which were often expensive and ineffective. Patent medicines offered an alluring alternative, marketed as they were on the basis of exotic ingredients or the medical knowledge of Native Americans, and under names with religious, patriotic, or mythological overtones: Munson's Paw-Paw Pills to Coax Your Liver into Action, Dr. Morse's Indian Root Pills, and so on.

There was nothing to stop manufacturers of such medicines from making outrageous claims about their effectiveness. The Elixir of Life sold by a Dr. Kidd, for example, claimed to cure "every known ailment. . . . The lame have thrown away crutches

and walked after two or three trials of the remedy. . . . Rheumatism, neuralgia, stomach, heart, liver, kidney, blood and skin diseases disappear as by magic." The newspapers that printed such advertisements did not ask any questions. They welcomed the advertising revenues, which enabled the newspaper industry to expand enormously; by the end of the nineteenth century patent medicines accounted for more newspaper advertising than any other product. The makers of St. Jacob's Oil, which was said to remedy "sore muscles," spent five hundred thousand dollars on advertising in 1881, and some advertisers were spending more than one million dollars a year by 1895.

The patent-medicine business was among the first to recognize the importance of trademarks and advertising, of slogans, logos, and hoardings. Since the remedies themselves usually cost very little to make, it made sense to spend money on marketing. With so many competing products on the market, however, only 2 percent of them made a profit, according to one estimate. But those that did succeed made fortunes for their inventors. One of the most famous was Lydia E. Pinkham's Vegetable Compound. It was said to be "a positive cure for all those painful Complaints and Weaknesses so common to our best female population. . . . It removes faintness, flatulency, destroys all craving for stimulants, and relieves weakness of the stomach." Customers were encouraged to write to Pinkham for medical advice, even after her death in 1883, which was kept quiet. They received form letters in return, invariably recommending the use of more of her compound. When analyzed in the early twentieth century, it was found to contain 15 to 20

percent alcohol. Ironically, women temperance campaigners were among its most fervent users.

Pemberton's own attempts to make patent medicines had met with mixed success. At times his remedies produced a solid income, but during the 1870s he had a run of bad luck. He was declared bankrupt in 1872, and his attempts to get back on his feet were hampered by two fires that destroyed his stock. But he continued to develop new patent medicines in the hope that one of them would make him rich. Finally, in 1884, he started to get somewhere, thanks to the popularity of a new patent-medicine ingredient: coca.

The leaves of the coca plant had long been known among South American peoples for their stimulating effect; coca was known as "the divine plant of the Incas." Chewing a small ball of the leaves releases tiny quantities of an alkaloid drug, cocaine. In small doses this sharpens the mind, much like caffeine, and suppresses the appetite, making possible long treks across the Andes with very little food or sleep. Cocaine was isolated from coca leaves in 1855, and it then became the subject of much interest among Western scientists and doctors, who thought it might help to cure opium addicts by providing an alternative. (They were unaware that cocaine was just as addictive.) Pemberton followed the discussion of coca in the medical journals closely, and by the 1880s he and other patent-medicine makers were incorporating it into their tablets, elixirs, and ointments. Pemberton's contribution to this burgeoning field was a drink called French Wine Coca.

As its name suggests, this was a coca-infused wine. In fact, it

was just one of many attempts to imitate a particularly successful patent medicine called Vin Mariani, which consisted of French wine in which coca leaves had been steeped for six months. Vin Mariani was popular in Europe and the United States, thanks to its high cocaine content and the marketing prowess of its creator, a Corsican named Angelo Mariani. The letters of endorsement for his drink from celebrities and heads of state, including three popes, two American presidents, Queen Victoria, and the inventor Thomas Edison, were published as a book in thirteen volumes. Pemberton copied the coca-infused wine formula and added kola extract too. The nuts of the kola plant from West Africa were another supposed wonder-cure that had become known in the West at around the same time as coca, and also had an invigorating effect when chewed, since they contain about 2 percent caffeine. As with coca leaves in South America, kola nuts were valued as a stimulant by indigenous peoples in West Africa, from Senegal in the north to Angola in the south. They were used in religious ceremonies by the Yoruba people in Nigeria; the people of Sierra Leone wrongly believed that kola nuts cured malaria. In nineteenth-century America, coca and kola often ended up being lumped together in patent medicines due to the similarity of their effects.

Just as he copied and slightly modified Mariani's formula for the drink, Pemberton also borrowed from Mariani's advertisements, claiming several celebrity endorsements as testimonials for his own drink. Sales of his French Wine Coca began to grow. But just when it seemed that Pemberton was on the right track, Atlanta and Fulton County voted to prohibit the sale of alcohol from July 1, 1886, for a two-year trial period. With the temper-



A Coca-Cola logo on an early bottlecap

ance movement gaining ground, Pemberton needed to produce a successful nonalcoholic remedy, and fast. He went back to his elaborate home laboratory and started work on a "temperance drink" containing coca and kola, with the bitterness of the two principal ingredients masked using sugar. This would be no ordinary patent medicine, though; he intended it to be dispensed as a medicinal soda-water flavoring. As he refined his formula, Pemberton sent batches of it to the neighborhood pharmacy, where it was offered to customers alongside the other flavorings. On occasion he would ask his nephew to loiter in the pharmacy to hear what other people had to say about the new drink's taste.

By May 1886 Pemberton was happy with the formula; now it needed a name. One of his business associates, a man named Frank Robinson, made the obvious suggestion: Coca-Cola. The name was derived directly from the two main ingredients;

Robinson later recalled that he thought "the two Cs would look well in advertising." This original version of Coca-Cola contained a small amount of coca extract and therefore a trace of cocaine. (It was eliminated early in the twentieth century, though other extracts derived from coca leaves remain part of the drink to this day.) Its creation was not the accidental concoction of an amateur experimenting in his garden, but the deliberate and painstaking culmination of months of work by an experienced maker of quack remedies.

Having invented Coca-Cola, Pemberton stood back to let Robinson, his associate, handle the manufacturing and marketing. The first advertisement for the new drink, which appeared in the *Atlanta Journal* on May 29, 1886, was short and to the point: "Coca-Cola. Delicious! Refreshing! Exhilarating! Invigorating! The new and popular soda fountain drink containing the properties of the wonderful Coca plant and the famous Cola nut." The new drink had been launched just in time for Atlanta's experiment with Prohibition. It was nonalcoholic, and it appealed as both a soda-water flavoring and a patent medicine. This was reflected in the wording of Pemberton's label, attached to the flasks of syrup supplied to pharmacists, which declared: "This Intellectual Beverage and Temperance Drink contains the valuable Tonic and Nerve Stimulant properties of the Coca plant and Cola (or Kola) nuts, and makes not only a delicious, exhilarating, refreshing and invigorating Beverage (dispensed from the soda water fountain or in other carbonated beverages), but a valuable Brain Tonic, and a cure for all nervous affections—Sick Head-Ache, Neuralgia, Hysteria,

Melancholy, etc. The peculiar flavor of Coca-Cola delights every palate."

Robinson promoted the drink in a number of ways. He sent out tickets that entitled their holders to free samples of Coca-Cola, in the hope that they would acquire a taste for it and come back for more as paying customers. He put up posters in streetcars and banners at soda fountains that read "Drink Coca-Cola, 5c." Robinson also developed the distinctive Coca-Cola logo, in cursive script, which first appeared in a newspaper advertisement on June 16, 1887. Sales of the Coca-Cola syrup to pharmacists were running at around two hundred gallons a month at the height of the summer soda-fountain season, equivalent to about twenty-five thousand drinks. By the time Atlanta voted to discontinue its experiment with Prohibition in November 1887, Coca-Cola had established itself.

Despite the new drink's promising start, Pemberton's business associates were unhappy. For several months there was much bickering over who owned the rights to the Coca-Cola name and formula. Shares in the Pemberton Chemical Company, the entity that formally owned the rights to his patent medicines, were sold and resold, so that it was unclear who owned what. To further complicate matters, Pemberton had sold two-thirds of his Coca-Cola rights to two businessmen in July 1887, apparently because he was unwell and wanted to raise some money quickly. (He was, by this time, dying of stomach cancer.) This transaction took place behind Robinson's back; when he found out about it, he insisted that he was still entitled to use the Coca-Cola formula too. Pemberton then set

up a new company that also claimed ownership over the rights. The businessmen to whom he had previously sold out became disillusioned and sold their rights to another party.

The whole mess was finally sorted out by Asa Candler, another Atlanta-based maker of patent medicines and the brother of Robinson's lawyer. He heard about the fuss surrounding the new drink, teamed up with Robinson, and then began buying out the various other parties. Nevertheless, during the summer of 1888 the ownership of Coca-Cola was still so confused that Atlanta druggists were being offered three rival versions of it: one by Candler and Robinson's new company, another by Pemberton's new company, and a third by Pemberton's rebellious son Charley.

Ultimately, it was John Pemberton's death from cancer, on August 16, 1888, that enabled Candler to consolidate his control over Coca-Cola. Candler called the city's druggists together and delivered a moving and entirely insincere speech. Pemberton was not just one of Atlanta's foremost druggists, he declared, but a good man and close friend; he suggested that the druggists ought to close their shops on the day of Pemberton's funeral as a mark of respect. With this speech, and by acting as a pallbearer at the funeral, Candler succeeded in convincing everyone that he had Pemberton's best interests at heart, and that his version of Coca-Cola was, as it were, the real thing. Pretending that Pemberton had been a close friend was an outright lie. Yet in a way it became true retrospectively. For it is only thanks to Candler that Pemberton is remembered today at all. Without Asa Candler's efforts, Coca-Cola would never have become the success that it did.

Caffeine for All

When he first secured the rights to Coca-Cola, for a mere \$2,300, Asa Candler regarded it as merely one of his many patent medicines. But as sales continued to grow—they quadrupled in 1890, to reach 8,855 gallons—Candler decided to abandon his other remedies, none of which was anything like as popular. Coca-Cola was even selling during the winter, outside the usual soda-fountain season. So Candler hired traveling salesmen to sell Coca-Cola to pharmacists in neighboring states, gave away more free tickets to lure new customers, and pumped money into advertising. By the end of 1895 annual sales exceeded 76,000 gallons, and Coca-Cola was being sold in every state in America. The company's newsletter boasted that "Coca-Cola has become a National drink."

This rapid growth was possible because the Coca-Cola Company only sold syrup; it did not sell the finished product of syrup mixed with soda water. Candler was strongly opposed to the idea of selling Coca-Cola in bottles, since he was worried that the drink's taste might suffer during storage. Expanding into a new city or state, then, simply meant striking deals with local pharmacists and then shipping the syrup and its associated advertising materials: banners, calendars, and other items that featured the company's red-and-white logo. Since Atlanta was a major hub on the nation's railway network, distribution was not a problem. And pharmacists liked the drink because it was profitable: Each five-cent Coca-Cola they sold only required one cent's worth of syrup, and most of the rest was pure profit.

The Coca-Cola Company, in turn, could make the syrup for around three-quarters of a cent per drink, so it made a profit on every drink sold too.

Downplaying Coca-Cola's supposed medical attributes, a sudden shift in strategy, also helped to boost sales. Until 1895 it was still being sold as a primarily medicinal product—described as a “Sovereign Remedy for Headache” and so on. But selling Coca-Cola as a remedy risked limiting the market to those who identified with the symptoms it was supposed to cure. Selling it simply as a refreshing drink, in contrast, gave it universal appeal; not everyone is ill, but everyone is thirsty at one time or another. So out went the gloomy advertisements listing ailments and maladies, and in came a cheerier, more direct approach: “Drink Coca-Cola. Delicious and Refreshing.” Where previous advertisements had aimed Coca-Cola at harried, overworked businessmen looking for a headache cure or tonic, the new advertisements recommended the drink to women and children. This change of emphasis was, it turned out, fortuitously timed. In 1898 a tax was imposed on patent medicines, a category which was initially deemed to include Coca-Cola. The company fought the decision and ultimately won exemption from the tax, but it could only do so because it had repositioned Coca-Cola as a drink rather than a drug.

Sales were also driven, ironically, by the introduction of bottled Coca-Cola. Candler had always been opposed to the idea, but in July 1899 he granted two businessmen, Benjamin Thomas and Joseph Whitehead, the right to bottle and sell Coca-Cola. At the time Candler thought this was an unimportant deal, and did not even make the two men pay for the bottling rights; instead,



Coca-Cola's distinctive glass bottle, introduced in 1916

he simply agreed to sell them the syrup, just as he sold it to soda-fountain owners. If bottling took off, he would sell more syrup; if it failed, as he expected, he would not lose anything. In fact, bottling proved enormously successful. Bottled Coca-Cola opened up entirely new markets, because it could now be sold anywhere—at grocery stores and at sporting events, for example—not just at soda fountains. Thomas and Whitehead soon realized that rather than doing the bottling themselves, it made much more sense to sell subsidiary bottling rights to others, in return for a large cut of the profits. In so doing, they created a lucrative franchise business and made Coca-Cola available in every town and village in the United States. The characteristic

Coca-Cola bottle, with its distinctive shape, was introduced by the company in 1916.

Bottled Coca-Cola took off just as public concern was growing over the dangers of patent medicines, and harmful additives and adulterants in food. Leading the charge was Harvey Washington Wiley, a government scientist, who was particularly concerned about the danger posed by quack remedies to children. His years of campaigning were rewarded in 1906 with the passage of the Pure Food and Drug Act, generally known as "Dr. Wiley's Law." At first it seemed that the new rules would benefit Coca-Cola, which proudly advertised that it was "Guaranteed under the Pure Food and Drugs Act," by doing away with some of its more dubious rivals. But the following year Wiley announced his intention to investigate Coca-Cola on the grounds that it contained caffeine. His complaint was that, unlike tea and coffee, Coca-Cola, which was now available across America, was drunk by children. Parents were, he argued, generally unaware of the presence of caffeine and did not realize that their children were taking a drug.

Just as Kha'ir Beg had put coffee on trial in Mecca in 1511, Wiley put Coca-Cola on trial in 1911, in a federal case titled *The United States v. Forty Barrels and Twenty Kegs of Coca-Cola*. In court, religious fundamentalists railed against the evils of Coca-Cola, blaming its caffeine content for promoting sexual transgressions; government scientists expounded on the effects of Coca-Cola on rabbits and frogs; and expert witnesses put forward by the Coca-Cola Company spoke up in the drink's favor. The month-long trial made for great theater, with accusations of jury rigging and sensationalist coverage: "Eight

Coca-Colas Contain Enough Caffeine to Kill," screamed one headline, entirely incorrectly. The problem with Wiley's case was that it was founded on moral rather than scientific objections. Nobody disputed that there was caffeine in Coca-Cola; the question was whether it was harmful, and to children in particular. The scientific evidence suggested that it was not. Besides, Wiley was not trying to ban tea or coffee.

So in the end the case came down to the narrow question of whether the Coca-Cola Company misrepresented its product, and whether it could claim that the drink was indeed "pure." Ultimately, the court found in Coca-Cola's favor: Its name accurately reflected the presence of kola, which contains caffeine. And since caffeine had always been part of the formula for Coca-Cola, it did not count as an additive—so the drink was indeed "pure." That said, this second part of the ruling was subsequently overturned on appeal, and an out-of-court settlement was agreed in which the amount of caffeine in Coca-Cola was reduced by half. The company also promised not to depict children in its advertisements, a policy it maintained until 1986. But the important thing was that the sale to children of Coca-Cola, a caffeinated drink, was now legally sanctioned. Together with the popularity of the bottled drink, this meant that Coca-Cola had successfully extended the use of caffeine, the world's most popular drug, into realms where coffee and tea had been unable to reach.

The Coca-Cola Company found other ways of selling its product to children without depicting them directly in advertisements. By far the most famous examples are the jolly posters depicting Santa Claus drinking Coca-Cola that first appeared in 1931. It is

widely but wrongly believed that through these posters, the Coca-Cola Company was responsible for creating the modern image of Santa Claus as a bearded man in a white-trimmed red suit, choosing the colors to match its own red-and-white logo. In fact, the idea of a red-suited Santa was already firmly established. The *New York Times* reported on November 27, 1927 that "a standardized Santa Claus appears to New York children. . . . Height, weight, stature are almost exactly standardized, as are the red garments, the hood and the white whiskers. . . . The pack full of toys, ruddy cheeks and nose, bushy eyebrows and a jolly, paunchy effect are also inevitable parts of the requisite make-up." Putting Santa in its advertisements, however, enabled the company to appeal directly to children, and to associate its drink with fun and merriment.

The Sublimated Essence of America

The 1930s brought three challenges to the might of Coca-Cola: the end of Prohibition; the Great Depression that followed the Wall Street stockmarket crash of 1929; and the rise of a vigorous competitor, PepsiCo, with its rival drink, Pepsi-Cola. The resumption of legal sales of alcoholic drinks, which had been banned since 1920, was expected to have a particularly devastating effect on the sales of Coca-Cola. "Who would drink 'soft stuff' when real beer and 'he-man's whiskey' could be obtained legally?" asked one press report. "Why, the case was an open and shut one: The Coca-Cola Co. was on the skids." In fact, the repeal of Prohibition had very little effect on sales; Coca-Cola, it seemed, met a different need from alcoholic drinks. Indeed,

the range of circumstances in which it was consumed continued to expand.

For some people, Coca-Cola took the place of coffee as a social drink. Unlike alcoholic drinks, it was deemed suitable for consumption at all times of day—even at breakfast—and, of course, by people of all ages. During Prohibition, the company's brilliant publicist, Archie Lee, carefully pushed the consumption of Coca-Cola at soda fountains as a cheery and family-friendly replacement for drinking beer or other forms of alcohol in a bar, and a way to escape the gloomy reality of the economic climate. Lee also pioneered the new technology of radio to sell Coca-Cola, and the prominent placement of the drink in numerous movies—another way of associating it with glamour and escapism. Coca-Cola's advertisements depicted an appealingly happy, carefree world. As a result, Coca-Cola prospered during the Depression.

"Regardless of depression, weather, and intense competition, Coca-Cola continues in ever-increasing demand," noted an investment analyst at the time. Here was a hot-weather drink that still sold in the winter, a nonalcoholic drink that could hold its own against alcoholic beverages, a drink that made caffeine consumption universal, and an affordable treat that maintained its appeal even in an economic downturn. As Harrison Jones, a company executive, put it in a rousing speech that marked the finale of the company's fiftieth anniversary celebrations in 1936, "the Four Horsemen of the Apocalypse may charge over the earth and back again—and Coca-Cola will remain!"

Some of these factors also helped Coca-Cola's rival, Pepsi-Cola. Its origins went back to 1894, but after going through two bankruptcies it only became a serious competitor to Coca-

Cola in the 1930s, in the hands of a New York businessman named Charles Guth, who owned a chain of confectionery stores and soda fountains. Rather than buy Coca-Cola for his stores, he took over the ailing Pepsi-Cola company and offered its drink instead. Sales took off when he started to offer twelve-ounce bottles at the same price (five cents) that Coca-Cola charged for a six-ounce bottle. The larger drink cost very little more to make, since most of the cost was in bottling and distribution, and it had great appeal to cash-strapped consumers. A huge legal battle ensued as the Coca-Cola Company accused its rival of trademark infringement. The case dragged on for years, doing neither company any good, and prompting an out-of-court settlement in 1942. Coca-Cola agreed to stop contesting Pepsi-Cola's trademark, and Pepsi adopted a red, white, and blue logo that clearly distinguished it from Coca-Cola. Another outcome was that the word *cola* became a generic term for brown, carbonated, caffeinated soft drinks. Ultimately, the two firms benefited from each other's existence: The existence of a rival kept Coca-Cola on its toes, and Pepsi-Cola's selling proposition, that it offered twice as much for the same price, was only possible because Coca-Cola had established the market in the first place. The rivalry was a classic example of how vigorous competition can benefit consumers and increase demand.

By the end of the 1930s Coca-Cola was stronger than ever. Unquestionably a national institution, accounting for nearly half of all sparkling soft-drink sales in the United States, Coca-Cola was a mass-produced, mass-marketed product, consumed by rich and poor alike. In 1938 the veteran journalist William Allen White, a famous and respected social commentator, declared it

to be "a sublimated essence of all that America stands for, a decent thing honestly made, universally distributed, conscientiously improved with the years." Coca-Cola had taken over the United States; now it was ready to take over the world, going wherever American influence extended.

Globalization in a Bottle

A billion hours ago, human life appeared on earth.

A billion minutes ago, Christianity emerged.

A billion seconds ago, the Beatles changed music.

A billion Coca-Colas ago was yesterday morning.

—Robert Goizueta, *chief executive of the Coca-Cola Company*,

April 1997

The American Century

THE TWENTIETH CENTURY was a period defined by the struggle for individual political, economic, and personal liberty against various forms of oppression, and marked by war, genocide, and the threat of nuclear annihilation. But it ended with a remarkable degree of consensus that people are happiest when granted freedom of choice in the political, economic, and personal spheres, in the form of democracy, consumerism, and the rejection of many long-standing forms of discrimination. The idea that a mere drink could come to embody these values seems absurd. And yet that is what happened during the second half of the twentieth century.

The nation that most strongly identified itself with the struggle for individual freedom was the United States, and its values have come to be inextricably associated with its national drink, Coca-Cola.

Although it was being sold in several countries outside the United States by the time of the outbreak of World War II, Coca-Cola only became a truly global brand in the wake of America's emergence as a global superpower, with the abandonment of its longtime policy of isolationism. Throughout the nineteenth century, the country had followed the line advocated by George Washington, who declared in his farewell address in 1796, "It is our true policy to steer clear of permanent alliances with any portion of the foreign world." America's intervention in World War I, which helped to tip the balance of the European conflict against the Germans and Austrians, was an exception to this rule but was seen by many Americans as a mistake. These isolationists argued during the 1930s that their country should stay out of any future European conflicts. But Japan's attack on Pearl Harbor in December 1941 brought the United States into World War II and put an end to its isolationism for good. America sent its armed forces out into the world, more than sixteen million servicemen in all, and Coca-Cola went along with them.

As the country mobilized, Robert Woodruff, president of the Coca-Cola Company, issued an order that "every man in uniform gets a bottle of Coca-Cola for five cents, wherever he is, and whatever it costs the company." The drink was already popular among soldiers and was supplied to them on exercises as a refreshing, nonintoxicating beverage. The company's well-

publicized efforts to maintain the supply would, of course, have the valuable benefit of linking Coca-Cola to patriotism and support for the war effort. But it was also genuinely welcomed by the servicemen in far-flung military bases: Coca-Cola reminded them of home and helped to maintain morale.

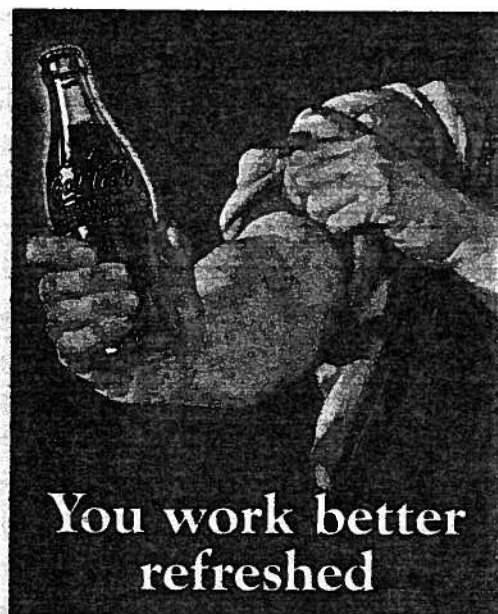
"We sincerely hope that your Company will be able to continue supplying us during this emergency," one officer wrote to the company. "In our opinion, Coca-Cola could be classified as one of the essential morale-building products for the boys in the Service." Using dozens of similar letters as evidence, and after much lobbying in Washington with the army's explicit support, the company was even exempted from sugar rationing in 1942 on the grounds that its product was essential to the war effort. This ensured that Coca-Cola production could continue, even as rationing forced makers of rival soft drinks to reduce production by as much as half.

Shipping bottles of Coca-Cola halfway around the world to wherever troops were stationed was very inefficient, however, not least because it tied up valuable shipping capacity. So special bottling plants and soda fountains were established where possible inside military bases, which meant that only the Coca-Cola syrup had to be shipped. To many military personnel, the Coca-Cola employees who installed and ran this machinery were no less important than the mechanics who kept planes and tanks running. They were granted favored status as "technical observers" and given military ranks, so that they became known as "Coca-Cola colonels." During the war they established no fewer than sixty-four military bottling plants around the world and served around ten billion drinks. The technical observers devised a

portable Coca-Cola dispenser for use in the jungle, and a slim-line dispenser that could fit through the hatch of a submarine. Coca-Cola was also made available to civilians near American bases overseas, many of whom developed a taste for the drink too. People around the world, from Polynesians to Zulus, tasted Coca-Cola for the first time.

Hundreds of letters, now preserved in the Coca-Cola archives, show how closely American servicemen identified the drink with their country and what it stood for. "To my mind, I am in this damn mess as much to help keep the custom of drinking Cokes as I am to help preserve the million other benefits our country blesses its citizens with. . . . May we all toast victory soon with a Coke," wrote one soldier. "If anyone were to ask us what we were fighting for," another soldier wrote in a letter home, "we think half of us would answer, the right to buy Coca-Cola again." Even when the drink was available in far-flung theaters of war, it was so highly prized that bottles were hoarded for special occasions or sold for vastly inflated prices. One bottle sold for five dollars in the Solomon Islands, another for ten dollars in Casablanca, and in Alaska, a bottle fetched forty dollars. Robert Scott, a pilot in the Pacific theater, was given a bottle after shooting down his fifth Japanese aircraft and becoming an "ace." But he considered it too valuable to drink and instead gave it to a surgeon who had operated on him after he sustained an injury.

The military enthusiasm for Coca-Cola was not limited to the lower ranks but went right to the top: Generals Douglas MacArthur, Omar Bradley, and George Patton also liked to drink it. The greatest enthusiast was General Dwight D. Eisen-



A World War II-era Coca-Cola advertisement

hower, supreme commander of Allied forces in Europe. In June 1943, while overseeing the Allied campaign in North Africa, he sent a detailed telegram requesting "three million bottled Coca-Cola (filled) and complete equipment for bottling, washing, capping same quantity twice monthly. Preference as to equipment is 10 separate machines for installation in different localities, each complete for bottling twenty thousand bottles per day. Also sufficient syrup and caps for 6 million refills." The production lines were running in North Africa within six months, and the next year Coca-Cola followed as Allied troops advanced into western Europe after the Normandy landings on

D-Day. *Coca-Cola* was even the password used by American troops during the battle to cross the Rhine.

The Coca-Cola Company missed no opportunity to emphasize the totemic nature of the drink to America's distant servicemen. One advertisement from 1942, as fighting raged in North Africa, depicted a khaki-clad soldier encountering a sign for Coca-Cola in an otherwise inhospitable desert, above the slogan, "Howdy, friend." Another advertisement showed sailors drinking Coca-Cola on board ship. The caption beneath boasted that "wherever a U.S. battleship may be, the American way of life goes along. . . . So, naturally, Coca-Cola is there, too." It sounds like an exaggeration, but it was not.

Conversely, the Axis powers, Germany and Japan, denounced Coca-Cola as an example of everything that was wrong with the United States—despite the fact that Coca-Cola had been sold in both countries before the war and had been particularly popular in Germany. Overlooking this inconvenient fact, Nazi propagandists sneered that "America never contributed anything to world civilization except chewing gum and Coca-Cola," while their Japanese counterparts declared, "With Coca-Cola we imported the germs of the disease of American society."

After the eventual Allied victory in 1945, the military bottling operations stayed in place for three years during the ensuing period of reconstruction. Production then reverted to the civilian realm. But by this time, with the exception of Antarctica, Coca-Cola had established itself on every continent on Earth, carried on the coattails of the American military. As a company official observed, the war ensured "the almost universal acceptance of the goodness of Coca-Cola."

Cold War, Cola War

Perhaps the most unlikely convert to Coca-Cola was General Georgy Konstantinovich Zhukov, the Soviet Union's greatest military leader, who successfully defended Russia from German attack and later led his forces into Berlin to end the war in Europe. Zhukov was one of the few people who dared to disagree with Joseph Stalin, the brutal Soviet leader, who could not do away with Zhukov because of his popularity and heroic stature. During postwar negotiations over the division of Germany, Zhukov was introduced to Coca-Cola by Eisenhower and took a strong liking to the drink. But he was reluctant to be seen enjoying something so closely identified with American values, particularly as the rivalry between the two superpowers intensified. So Zhukov made an unusual request: Was it possible to make Coca-Cola without coloring, so that it resembled vodka, the traditional Russian drink? His request was passed to the Coca-Cola Company, which duly obliged and, with the endorsement of President Harry Truman, devised a colorless version. It was shipped to Zhukov in special cylindrical bottles, sealed with a white cap and labeled with a red Soviet star.

In 1948 the postwar euphoria that had attended the founding of the United Nations had evaporated, and the Soviet Union directly challenged the United States by blockading West Berlin, a tiny western toehold on the Soviet side of a now-divided Europe. The Western powers responded by airlifting supplies into West Berlin around the clock for over a year until the Soviets lifted the blockade. With the establishment in 1949 of the North Atlantic Treaty Organization (NATO), an alliance

between the United States and its European allies, and the setting up of the rival Warsaw Treaty Organization by the Soviet Union, the stage was set for the decades-long military deadlock of the cold war. During this period, in which the two blocs competed for influence and fought proxy wars in many parts of the world but never came into direct conflict, Coca-Cola came to be associated not just with America but with the broader Western values of freedom, democracy, and free-market capitalism. Among communists, conversely, Coca-Cola came to stand for everything that was deemed wrong with capitalism, particularly the notion that satisfying consumers' often trivial demands should be the organizing principle of the economy. As a placard at the Coca-Cola Company's 1948 convention put it, "When we think of Communists, we think of the Iron Curtain. But when they think of democracy, they think of Coca-Cola."

The Coca-Cola Company rapidly expanded its overseas operations during the late 1940s, so that by 1950 a third of its profits came from outside the United States. This coincided with America's growing political influence as the leading capitalist nation in the worldwide struggle against communism, and with the American-funded initiative to reconstruct Europe, the Marshall Plan. For those who objected to America's growing clout, and who regarded the Marshall Plan as imperialism by other means, Coca-Cola provided an obvious target for their anger. The term *Coca-Colonization* was first used by communist sympathizers in France, who mounted a vigorous campaign against the establishment of new bottling plants in their country. It would, they suggested, harm the domestic wine and mineral-water industries; they even tried to have Coca-Cola

This left the way clear for Pepsi. Having been defeated in the race for the California governorship in 1962, Nixon joined Pepsi's law firm and became Pepsi's ambassador overseas. Since it was not tainted by anticommunist propaganda, Pepsi was better able to expand behind the Iron Curtain. It established operations in Romania in 1965 and with Nixon's help began selling its drink in Russia, where it was granted an exclusive license in 1972. It looked as though Coca-Cola had a foot in the door in 1980, with an agreement that it would be the official soft drink of the Olympics, to be held that year in Moscow. But President Jimmy Carter then announced an American boycott of the games in response to the Soviet Union's invasion of Afghanistan, so Coca-Cola was rebuffed once again.

Ultimately, however, Coca-Cola's failure to establish itself in the Soviet-bloc countries proved to be an advantage. The Berlin Wall fell in 1989, presaging the collapse of communist regimes across eastern Europe and the dissolution of the Soviet Union in 1991. As East Germans streamed through the cracks in the Berlin Wall, they were greeted with Coca-Cola. "We found ourselves welcoming the new arrivals with bananas, Coca-Cola, flowers, and anything else that smacked of Western consumerism," recalled one eyewitness. East Germans queued up to buy the drink by crate directly from the Coca-Cola bottling plant in West Berlin. Along with hi-fi equipment, televisions, refrigerators, and other consumer products, crates of Coca-Cola were among the consumer items most eagerly sought out by East Berliners. Pepsi's greater success behind the Iron Curtain counted against it as the communists were ousted. It was regarded by many drinkers as a local brand associated with the old regimes, whereas Coca-Cola

was seen as exotic and foreign. Drinking Coca-Cola became a symbol of freedom. By the mid-1990s, Coca-Cola had overtaken Pepsi as the most popular cola in the former Soviet-bloc countries.

Coca-Cola in the Middle East

Coca-Cola's close association with American values counted against it in another part of the world: the Middle East. The problems started in 1966, when an Israeli businessman accused the Coca-Cola Company of staying out of the Israeli soft-drink market in order to protect its business in the much larger Arab market. The Arab world, with its ban on alcoholic drinks and its hot climate, was certainly a promising market for Coca-Cola; its annual profits in the region amounted to some twenty million dollars. The company argued that its attempts to open a bottling plant in Israel in 1949 had been blocked by the Israeli government; it also claimed that the Israeli market was too small to be economically viable. But if that was the case, asked its critics, why was it doing business in Cyprus, an even smaller market? Accusations of anti-Semitism mounted, and Jewish organizations in the United States, including Mount Sinai Hospital in Manhattan and Nathan's Famous Hot Dog Emporium on Coney Island, began to boycott Coca-Cola.

The company responded by announcing that it would license an Israeli bottling franchise in Tel Aviv. This, in turn, provoked the Arab League to call on its members to boycott Coca-Cola. The company refused to back down, and the Arab boycott came into force in August 1968. The company's decision was entirely

pragmatic: It gave up the Arab market in order to avoid a domestic boycott by the Jewish community, which would have cost it far more. The result was that Coca-Cola once again found itself aligned with and identified with American foreign policy. Pepsi, meanwhile, took advantage of the opportunity to move into Arab markets while staying out of Israel, even though this cost it some customers in the United States, who considered its actions anti-Semitic.

Not until the late 1980s, when the Arab boycott of Coca-Cola finally crumbled, did Coca-Cola begin making inroads into Arab markets, notably in Egypt, Lebanon, and Jordan. But the real prize was Saudi Arabia, which had become Pepsi's third-largest foreign market after Canada and Mexico. During the Gulf War of 1991, Coca-Cola sent in refrigerated trucks to supply American troops stationed in Saudi Arabia, but could not compete with Pepsi, which had five factories in the country. Television viewers around the world saw General Norman Schwarzkopf, the American commander of the coalition that had evicted Iraqi forces from Kuwait, signing the cease-fire with a can of Pepsi by his side. Coca-Cola responded with a big push into the Saudi market, in order to put Pepsi on the defensive and weaken its ability to compete in other markets.

By the time of the Iraq War in 2003, the idea of expressing anti-Americanism through attacks on its soft drinks had taken several new forms. Muslim youths in Thailand poured Coca-Cola onto the ground in protest at the American-led invasion, and sales were suspended amid growing anti-American protests. Meanwhile, locally made colas started to become popular in the Middle East. Zam Zam Cola, an "Islamic" cola made in Iran by

a company that used to be Pepsi's partner in the country, became popular in Iraq, Qatar, Bahrain, and Saudi Arabia, where it sold four million cans in its first week on sale. Star Cola, made in the West Bank, became popular in the United Arab Emirates. The equation of Coca-Cola with the United States persisted for both critics and supporters. When American troops occupied Saddam Hussein's palace in Baghdad in April 2003, they held a barbecue at which they consumed hamburgers, hot dogs, and, inevitably, Coca-Cola.

Globalization by the Bottle

As well as being associated with America, Coca-Cola also encapsulates the trend toward a single global marketplace: in a word, globalization. Believers in globalization argue that abolishing trade barriers, tariffs, and other obstacles to free and unfettered international commerce is the best way to improve the fortunes of rich and poor countries alike. By setting up factories in the developing world, for example, companies from rich countries can reduce their costs, while also creating jobs and boosting the economy in the poorer countries where they set up shop. Opponents of globalization complain that such practices are exploitative, since they create low-wage, low-status jobs; multinational companies are also able to exploit looser labor and environmental regulations by shifting jobs overseas. The debate rages on. But an oft-heard complaint, as companies spread their tentacles around the world and compete on a global playing field, is that globalization is merely a new form of imperialism. Antiglobalization activists argue that the world's only superpower, the United

States, is intent on invading the rest of world not with soldiers and bombs but with its culture, companies, and brands, chief among them Microsoft, McDonald's, and Coca-Cola.

Certainly no single product is more representative of globalization than Coca-Cola. The global fight with Pepsi continues around the world; the big new battleground is China. But that is just one of the more than two hundred territories where the Coca-Cola Company operates—more than the United Nations has members. Its drink is now the world's most widely known product, and "Coca-Cola" is said to be the second most commonly understood phrase in the world, after "OK." No other company can match it for global reach, visibility, or recognition. Coca-Cola consistently tops the list of the world's most valuable brands, published each year in *BusinessWeek* magazine.

Yet even the most powerful brand in the world cannot brain-wash people into buying something they do not want, despite antiglobalists' claims to the contrary. New Coke, a sweeter, more Pepsi-like drink that was introduced by the Coca-Cola Company in 1985, was a disaster. Consumers shunned the new drink, and sales plummeted, forcing the company to reintroduce the original drink as Coca-Cola Classic within weeks and sealing the fate of its attempt to meddle with an American icon.

Coca-Cola also shows how strong global brands can work in consumers' interests, not against them. Around the world, the Coca-Cola name and logo are the company's guarantee of consistent quality. With a brand worth an estimated seventy billion dollars, the company has a huge incentive to maintain its reputation and the quality of its products, or risk losing its customers. The desire to protect its global brand makes the Coca-Cola Company,

like other large companies, extremely wary of bad publicity and far more accountable than it would otherwise be. Firms with national brands do not have to worry what people in other countries think about them, but firms with global brands do.

An analysis by *The Economist* magazine in 1997 found that consumption of Coca-Cola in different countries—a good proxy for those countries' degree of globalization—correlated closely with greater wealth, quality of life (measured using a scale devised by the United Nations), and social and political freedom. "Fizzy mass-market stuff—ie, capitalism—is good for you," the magazine concluded. It is not Coca-Cola that makes people wealthier, happier, or freer, of course, but as consumerism and democracy spread, the fizzy brown drink is never far behind.

Today, carbonated soft drinks are the most widely consumed beverages in the United States, accounting for around 30 percent of all liquid consumption, and the Coca-Cola Company is the biggest single supplier of such drinks. Globally, the company supplies 3 percent of humanity's total liquid intake. Coca-Cola is unquestionably the drink of the twentieth century, and all that goes with it: the rise of the United States, the triumph of capitalism over communism, and the advance of globalization. Whether you approve of that mixture or not, you cannot deny the breadth of its appeal.

Epilogue

Back to the Source

Water is a limited natural resource and a public good fundamental for life and health. The human right to water is indispensable for leading a healthy life in human dignity. It is a prerequisite for the realization of other human rights.

—United Nations Committee on Economic, Cultural, and Social Rights, 2002

SIX BEVERAGES HAVE defined humankind's past, but which will embody its future? One drink has already emerged as the most likely candidate. Like many of the defining drinks of history, it is highly fashionable, is the subject of conflicting medical claims, and has unseen but far-reaching geopolitical significance. Its availability will determine the path of humankind's future, on Earth and potentially beyond. Ironically, it is also the drink that first steered the course of human development: water. The history of drinking has come right back to its source.

On the face of it, this might appear to be a welcome occurrence. Much of the appeal of other beverages, starting with beer in the Neolithic period, was that they were less likely than water

to be contaminated. Only when the microbiological basis of water contamination began to be unraveled in the nineteenth century did it become feasible to tackle a problem that had bedeviled humans for centuries: maintaining an adequate supply of freshwater. Where previous generations turned to other drinks as substitutes, it is now possible to address the problem of contamination directly, through water purification and other improvements in sanitation. Water's growing popularity, in other words, suggests that the danger of contamination is finally receding. But the reality is rather more complicated. Indeed, nowhere is the gulf between the developed and developing worlds more apparent than in their attitudes toward water.

Sales of bottled water are booming, with the highest levels of consumption in the developed world, where tap water is abundant and safe to drink. Italians are the world's most enthusiastic consumers of bottled water, drinking an average of 180 liters per year each; they are closely followed by the French, Belgians, Germans, and Spanish. The global bottled-water industry had revenues of around forty-six billion dollars in 2003, and consumption of bottled water is growing by 11 percent a year, faster than for any other drink. Restaurants serve expensive water in designer bottles, and the habit of carrying a small plastic bottle of drinking water at all times, pioneered by supermodels, has become widespread. Stop at a filling station in the United States, and you will find that bottled water, ounce for ounce, costs more than gasoline. Mineral waters from specific sources, from France to Fiji, are shipped to consumers around the world.

The popularity of bottled water stems from the widespread belief that it is healthier and safer than tap water. But tap water,

in developed nations at least, is just as safe. While there are occasional contamination scares, they affect bottled water too. In one study, published in the *Archives of Family Medicine*, researchers compared bottled water with tap water from Cleveland, Ohio, and found that a quarter of the samples of bottled water had significantly higher levels of bacteria. The scientists concluded that "use of bottled water on the assumption of purity can be misguided." Another study carried out at the University of Geneva came to the same conclusion, as did a report from the United Nations Food and Agriculture Organization, which found that bottled water was no better from a nutritional point of view than ordinary tap water.

That is hardly surprising, since as much as 40 percent of the bottled water sold in the United States is, in fact, derived from tap water, though it is usually filtered and may have extra minerals added. America's two leading bottled-water brands, Aquafina and Dasani, are derived from municipal water supplies. And although many bottled-water labels depict glaciers, crystal streams, and ice-covered mountains, these images do not always reflect the true origins of the water within. A study by the National Resources Defense Council, an American environmental lobby group, found that one brand of bottled water, labeled as "pure glacier water," came from a municipal water supply. Another brand, claiming to be "spring water," with a label showing a lake and mountains, actually came from a well in a factory parking lot, near a hazardous waste dump. The study also noted that in both Europe and the United States, the quality of tap water is far more stringently controlled than the quality of bottled water.

There is no evidence that bottled water is any safer or healthier than the tap water available in developed nations, and in blind tasting tests, most people cannot tell the difference between the two. The differences in taste between bottled waters exceed the difference in taste between bottled water and tap water. Yet people continue to buy bottled water, even though it costs between 250 and 10,000 times as much per gallon as tap water. In short, safe water has become so abundant in the developed world that people can afford to shun the tap water under their noses and drink bottled water instead. Since both kinds are safe, the sort of water one drinks has become a lifestyle choice.

In contrast, for many people in the developing world, access to water remains a matter of life or death. A fifth of the world's population, or around 1.2 billion people, currently lack reliable access to safe drinking water. The World Health Organization estimates that 80 percent of all illness in the world is due to waterborne diseases, and that at any given time, around half of the people in the developing world are suffering from diseases associated with inadequate water or sanitation, such as diarrhea, hookworm, or trachoma. There are about four billion cases of diarrhea a year, resulting in 1.8 million deaths, 90 percent of them among children under five. Illness and death are not the only consequences of the lack of access to water; it also hinders education and economic development. Widespread illness makes countries less productive, more dependent on outside aid, and less able to lift themselves out of poverty. According to the United Nations, one of the main reasons girls do not go to school in sub-Saharan Africa is that they have to spend so much time fetching water from distant wells and carrying it home.

The United Nations has set a goal of reducing by half the proportion of people without access to freshwater and adequate sanitation by 2015. But although good progress was made during the 1980s and 1990s, the rate at which people are being connected to safe water supplies has since declined. One problem is that while access to water is still improving in rural areas, its availability in cities has declined in many parts of the developing world. This decline is worrisome, given the unstoppable trend toward urbanization. By around 2007, demographers estimate, more than half of the world's population will for the first time be living in cities; humankind will have completed the six-thousand-year transition from being a predominantly rural to a predominantly urban species. According to figures from the International Water Management Institute, it would cost an extra \$1.7 billion a year beyond what is already being spent to achieve the United Nations' desired improvement in access to water, while improving sanitation would cost a further \$9 billion or so a year—a small fraction of the amount spent on bottled water in rich nations. But there is more to solving the problem of access to water than money. In many cases there are political obstacles too. In recent years disputes over water rights, particularly in the Middle East and Africa, have caused political tension and even military conflict.

Water was, for example, an important unseen factor behind the Six Day War of 1967, when Israel occupied Sinai, the Golan Heights, the West Bank, and Gaza. Ariel Sharon, who was a general at the time and later became Israel's prime minister, noted in his autobiography that although people usually regard June 5,

1967, as the start of the Six Day War, "in reality, it started two and a half years earlier, on the day Israel decided to act against the diversion of the Jordan." In 1964 Syria had started building a canal to divert two of the main tributaries of the Jordan River away from Israel. Using a combination of artillery and air strikes, Israel brought work on the canal to a halt. "While the border disputes between Syria and ourselves were of great significance, the matter of water diversion was a stark issue of life and death," wrote Sharon. Israel values the territories it occupied in 1967, which granted it control of the Jordan's headwaters, as much for their water supply as for any military advantage. The Palestinians who live in the West Bank are allotted just 18 percent of the territory's water; the rest goes to Israel.

Ever since, politicians in the Middle East have cited water as a possible cause of future conflict in the region. In 1978 Egypt threatened military action against Ethiopia if it interfered with the flow of the Nile, Egypt's chief water supply. When Egypt signed a peace treaty with Israel in 1979, its president, Anwar Sadat, declared that "the only matter that could take Egypt to war again is water." And in 1985 Boutros Boutros-Ghali, then the Egyptian foreign minister and later the secretary-general of the United Nations, predicted that "the next war in the Middle East will be fought over water, not politics."

It is hardly surprising that water should be such a contentious topic; rivers and lakes mark international boundaries, and at least ten rivers flow across half a dozen or more borders, so that one country's actions affect other countries downstream. Ethiopia controls 85 percent of the waters of the Nile, upstream of Egypt; Turkey's dam on the Euphrates lets it control the flow into Syria.

Flooding has prompted Bangladesh to demand that India and Nepal build dams upstream to control the flow of the Ganges and Brahmaputra rivers.

In the arid region of central Asia, there are fears that growing water scarcity might spark conflict between the former Soviet republics of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. Another concern is that climate change will alter the distribution of water, leading to flooding in some areas and droughts in others, affecting agricultural production, and causing political instability. Many observers have, therefore, suggested that water might replace oil as the scarce commodity most likely to trigger international conflict.

Yet water can also promote international cooperation. Access to water is so fundamental that its management has often forced otherwise hostile states to work together. The Indus Basin Treaty of 1960, which dictates how India and Pakistan should share the water of the Indus and its tributaries, has remained in force despite repeated military clashes between the two nations. Similarly, Cambodia, Laos, Thailand, and Vietnam have cooperated over the management of the Mekong, even though the region through which it flows has been racked by war. And in the late 1990s the ten squabbling countries of the Nile Basin signed a cooperative water-management agreement backed by the United Nations and the World Bank. Water, it seems, has the potential to be both a cause of war and a catalyst for peace.

In the longer term, and assuming that humanity manages to avoid nuclear self-immolation, the establishment of colonies on other worlds, starting with Mars, will also depend on the avail-

ability of adequate water. The inhabitants of a Mars colony will need water to drink and wash, to grow crops, and to convert into rocket fuel, which can be made by splitting water into its component elements, hydrogen and oxygen. This, together with the search for extraterrestrial life (which is also assumed to depend on water), explains why so much effort is being put into locating and understanding the distribution of water on other bodies in the solar system. Some scientists even believe that colonizing Mars is necessary to ensure the continued survival of humanity. Only by becoming a "multiplanetary species," they argue, can we truly guard against the possibility of being wiped out by war, disease, or a mass extinction caused by an asteroid or comet crashing into the Earth. But that will depend on finding supplies of water on other worlds.

Water was the first drink to steer the course of human history; now, after ten thousand years, it seems to be back in the driving seat. To talk of colonizing other planets seems outlandish, but the idea is surely easier for us to understand than the modern world would be for a person transported through time from a Neolithic village from 5000 BCE. He would not recognize any modern language and would no doubt have difficulty comprehending aspects of modern life such as writing, plastics, airliners, and computers. But while much has changed in the intervening millennia, some things have remained the same. He would surely appreciate a glass of beer and would recognize the communal toast for good luck and the ensuing companionable atmosphere.

For our Neolithic time traveler, a drink of beer might provide a connection with the future; for us, beer is one of the beverages

that can provide a window on the past. When you next raise some beer, wine, spirits, coffee, tea, or Coca-Cola to your lips, think about how it reached you across space and time, and remember that it contains more than mere alcohol or caffeine. There is history, too, amid its swirling depths.