

Selling Death: A Comparative Analysis of the Tobacco and Processed Food
Industries

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Introduction

Large industries in a capitalist economy all share two common goals: sell products and make a profit. Because of the fierce competition between companies, corporations will stop at nothing to achieve these goals. Manipulative advertising, slandering rival companies, lobbying and bribing government officials, and conducting misleading industry-sponsored research are all par for the course in the free market. There is little that the government can do to regulate such behavior; any involvement is regarded as intrusive and paternalistic. Consequently, these organizations are free to do as they please, making millions while they're at it.

It is unsurprising, then, that the processed food and tobacco industries are often mentioned in the same breath. Like other industries, they strive to earn as much net profit as possible, frequently acting in questionable ways. However, the similarities go beyond these surface observations. The historical contexts in which these two industries rose to power are remarkably analogous. World War II and the ensuing economy boom played an important role in the success of cigarettes and prepackaged food, as did the influx of women in the workplace and technological advances. Promotional techniques have also been integral to the financial ascent and domination of these industries; both spend billions of dollars on market research, product formulation, scientific studies and advertising in every form of media, in order to bring in customers. The success of these methods has earned

these companies untold amounts of financial and political power, giving them the ability to control legislative decisions and avoid legal repercussions.

More importantly than their business practices, these two products are the primary causes of the two most pressing public health concerns of the 20th and 21st centuries. Obesity and smoking combined cost approximately \$280 billion in health expenditures annually.¹ Of the top ten leading causes of death in the United States, obesity and tobacco either cause or exacerbate six of them - heart disease, cancer, chronic lower respiratory diseases, stroke, Alzheimer's, and diabetes². This past year, obesity caused an estimated 300,000 deaths, while smoking-related diseases caused nearly 400,000.³ However, though smoking and its related ailments have been on the decline for the past several decades, obesity is only increasing as time goes on. We can expect that as that occurs, obesity will cost our country increasing amounts of money and lives.

With obesity as a major national health concern, it is inevitable that the question of government action will arise. Though it seems necessary for some amount of intervention, there is a fine line between too much and too little. It would be irresponsible for policymakers to stand idly by; however, America is a country

¹ B. Adhikari et al, "Smoking -Attributable Mortality, Years of Potential Life Lost, and Productivity Losses -- United States, 2000-2004," National Center for Chronic Disease Prevention and Health Promotion, November 14, 2008.

J Cawley and C Meyerhoefer, "The medical care costs of obesity: an instrumental variables approach," *Journal of Health Economics* 31(2004):219-30.

² "Leading Causes of Death," Center for Disease Control and Prevention, 2011.

³ "Overweight and Obesity: Health Consequences," SurgeonGeneral.gov, 2013.
Adhikari, "Smoking-Attributable Mortality" 2008.

that prides itself on personal freedoms, and one such freedom is the choice of what, when, and how much to eat.

When considering how to strike the balance between individual liberties and government involvement in the obesity epidemic, policymakers can learn a great deal from previous experiences with the tobacco industry. The truly remarkable thing about government action regarding cigarettes is how quickly and radically public opinion and behavior changed. From a society that regarded tobacco with a sense of acceptance and normality, the United States, influenced by PSAs, advertising restrictions, and sin taxes, among other policy measures, rapidly came to condemn cigarettes. As awareness of the danger of lung cancer rose, smoking rates plummeted. It would be wise for government officials to think about this success as they draft food and health bills. When applied to the fast food industry, this kind of policy may yield similar results in decreasing rates of obesity.

The purpose of this dissertation is twofold. Primarily, I hope to delve deeper into the commonalities and differences of the processed food and tobacco industries, as well as the relationship between the two. 'Not only do they coexist side by side within the American financial world, but they also collide at times. Though the two businesses seem disparate, it is not uncommon for tobacco companies to acquire food companies, or for the two to merge. Secondly, from the government's experience with tobacco regulation, I hope to extrapolate possible food policy for the future. Because of their myriad correlations, this should be a constructive exercise. However, there is an inherent difference between food and tobacco that must be considered; food is requisite for survival, while tobacco is not.

There is another important distinction - tobacco is limited to only a few products and a finite number of ingredients; in contrast, food contains endless ingredients, colorings, emulsifiers, thickeners, preservatives and other additives. This makes regulation a more complex task, since there are so many components to consider. Moreover, nutritional science is an early field, and determining what is "good" and "bad" is often a difficult and inconclusive process. Though tobacco studies are by no means simple, scientists have been able to isolate the carcinogenic ingredients present in cigarettes. In my examination, I hope to suggest ways tobacco policy can be altered in order to accommodate these key differences.

To achieve this goal, I will first give a brief history of the rise tobacco and industrialized food industries in the United States, noting public response, governmental involvement, and early methods of promotion and formulation. Following this, I will provide a deeper analysis of marketing tactics, with particular attention to advertising targeted at children and adolescents. This will be succeeded by an investigation of formulation techniques, especially those intended to increase addictive qualities. This section will include not only formulation of the products themselves, but also their packaging, store placement, and physical and financial accessibility. I will also explore the political evasion and scientific deception practiced by these industries, including self-regulation, biased and misleading research, and bribery. These sections will alternate between the two, in order to provide a side-by-side perspective to accentuate just how similar they are.

The final section will review government regulation of tobacco, noting both successes and failures. In addition, I will compile recent attempts to curb the fast

food industry, including mandatory calorie postings, the New York soda ban and proposed "fat taxes." This will include speculation about why these laws have failed in the past. With my comparison of fast food and tobacco industries, I hope to come to some conclusion about how policymakers can write more salient and effective food laws. While many have mentioned similarities between the two, I have not found this kind of in-depth juxtaposition nor specific advice about food policy. I intend to fill in some of these holes with my thesis and offer some new insight into the difficulties around government intervention as well as propose a plan of action.

Part One: A Brief History of the Cigarette

The tobacco plant *nicotiana* has been cultivated in the Americas long before there was a United States of it. It was first intentionally grown and harvested here 8,000 years ago. In the following millennia, Native Americans prized the crop for its perceived medicinal and spiritual virtues.⁴ They smoked, chewed, and inhaled the substance, using it for religious ceremonies and a symbol of friendship and peace. When white men finally arrived on the continent, they were intrigued by tobacco and its effect on the local people; during his first voyage, Christopher Columbus brought seeds and leaves back with him to Portugal. Other European explorers were similarly drawn to tobacco, bringing the custom back with them to their respective countries. It didn't take long for the habit to take Europe by storm. Like the Natives from whom they took the crop, Europeans believed tobacco had

⁴ "The History of Tobacco," World Health Organization, <http://www.who.int/tobacco/en/atlas2.pdf>.

powerful curative powers; it was commonly thought to prevent the plague, whiten teeth, act as a disinfectant, and lessen pain.

No one is more responsible for the initial conception of tobacco as a panacea than Frenchman Jean Nicot, the namesake of nicotine. In the mid 16th century, Nicot grew tobacco in his garden and treated all variety of ailments with it; no wound, cancer, or infectious disease was too serious to not respond to tobacco's healing touch. Nicot did not hide his discovery; in fact, he spread word of the magical substance in any way he could. Whenever he encountered sickness, he recommended it, often sending leaves to those in need.⁵

Though tobacco itself was a fast hit, the cigarette itself did not gain popularity for another several centuries. Before the cigarette had its heyday, pipes, chewing tobacco, and snuff were the preferred methods for ingesting tobacco. Crude forms of the cigarette existed at this time, but because of its weak taste, it was derided for being weak, effeminate, and lowbrow.⁶ Other tobacco products were not immune to criticism; though its masculinity was not questioned, tobacco was accused of degrading moral character and offending God. Across the globe, national rulers taxed or banned tobacco. In some cases, the punishment was not kind; Russians found guilty of imbibing were exiled to Siberia, and in China and Turkey, smokers and traffickers could be sentenced to death.⁷

⁵ Anne Charlton, "Medicinal uses of tobacco in history," *Journal of the Royal Society of Medicine* 97(6): 292-296.

⁶ Richard Kluger. *Ashes to Ashes: America's Hundred Year Cigarette War* (New York: Random House, 1997), 13.

⁷ Ibid, 10.

Even early on, the dangers of tobacco were noted. Throughout the 18th and 19th centuries, scientists all over the world conducted research, noting the deleterious health effects on regular users. At this time, however, the scientific understanding of the causes and effects were vague at best; in 1620, Londoner Thomas Venner posited, "immoderate use of tobacco hurts the brain and the eye and induces trembling of the limbs and the heart." As time passed, more research indicated some correlation between tobacco and health problems, such as cancers of the nose and mouth.⁸ Though these studies were right to doubt the safety of tobacco, their evidence was mostly circumstantial and their results relatively inconclusive. As a result, these studies were mostly ignored, and Europe continued to smoke, snort and chew in ignorance.

Regardless of the backlash, tobacco remained a mainstay. It was seen as a lucrative business possibility, encouraging international exploration in search of the proper climate for cultivation. Our own country was founded in part because of tobacco; Virginia, the first American colony, was an ideal location to grow the plant, and flourished largely because of it. Tobacco was not just a livelihood in colonial Virginia - it was a way of life. The yearly calendar revolved around the harvesting process, and the plant was used as a form of currency. Many Englishmen moved to the colonies to pursue their fortune in tobacco, which was grown to the exclusion of all other crops.⁹ Unsurprisingly, the crop accounted for much of Virginia's economy,

⁸ "The History of Cancer," *American Cancer Society*, 2012.

⁹ Allan M. Brandt, *The Cigarette Century*, (New York: Basic Books, 2007), 23.

accounting for as much as 75% of exported goods by the time the American Revolution began.¹⁰

Tobacco is largely responsible for another, darker part of America's history; because the process of planting, maintaining, and harvesting the plant was so time-consuming, and because Virginia was relatively sparsely populated, farmers looked outside the colony for the manpower required. In 1619, a ship of Africans, forcefully taken from their countries, docked in Virginia. Though this fulfilled the need for cheap and abundant labor, it was also foreshadowed what was to come; these were just the first of hundreds of thousands of Africans who would ultimately be claimed as slaves, leading to centuries of inequality, discrimination, and concluding in civil war. In the meantime, with the availability of free labor, tobacco cultivation increased quickly, spreading further southward and westward.¹¹

As it became more accessible, tobacco gained increasing popularity among colonists, yet still the cigarette was an uncommon entity. From colonialism, through the American Revolution and up until the Civil War, the pipe reigned supreme, especially among upper class individuals. Even lower classes abstained from cigarettes; the more favored method was chewing, which was ideal for outdoor and active work, as it wouldn't be extinguished by contingent breezes. In addition to these, the cigar was introduced to the American psyche following the Mexican-American War in the middle of the 19th century. This new tobacco device enjoyed

¹⁰ Kluger, 11.

¹¹ Brandt, 23-24.

early popularity, and was both imported from Cuba and manufactured within the United States.¹²

Though all of these products were profitable, cigarettes would soon eclipse them, becoming the preeminent method of consumption. However, a few important changes would occur before this could happen; the Civil War, the Industrial Revolution, and women's suffrage would all come to play in important role in shaping the daily expectations and social mores that would allow the cigarette to realize its full potential. These events, coupled with early marketing techniques and business practices, would lead to the ultimate multi-billion dollar corporation we know today.

The Civil War was the first opportunity for the cigarette to make a lasting impression in America. Many men went into war with a tobacco habit. However, in the crowded bunkers and trenches, chewing tobacco and cigars were frowned upon for their mess and odor. To get their fix, soldiers turned to the milder-smelling cigarette, which offered a brief respite from the harsh realities of war. In fact, they became so commonplace that cigarettes were rationed to soldiers in both the north and south, and were often used as currency to barter for other goods. At the war's conclusion, most soldiers had acquired a taste for cigarettes, an addiction they would continue to feed once returning home.¹³

During this time, cigarette companies saw politically driven packaging as a means to earn customer support. Southern cigarette manufacturers covered their

¹² Kluger, 14.

¹³ Michael J. Varhola, *Life in Civil War America*, F+W Media, Inc. (2011), 120-122.

boxes with Confederate propaganda, depicting the idyllic plantation and its happy, obedient slaves. On the other hand, Northern tobaccoists plastered the face of Abraham Lincoln on boxes, accompanied by phrases like "Preserve the Union."¹⁴ The government was not wont to ignore the financial possibilities of tobacco. All forms of tobacco were taxed, including the cigarette, raising \$3 million by the war's end¹⁵.



*A Confederate, Civil-War Era Cigar Box*¹⁶

At the turn of the century, the United States grew rapidly, mostly due to the influx of immigrants in search of the American dream. These new Americans congregated in metropolitan areas, causing cities to grow by 15 million people between 1880 and 1900. This vast growth coincided with the industrial revolution, as machinery and electricity encouraged burgeoning companies to open factories

¹⁴ Paul Quigley, "Tobacco's Civil War: Images of the Sectional Conflict on Tobacco Package Labels," Center for the Study of the American South, 2006.

¹⁵ Varhola, 122.

¹⁶ Quigley, 2006.

and hire new workers. At the same time, many farmers left their plantations in favor of the bustling, city life transforming America from an agrarian society into an industrial one. With this expansion came a new set of problems - crowds, shoddy housing, pollution and unsanitary living conditions to name a few.¹⁷ Consequently, previous form of tobacco consumption became unappealing or socially unacceptable; pipes were inconvenient, cigars were too smelly, and chewing tobacco was unhygienic. Cigarettes would eventually prove to be a clean and efficient alternative to these do-it-yourself options.

Industrialization also provided many important innovations that would increase production and decrease the cost of tobacco manufacturing. Cigarette rolling was expensive and time-consuming pre-industrial age. In order to turn a greater profit, factory owners had to find a way to eliminate the need for so many hands; Allen and Ginter, a Virginia-based company, offered the then-significant sum of \$75,000 to whomever could invent a successful cigarette-rolling machine. In 1880, James Albert Bonsack achieved this goal, creating a machine that worked at the rate of fifty hand-rollers. Though Allen and Ginter ultimately declined to incorporate the machine, competitor James Buchanan Duke saw the opportunity to lower overhead cost as well as expedite production. Using Bonsack's creation, Duke was able to eliminate all 700 of his manual rollers, decreasing the retail price of his Durham Bull cigarettes by half. This helped him maintain a competitive edge and win over loyal customers with his affordable prices. In later years, Duke would wage

¹⁷ "Rise of Industrial America, 1876-1900," Library of Congress, <http://www.loc.gov/teachers/classroommaterials/presentationsandactivities/presentations/timeline/riseind/city/>.

price wars with other cigarette brands, forcing many companies to either fold or be bought out. Within the decade, he became the president of the American Tobacco Company, a trust that, at its peak, controlled ninety percent of cigarette sales.¹⁸

Duke was not only successful because of his aggressive business practices, but also his creative approach to advertising and packaging. His techniques set a precedent for the future, not only for tobacco companies, but also for all other large industries, including processed food. In addition to traditional advertising in newspapers, which had been used by tobacconists since the late 18th century, Duke expanded into new territory in order to draw new customers to his brand. A particularly successful device was trading card, inserted into cigarette boxes. These cards served a dual purpose; they both added architectural support to the packaging, protecting the cigarettes within, as well as offered an incentive to purchase a greater number of units. Cards were printed in sets of several dozen, with pictures associated with various themes - famous actresses, successful businessmen, historical figures, and pin-up models, to name a few. Subjects were often chosen depending on current concerns or fads. This was marketing ploy, used by nearly all cigarette companies, was clearly successful; many Americans took up collecting these cards as a hobby, which came to be known as "cartophily."¹⁹

The exterior of the box was equally important to the interior. Unique, catchy names along with brightly colored, distinctive packages caught the eye of potential

¹⁸ Brandt, 27-32.

¹⁹ Lynn Pritcher, "Emergence of Advertising in America: 1850-1920," John W. Hartman Center for Sales, Advertising and Marketing History, Duke University, <http://library.duke.edu/rubenstein/scriptorium/ea/tobacco.html>

smokers. To further entice, advertisements appeared on billboards, poster, and in magazines, making Bull Durham a familiar name nationwide. Duke saw every moment as an advertising opportunity; he even funded a roller-skating team called the Cross Cuts in exchange for free advertising at competitions in the form of



A trading card from the early 20th century²⁰



A Duke Brand cigarette box, 1890.²¹

leaflets. Smokers were not the only targets of his wily schemes; he bribed vendors with free merchandise, encouraging them to promote his brand over others.²² Though similar methods are hardly revolutionary today, Duke was clearly ahead of his time. Using these innovative means, he was able to secure a place for his cigarettes in the hearts, minds, and mouths of Americans.

His ruthless actions were not confined to his business transactions. When faced with the prospect of government intervention, Duke, as the emperor of the American tobacco industry, was able to use his money and power to wiggle his way out of any unfavorable situation. He, along with several other manufacturers, barraged Congress with lobbyists to decrease the cigarette tax that had been levied

²⁰ "Cigarette Cards," New York Public Library,
http://digitalgallery.nypl.org/nypldigital/explore/dgexplore.cfm?col_id=161

²¹ Durham Historic Photographic Archives, Durham County Library,
http://durhamcountylibrary.org/exhibits/dhpa/photo_archives/b/b050.php.

²² Kluger, 23-24.

during the Civil War. In 1883, Congress responded by cutting the tax from \$1.75 per thousand to 50 cents per thousand.²³ Duke again unleashed his forces again in 1906 when the government threatened to regulate tobacco with the Pure Food and Drug Act, claiming that tobacco was neither a food nor a drug. His attempt to sway lawmakers was wildly successful; though every other logical substance - meat, grains, produce prescription drugs, alcohol and cannabis - was strictly regulated for quality and safety, tobacco was blatantly omitted.²⁴ In fact, the Food and Drug Administration had no control over the tobacco industry until 2009.

Congress was also reluctant to regulate tobacco following the failure of Prohibition. The so-called Noble Experiment had not-so-noble results; not only did it not discourage alcohol consumption, it also increased illegal activity in the form of moonshine, speakeasies, and the black market. The economy also floundered; without alcohol sales, restaurants and theatres struggled to stay in business, and the government lost important revenue from sin taxes. If anything, Prohibition improved the image of tobacco. Because it was not associated with erratic behavior and domestic violence, it escaped the same moral scrutiny applied to alcohol. Instead, it was seen as a legal and acceptable alternative recreational drug while booze was unavailable, and cigarette sales increased during the 1930's.²⁵

The final event that secured tobacco's place in history was women's suffrage. Until this point, women seldom indulged in tobacco in any form. When cigarettes

²³ David O. Whitten and Bessie Emrick Whitten, *The Birth of Big Business in the United States, 1860-1914*, Greenwood Publishing Group, (2006), 87.

²⁴ Kluger, 41.

²⁵ Michael Lerner, "Prohibition: Unintended Consequences," PBS, <http://www.pbs.org/kenburns/prohibition/unintended-consequences/>.

were introduced, social expectations were no different; the habit was seen as unladylike and unbecoming, and women who smoked in public were frowned upon. Particularly rebellious women, like flappers, saw smoking as an act of defiance and gender equality in an age when such freedoms were few and far between. Although these brash women were often ridiculed for their behavior, cigarette companies recognized this as an opportunity to double the number of their potential customers. Starting in 1910, a number of companies started promoting brands billed as "Votes for Women Cigarettes." The American Tobacco Company took this concept a step further in the 1929 New York City Easter Parade. Under the instruction of Eddie Bernays, a group of ten society women marched in the parade, all while smoking Lucky Strike Cigarettes, their so-called "torches of freedom."²⁶

Once they had piqued women's interest, they had to maintain it. Lucky Strike appealed to women's desire to be thin, pushing their cigarettes as an alternative to candy with the slogan "Reach for a Lucky Instead of a Sweet." Marlboro, on the other hand, emphasized their brand's mildness and femininity. The cigarette featured an "ivory tip," a laminated mouthpiece that wouldn't adhere to lipstick.²⁷ Women were easily convinced of the benefits of smoking; between 1920 and 1930, sales of cigarettes more than doubled.²⁸

At this time, however, most smokers were unaware that the "mildness" that Marlboro was promoting was the very characteristic that made cigarettes so much

²⁶ Kenneth Florey, *Women's Suffrage Memorabilia: An Illustrated Historical Study*, McFarland (2013).

²⁷ Wendy Christensen, "Torches of Freedom: Women and Smoking Propaganda," *The Society Pages*, February 27, 2012.

²⁸ Kluger, 65,

more lethal than other tobacco products. Unlike cigar or pipe smoke, which is generally held in the mouth and then exhaled, cigarette smoke is inhaled more deeply, allowing for carcinogens to pass more easily through the mucus membranes in the back of the throat and into the circulatory system. Unsurprisingly, a greater amount of nicotine, the addictive compound in cigarettes, enters the bloodstream, encouraging increased and prolonged use. Furthermore, because cigarettes smoke quickly and are relatively mellow-tasting, smokers typically indulge more often. As a result, cigarette smokers face significantly greater health risks than those who smoke only cigars or pipes, and, of course, those who do not smoke at all.²⁹ Unfortunately, it would be many decades before the serious health consequences would be fully

²⁹ N J Wald, C H Watt, "Prospective study of effect of switching from cigarettes to pipes or cigars on mortality from three smoking related diseases," *BMJ* 314 (1997): 1860.



Lucky Strike's Infamous "Reach for a Lucky" Campaign

understood. In fact, many cigarettes were touted for their health benefits. Lucky Strike offered five free cartons to physicians who agreed that their cigarettes were safer. Though the results were clearly coerced, they ran a campaign claiming "20,679 Physicians Say Luckies are Less Irritating."³⁰ Americans willingly believed the hype, and, blissfully unaware of the dangers they were inflicting upon themselves, continued to satiate their need for their favorite recreational drug. The tobacco industry, left to its own devices, satiated its need for limitless money and power, claiming hundreds of thousands of lives along the way.

³⁰ Kluger, 76.

Part Two: A Brief History of Processed Food

As journalist and food-whisperer Michael Pollan so aptly said, "The way we eat has changed more in the past fifty years than in the previous ten thousand." Before the 20th century, our country was and had always been an agrarian society. In the pre-industrial age, farms were a far cry from the CAFOs and factory farms that produce the vast majority of food we eat today. Because mass production was not yet possible, most Americans had to grow and prepare their own food. For comparison, in 1790, 90% of Americans were farmers; today, less than three percent are.³¹ Processed and prepackaged food was essentially nonexistent during the agrarian era. The only processing that occurred - pickling, fermenting, dehydrating, and salting - was done in the home on a small-scale. In the late 19th century, some small food companies were founded, but the products they sold were minimally processed, if at all, and were sold regionally.³² These companies began with simple goals and altruistic motives: to provide more convenient, sanitary, and healthy products. Unfortunately, when these products succeeded, manufacturers sought greater dividends by continuing to produce more and more convenient foods with everlasting shelf lives, eventually leading to our current nutritional crisis.

Though the rise of industrialized food occurred much later and more rapidly than the rise of cigarettes, the success of the two industries was contingent on many of the same events and social changes. As we saw technological advances, women's

³¹ "Timeline of Farming in the U.S.," *American Experience*, PBS.

³² Beverly Bundy, *The Century in Food*, (Oregon: Collector's Press, 2002).

rights, temperance, and military conflicts play an invaluable role in the history of cigarettes, so too would these circumstances create an opening for processed food in the American diet. However, the history of processed food is more convoluted and circuitous; while the cigarette is one product made by a handful of companies, there are thousands of varieties of prepackaged and prepared food items made by various competing brands, making it far more difficult to determine a linear history of these products. Instead, the overarching themes and techniques employed across the industry as a whole will serve to identify how these events produced the modern food system in which we live and eat.

1838 was an important year in agricultural reform. Up until this point, sowing had been done by hand, and was a labor- and time-intensive process. It was this year that John Deere, an Illinois blacksmith, invented a steel plow, cutting plowing time in half. By 1850, the John Deere Company manufactured 10,000 of the timesaving devices annually, making farming a more manageable task. As the century wore on, more important inventions increased crop yield and decreased manual labor required for farming - barbed-wire fencing, chemical fertilizers, steam tractors, and grain elevators.³³ These creations produced greater amounts of food, enabling more Americans to move away from the farm to pursue other careers in urban areas.

Although industrialization had its perks, it was not without its drawbacks. Food production was often filthy and unsanitary. The conditions in the meat packing industry were particularly grim, as the nation became aware of after the publication

³³ PBS, 1999.

of Upton Sinclair's muckraking novel *The Jungle*. It included vivid and nauseating descriptions of rotten meat, rats, dead animal carcasses, and flies, among other appalling details. The federal government responded immediately with the Meat Inspection Act and Pure Food and Drug Act of 1906, with the intention of increasing sanitation standards and increasing the safety of food products.³⁴

Another byproduct of Sinclair's novel was a newly germ-phobic public. It seemed as though bacteria and disease lurked in every morsel of food, leaving Americans with few safe options. Early food companies saw this as an opportunity to promote their products based on the merit of cleanliness. Quaker Oats, founded in 1850, was among the first brands to sell prepackaged grains. Prior to this, bulk products were scooped from barrels, making them susceptible to contamination from unfamiliar hands.³⁵ Oscar Mayer also jumped on this bandwagon. Meat packers frequently sold their products anonymously, primarily to avoid responsibility for sub-par meats. By printing the brand's name conspicuously on the packaging, Oscar Mayer claimed the product as its own, implicitly assuring high-quality food.³⁶

Around this same time, Americans developed an interest in the nutritional content of food. In the early 20th century, scientists rapidly expanded their knowledge of nutritional science with the discovery of macronutrients, calories, and vitamins. They found an avid audience in the newly health-conscious population. These inventions offered a greater amount of control and predictability to consumers who were used to eating in the dark, unsure of the health consequences

³⁴ Theodore Roosevelt, *Conditions in Chicago Stockyards*, 1906.

³⁵ Bundy, 20.

³⁶ Michael Moss, *Salt, Sugar, Fat*, (New York: Random House, 2013), 186.

of their particular dietary choices. Unfortunately, many of the discoveries were misunderstood early on, leading to misguided attempts at health-based diets. Many Americans feared a condition called acidosis, thought to be caused by an unbalanced intake of proteins and carbohydrates. Unsurprisingly, food companies began marketing their products for their ability to prevent acidosis; Sunkist brand citrus fruits and Welch's grape fruit both claimed to balance the stomach's acidity, thwart illness, and stave off weight gain.³⁷

Other companies recognized the lucrative possibilities of health foods. Physician John Harvey Kellogg invented a flaked cereal to accompany the enemas, exercise, and baths that he prescribed to his patients. The bland diet was intended to improve digestion and offset the typical, meat-heavy American diet. Charles William Post, an attendee of the sanitarium, thought the cereal would be a commercial success, and approached Kellogg as a business partner. When Kellogg refused him, Post started off on his own. He founded the Postum Cereal Company, under which he sold a coffee alternative called Postum and his own cereal, Grape Nuts. Post advertised the cereal as "brain food," capable of improving cognitive function and memory. In later years, Grape Nuts were also purported to cure appendicitis, prevent malaria, and aid weight loss.³⁸ These claims were baseless, but nevertheless an effective marketing tool.

Because processed foods are generally less nutrient dense than their unprocessed counterparts, many products came under attack. Wonder Bread, the

³⁷ Harvey Levenstein, *Paradox of Plenty: A social History of Eating in Modern America*, (University of California Press: 2003), 12.

³⁸ Moss, 68-70.

poster child of nutritionless food, was particularly vulnerable. Its parent company, Continental Baking, had a number of tricks up its sleeves to evade criticism. To its logo, the phrase "It's Slo Baked" was added. Although essentially meaningless, it lent an air of wholesomeness and authenticity to a product that was neither. In response to government pressure, the bread was also enriched with the vitamins and nutrients it lost during processing. And, like Grape Nuts, Wonder Bread was fond of misleading health claims; in reference to the twelve added vitamins and minerals, Wonder Bread was said to "build strong bodies in twelve ways," even though it was, in many ways, less healthy than whole wheat bread.³⁹

What Wonderbread lacked in nutrition, it made up for in convenience and innovation. In 1900, 75% of bread was home-baked.⁴⁰ The process, which includes making a starter, kneading the dough, proofing, and baking, can take more than a week from start to finish. Wonder Bread was a readily available and affordable short-cut, a welcome time-saver for busy housewives. If this wasn't convenient enough, Wonder Bread was also pre-sliced, eliminating any possible obstacles to eating bread. The invention quickly hijacked home baking, and by the 1930's, most bread was factory-baked.⁴¹

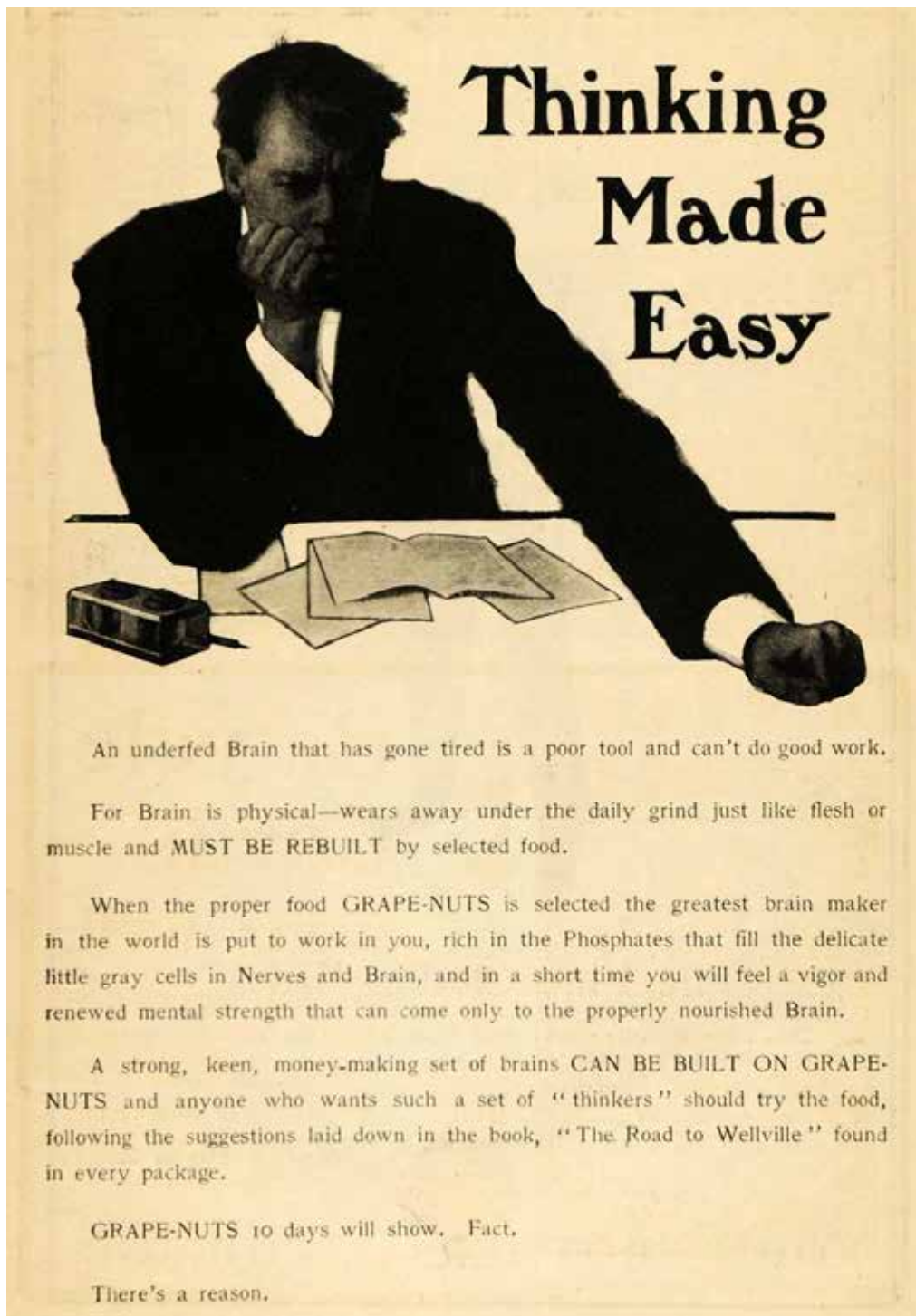
The success of Wonder Bread and other convenience foods was contingent on Americans seeking convenience. The need for timesaving kitchen products and appliances did not come from men; women were the primary homemakers, not only

³⁹ Tim Carman, "Wonder bread: 90 years of spiritual vacuousness?" *The Washington Post*, March 18, 2011.

⁴⁰ "Dimensions of Change: 1869-1900," Centre de Recerca en Economia Internacional.

⁴¹ *The Wonder Bread Cookbook: An Inventive and Unexpected Recipe Collection*, (Random House LLC, 2007), 7.

responsible for cleaning and child-rearing, but food preparation as well. Before running water and electricity were commonplace in American homes,



Thinking Made Easy

An underfed Brain that has gone tired is a poor tool and can't do good work.

For Brain is physical—wears away under the daily grind just like flesh or muscle and **MUST BE REBUILT** by selected food.

When the proper food **GRAPE-NUTS** is selected the greatest brain maker in the world is put to work in you, rich in the Phosphates that fill the delicate little gray cells in Nerves and Brain, and in a short time you will feel a vigor and renewed mental strength that can come only to the properly nourished Brain.

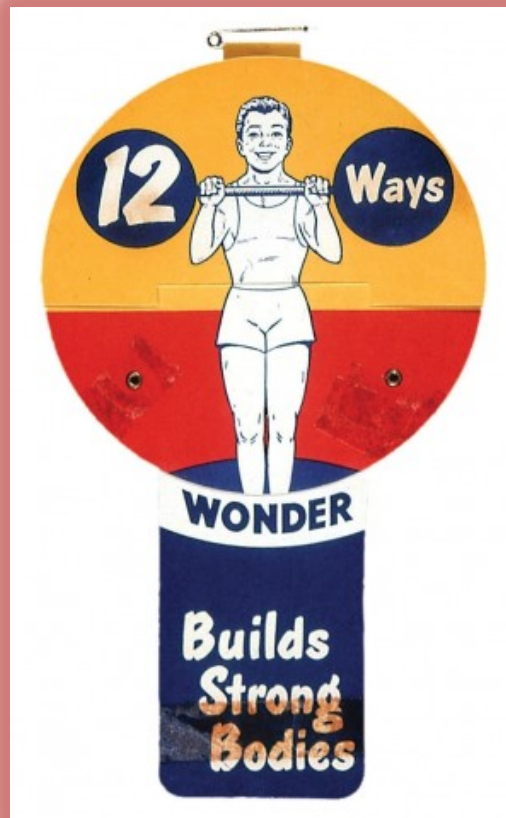
A strong, keen, money-making set of brains **CAN BE BUILT ON GRAPE-NUTS** and anyone who wants such a set of “thinkers” should try the food, following the suggestions laid down in the book, “The Road to Wellville” found in every package.

GRAPE-NUTS 10 days will show. Fact.

There's a reason.

A 1904 Grape Nuts advertisement

tending to the home was a full-time job. Even the simplest task took hours. The suffrage movement interfered with gender expectations, and as women gained more rights, they gradually left home to join the workforce. This shift was reinforced during World War I and World War II; most able-bodied men enlisted, leaving women to run factories and businesses until they returned. Before World War I, women only held a limited set of jobs - seamstress, teacher, nurse, and domestic servant - and made up a negligible portion of the workforce. By the end of World War II, however, they accounted more than a third of gainfully employed Americans.⁴²



⁴² Women's Bureau, United States Department of Labor, <http://www.dol.gov/wb/>

*Vintage Wonder Bread Advertisement*⁴³

With greater time commitments outside the home, women had less time to devote to cooking. Fortunately for them, and unfortunately for the home-cooked meal, there were endless technological advances and new products that made cooking an easier and quicker task. During the first fifty years of the 20th century, kitchen appliances evolved rapidly from merely wood-fire stoves to a bevy of newfangled gadget; toaster ovens, waffle irons, skillets, ice boxes, stand mixers, and electric ranges cluttered the counters and cabinets of American kitchens, making once-difficult dishes everyday fare.⁴⁴ Concurrently, food manufacturers cranked out convenience foods more quickly and in greater volumes than ever; candy bars, boxed cereal, canned soups, crackers, and powdered fruit drinks were all great successes, spurring the growth of burgeoning food brands.

Convenience was not always welcomed with open arms. General Mills, for instance, ran into difficulties when formulating Betty Crocker cake mixes. Initially, the product included every ingredient necessary, including powdered eggs. To prepare, the mix only required added water, which women felt over-simplified the process. Evidently, women wanted convenience, but only in certain quantities. In response, the eggs were removed from the mix so that women could whisk them in themselves.⁴⁵ This method worked wonders - it allowed women to do enough work that they felt like they were actually baking, but provided enough ease so that it seemed preferable to from-scratch cooking.

⁴³ Carman.

⁴⁴ Bundy, 46-67.

⁴⁵ Michael Pollan, "Out of the Kitchen, Onto the Couch," *The Times Magazine*, July 29, 2009.

However, there was no greater opponent to processed food than home economic teachers. The professors of the traditional home-cooked meal, saw processed food as a threat to their very livelihood. Food companies knew that without the support of this influential group of women, their products would never be fully incorporated into the American household. Rather than fight against them, the food industry hired them on as spokespeople. These women acted as company representatives, working in demonstration kitchens to teach American women how to cook with processed products. To gain even greater support, companies heaped hundreds of thousands of dollars onto the American Home Economics Association to help fund their fellowship program. In return, the brands received advertising space in the association's journal and booths at its conventions.⁴⁶

The two World Wars did more than take women out of the home. Just like the cigarette companies had done, food manufacturers saw the wars as an opportunity to make a profit and gain new customers. Typical rations included not only food and cigarettes, but often candy as well. During World War II, all candy production went into military rations. As one would expect, sugar intake among troops skyrocketed to fifty pounds, three times the national average.⁴⁷ Coca-Cola was also determined to get bottles into the hands of soldiers; all enlisted men could purchase a bottle for five cents, regardless of where they were stationed.⁴⁸

A particularly important characteristic of military rations was shelf life. The foods distributed to soldiers had to be transported great distances and, upon arrival,

⁴⁶ Moss, 62-64.

⁴⁷ Bundy, 103.

⁴⁸ Moss, 97.

often sat for weeks before consumption. Most companies put their efforts towards increasing the longevity of their foods. Every kind of food was dehydrated, powdered, or canned for the benefit of the army. Products like Spam and Kraft cheese, with their indefinite shelf life, were popular choices. At the war's end, these products had a built-in customer base in the country's veterans. Rather than return to their previous products, companies move forward with convenience and longevity as the ultimate goal. To encourage Americans to continue to consume prepackaged foods, companies used innovative methods like cookbooks that incorporated the foods into recipes.⁴⁹



World War II Ration of Chocolate

⁴⁹" Army Operational Rations - Historical Background," US Army Quartermaster Foundation, http://www.qmfound.com/army_rations_historical_background.htm.

In addition to women's suffrage, industrialization, and the World Wars, Prohibition was a milestone in the success of manufactured food. Without saloons, Americans had to find other places to congregate. Soda fountains and ice cream parlors replaced bars as the preferred socializing milieu, and sugar replaced alcohol

as the preferred addictive substance. Restaurants, unable to sell alcohol, attempted

WHAT'S THAT SIZZLING SOUND I HEAR?

GET UP! IT'S SPAM AND EGGS, MY DEAR!

SPAM & Eggs. Cut SPAM in slices a fourth of an inch thick. Brown quickly in hot frying pan. Arrange SPAM around fried eggs. It's a delightfully different way to start the day. And, if you're the cook, a delightfully easy way. Try it tomorrow morning—or for supper tonight!

COLD OR HOT SPAM HITS THE SPOT!

Look at all the fun you can have with SPAM, the Hormel meat of many uses. You can serve it cold. You can serve it hot. You can slice it, dice it, bake it, fry it. You can enjoy it for breakfast, luncheon, supper or dinner. You can make it into sandwiches and canapés. And you can do all these tricks with the greatest of ease! SPAM is made of pure pork shoulder meat with ham added... comes only in handy 12-ounce cans that need no refrigeration. Let your next word to the grocer be 'SPAM!'

FREE RECIPE BOOK! Complete recipe for making SPAM. Also learn new tricks about Hormel's Waps for your fine copy of this new book. Write to: Hormel & Co., Dept. 111, Austin, Minn.

HORMEL GOOD FOODS

SPAM • CANS • HAM • CORNED • SOUPS
WITH OTHER PRODUCTS

SPAM
PORK SHOULDER MEAT
WITH HAM MEAT ADDED
NET WEIGHT TWELVE OUNCES
JANES 12-16

WHAT CAN I COOK WITHOUT MUCH FUSS?

HERE'S A LUNCH THAT'S GOOD AND QUICK...

HOT CHEESE SPAM WICH DOES THE TRICK!

SPAM BAKE WOULD TICKLE ALL OF US!

Baked SPAM. Just open a whole SPAM can, turn the meat, slice up in 1/4" with the water. Drain, then fry in oil with the water. Your SPAM Bake is ready in under 25 minutes—no heating again for any occasion.

Hot SPAM WICH. Put two thin SPAM slices on toast. Top with sliced tomatoes, cheese and Hormel's sauce. If you don't like you, substitute pickles. Heat in oven until cheese melts. There's your hot cheese SPAM wich!

LISTEN! "IT HAPPENED IN HOLLYWOOD", HORMEL'S NEW IDEA IN RADIO ENTERTAINMENT. EVERY AFTERNOON, MON. THRU FRI., COLUMBIA NETWORK.

A Spam Advertisement, circa 1940

to make up for lost sales with newly-installed soft drink machines. Similarly, rather than shutting down, many breweries started bottling soft drinks and churning ice cream.⁵⁰ Although Prohibition did nothing to decrease American's thirst for alcohol, it did create a new hunger for refined sugar; between 1890 and the early 1920s, sugar consumption nearly doubled and, correspondingly, incidence of diabetes quadrupled.⁵¹

The events and social changes of the early 20th century produced a perfect storm in which processed foods flourished. While women sought out more economical foods, and the army searched for shelf-stable rations, the new technology of the industrial age made it possible for food companies to cater to these needs. The desire for these products was further fueled by social changes motivated by prohibition and greater gender equality. At every turn, food companies tuned into the American psyche, taking note of various trends and attitudes in product formulation and advertising campaigns. By the end of World War II, food companies were poised to dominate the nation's diets with salt, sugar, fat and excess calories, though the dire implications would not be clear for another forty years to follow.

The similarities between the histories of cigarettes and processed food are not subtle. Both products offered easier, cheaper and more convenient solutions to previously messy or time consuming tasks. Both industries propelled themselves

⁵⁰ Rae Katherine Eighmey, *Soda Shop Salvation: Recipes and Stories from the Sweeter Side of Prohibition*, (Minnesota Historical Society Press, 2013).

⁵¹ Gary Taubes, "Is Sugar Toxic?" *The New York Times*, April 13, 2011.

forward by decreasing costs, primarily through mechanizing production and eliminating human labor. And both became relevant because of similar events - an increase in women's rights, monumental wars, industrialization, and prohibition. Because these two industries have such congruent histories, it is unsurprising that, as time progressed, these parallels continued in professional and bureaucratic arenas.

Part Three: Product Formulation of Cigarettes

After cigarettes conquered the American tobacco market, the fight was not over. With numerous companies in the business of producing cigarettes, competition was fierce. In order to stay afloat, every possible tactic was employed. Product formulation was a particularly important method to attract new customers. For every kind of American, there was a kind of cigarette. And consumers responded to this innovation and ingenuity; by 1965, more than 40% of American adults smoked cigarettes, not to mention the countless adolescents who imbibed illegally.⁵²

Even after women's suffrage, women still lagged considerably behind men in cigarette use. This was a problem for cigarette manufacturers, who saw nonsmokers of any gender as a potential customer. To appeal to women's perceived sensibilities, new products were invented that were specifically marketed to this half of the population. Just as Lucky cigarettes had been associated with dieting in the 1920s and 30s, other brands continued to cash in on American women's endless quest for

⁵² "Trends in Current Cigarette Smoking Among High School Students and Adults, United States, 1965-2011," Centers for Disease Control and Prevention, 2013.

effortless weight loss. In 1968, Marlboro debuted its female-only line, Virginia Slims.

As the name would suggest, the cigarettes themselves were smaller than traditional cigarettes, intended for the delicate hands and mouth of a young woman. Furthermore, it was packaged in a special box designed to fit inside a purse. However, the appeal went beyond the literal product and its package; by using the word "slim" in its name, the brand was subconsciously associated with slender silhouettes.⁵³ Evidently, many women chose cigarettes as an appetite suppressant and were susceptible to this branding; within just six year after the product appeared, smoking among teenage girls increased twofold.⁵⁴



⁵³ Anne Marie O'Keefe and Richard W. Pollay, "Deadly Targeting of Women in Promoting Cigarettes," *Journal of the American Medical Women's Association*: January 1996, 65.

⁵⁴ Kluger, 317.

A 1971 Virginia Slims advertisement.⁵⁵

As important as female smokers were to the tobacco industry, teenagers were even more necessary for long-term success. Nicotine addiction only



occurs within a brief window, between the ages of about 13 and 19. Indeed, almost all people who start smoking after the age of 21 quit shortly thereafter.⁵⁶ This fact was abundantly clear to the industry, which did anything it could to subtly appeal to America's youth. Flavors and perfumes were among the most effective methods of captivating the more sensitive taste buds of adolescents; in a revealing 2004 study, 17-year-olds were three times more likely to use flavored cigarettes than 25-year-olds. Early varieties included licorice and chocolate, and have since expanded into more exotic flavors like piña colada and toffee.⁵⁷ Correspondingly, most advertising for flavored products are youthful, often featuring sexually charged images or images promoting excitement and adventure.

Throughout the 20th century, various studies indicated negative health implications of smoking conventional cigarettes. As the general population became more concerned about their dangerous pastime, companies didn't miss a beat to solve the problem with new products. The earliest solution was menthol cigarettes,

⁵⁵ "Found in Mom's Basement," <http://pzrservices.typepad.com/vintageadvertising/2012/03/cigarette-advertising-from-the-1970s.html>.

⁵⁶ Hilts, 65.

⁵⁷ Gardiner Harris, "Flavors Banned from Cigarettes to Deter Youths," *The New York Times*, September 22, 2009.



invented in 1924 by Lloyd Hughes. In his patent application, he claimed that cigarettes treated with menthol, cassia oil, and alcohol were capable of "cooling and soothing . . . irritated membranes of the mouth and throat."⁵⁸ For decades, cigarette companies promoted menthol cigarettes for their supposed medicinal qualities. Words like "fresh," "natural," and "soothing" were commonly used in promotional material, implying that the cooling sensation was also somehow healing. In reality, menthol cigarettes are no safer than traditional varieties; however, because the peppermint extract temporarily assuages the irritation of cigarette smoke, consumers were readily convinced that this was a healthier option.⁵⁹

Kools are perhaps the most successful brand of menthol cigarettes. Since its inception in 1933, Kools were promoted as an specialty cigarette to be smoked during bouts of throat discomfort. Its front man was a dapper cartoon penguin who encouraged smokers to "rest your throat with KOOLS." Other brands made similar claims, advocating switching to menthol cigarettes when sick or congested, or recommending

⁵⁸ Lloyd F. Hughes, "Process of Treating Cigarette Tobacco," US Patent 1,555,580, filed July 31, 1924, and issued September 29, 1925.

⁵⁹ "Mouth Happy," *Stanford Research into the Impact of Tobacco Advertising*, Stanford School of Medicine.

menthols as an alternative to quitting.⁶⁰ Although menthols never exceeded its conventional counterpart, they were able to make a significant dent in the market; today, they account for nearly a third of all cigarette sales in the United States.⁶¹

Filter tips were another fruitless attempt to enhance the salubrity of cigarettes. Invented in the same year as menthol cigarettes, filters were intended to decrease the inhalation of harmful particles found in cigarette smoke. These were slow to catch on, but in the mid-fifties, the publication of a prospective mortality study that correlated cigarettes with lung cancer incited Americans to seek out less dangerous alternatives.⁶² Filtered cigarettes were perceived as a wiser choice, and quickly gained popularity. Today, nearly all cigarettes contain filters. Unfortunately, they are an essentially useless addition; smokers usually compensate for the filtration by inhaling more deeply, ultimately ingesting the same amount of tar and smoke as they would otherwise. In fact, early filters were often more dangerous than no filter at all, as they contained the same deadly carcinogens they were intended to inhibit.⁶³

Despite early failures, cigarette manufacturers never gave up on their crusade for a safe cigarette. "Light," "super light," "ultra light," and "low tar" cigarettes were all weak attempts at a non-carcinogenic product. Each brand formulation differed slightly, either containing lower amounts of nicotine, tar, or

⁶⁰ "Menthol Medicates," *Stanford Research into the Impact of Tobacco Advertising*, Stanford School of Medicine.

⁶¹ Sabrina Tavernise, "F.D.A. Closer to Decision about Menthol Cigarettes," *The New York Times*, July 23, 2013.

⁶² David Burns et al., "Cigarette Smoking Behavior in the United States," *Smoking and Tobacco Control Monograph No. 8*, 16.

⁶³ Pagan Kennedy, "Who Made that Cigarette Filter?" *The New York Times*, July 6, 2012.

noxious chemicals like carbon monoxide. This was often coupled with a special filter, perforated with small holes that hypothetically diluted the smoke. These products, though they sounded promising, were flawed in much the same way filters are - most smokers offset the less toxic formula with deeper inhalation or more frequent smoking. Regardless, the misleading names enticed smokers unwilling to quit, believing they were making a purchase that would benefit their health. "Light" and "mild" were used without discretion to gain brand loyalty until 2010, when the terms were banned.⁶⁴

The most recent foray into health-related tobacco products is the electronic cigarette. The idea of a smokeless, tobacco-free nicotine delivery mechanism was first conceived by Herbert Gilbert in the 1960s, but was largely unnoticed at the time.⁶⁵ The full commercial potential of smokeless cigarettes was not fully realized for another four decades, when the first e-cigarettes were introduced in China. Since then, they have gained momentum on an international scale. Currently, they reside in a state of legal limbo, since they are technically not cigarettes, and yet they contain nicotine. As a result, the federal regulations applied to the sale, production, use and marketing of other tobacco products do not yet affect electronic cigarettes, although a number of states have passed laws to prohibit sales to minors.⁶⁶

The e-cigarette has been promoted both as a safer alternative to conventional cigarettes, as well as a tool for those attempting to kick the habit. Some

⁶⁴ "Light' Cigarettes and Cancer Risk," National Cancer Institute,
<http://www.cancer.gov/cancertopics/factsheet/Tobacco/light-cigarettes>.

⁶⁵ Herbert Gilbert, "Smokeless non-tobacco cigarette," US Patent 3200819 A, filed April 17, 1963.

⁶⁶ Debbie Elliott, "E-Cigarettes: the New Frontier in War on Smoking," NPR, August 5, 2009,
<http://www.npr.org/templates/story/story.php?storyId=111578997>.

studies have indicated that electronic cigarettes do, in fact, aid in smoking reduction and cessation.⁶⁷ And because the device does not involve combustion, it does not produce the same tars and gases associated with traditional cigarettes. Whether they are actually safer, however, has not yet been proven, as the necessary long-term studies have only just begun. Regardless of what the outcomes might be, nicotine, even in the absence of smoke, is harmful. It has been shown to raise blood pressure, increase risk of heart disease, and inhibit blood flow to extremities, and in large enough doses, it is fatal.⁶⁸ Even if electronic cigarettes are safer than conventional cigarettes, they are clearly worse than no cigarettes at all.



⁶⁷ Pasquale Caponnetto et al, "Efficiency and Safety of an Electronic Cigarette as Tobacco Cigarettes Substitute," *PLOS One*, June 24, 2013.

⁶⁸ Neal Benowitz et al, "Nicotine absorption and the cardiovascular effects with smokeless tobacco use: Comparison with cigarettes and nicotine gum," *Clinical Pharmacology and Therapeutics* (1988)44.

Because of the lack of regulation, e-cigarettes are particularly fertile with product expansion. Flavored vapor liquid, much like flavored tobacco, has been formulated to suit the tastes of middle school and high school students. Adults are not the target market for this ilk of e-liquid; cloying tastes like marshmallow or gummy bear do not generally appeal to more mature taste buds. Sugar and other additives have synthesized candy and nicotine into a hyper addictive union, making "vapes" nearly irresistible to vulnerable adolescents. This is compounded by the fact that youth can legally purchase e-cigarettes in many states. Subsequently, between 2011 and 2012, e-cigarette use among teenagers doubled.⁶⁹

To make a profit, tobacco companies have cut every corner to decrease the cost of production. Worldwide, nearly six trillion cigarettes are manufactured annually, but very few human hands are required in the process. Machinery has almost entirely replaced human labor and, consequently, has eliminated the need to pay human laborers.⁷⁰ In addition, producers make every effort to stretch their raw ingredients as far as possible. Modern cigarettes are largely comprised of "reconstituted tobacco leaf," leftover stems and scraps, reclaimed and pressed into sheets.⁷¹ By using every shred of tobacco and its byproducts, companies are able to purchase less of the plant from farmers. As a result, packs can be discounted, which encourages increased consumption.⁷²

⁶⁹ Jenny Lei Bolario, "Candy Flavors Put E-Cigarettes on Kids' Menu," *The Huffington Post*, February 21, 2014.

⁷⁰ "How Cigarettes are Made," Phillip Morris, *Legacy Tobacco Archive*, 1994.

⁷¹ Brandt, 359.

⁷² "Tobacco Industry Marketing," American Lung Association, <http://www.lung.org/stop-smoking/about-smoking/facts-figures/tobacco-industry-marketing.html>.

Above all else, cigarette products are formulated to be habit-forming. The nicotine content of all cigarettes, whether flavored, low tar, or electronic, is carefully monitored to maximize addiction. Before being added to a cigarette, reconstituted leaf is treated with "tobacco liquor," a spray that significantly increases the nicotine level. Other methods to enhance addictiveness include the use of nicotine powder, altering leaf blends, and adding chemicals to increase nicotine release. Ammonia is an especially effective additive, increasing the free nicotine in cigarette smoke by a factor of two.⁷³ Unsurprisingly, today's cigarettes are far more addictive than those of the past; a recent study found that although nicotine content has remained approximately the same, nicotine yield has increased by 15% since 1999.⁷⁴

Manipulating nicotine content and yield is particularly necessary in low-tar and light cigarettes, which naturally contain lower levels of the addictive compound. There is a certain threshold of nicotine required to maintain addiction, keeping customers coming back for more. Manufacturers refuse to dip below this level, as it would jeopardize their business model. Cigarettes serve no purpose except to fulfill an addictive desire; without the ability to do so, they become obsolete. No cigarette company would dream of causing its own demise, so they make every effort to keep their customers coming back.⁷⁵

The influence of product formulation on cigarette sales should not be underestimated. Tobacco companies pour millions of dollars into research and focus

⁷³ Hiltz, 44.

⁷⁴ Deborah Kotz, "Study says cigarettes have been delivering more nicotine," *The Boston Globe*, January 15, 2014.

⁷⁵ Brandt, 359.

groups in an effort to stay up to date with trends and preferences. With this information, they are able to fashion products that are tailor-made for specific groups. Because these goods are also inexpensive and addictive, they are not a difficult sell. In the future, one can expect that companies will continue to evolve to cater to the desires of their customers. Simultaneously, they will likely pursue increased nicotine yield while also decreased production costs. This is the only manner in which these corporations have remained competitive, maintained a strong customer base, and attracted new customers, and until it ceases to produce results, it will not be replaced with new methods.

Part Four: Product Formulation of Processed Foods

Because these methods have been so fruitful for the tobacco industry, it is only logical that the processed food industry has employed analogous techniques. Food, however, is much more ubiquitous and complicated, making formulation an even more elaborate affair. There is not just one potentially addictive ingredient, but many, all of which are carefully balanced to generate optimal appeal. There are also numerous audiences for which products can be specially designed - not only women and youth, but also the time-conscious, money-conscious, calorie-conscious, and carb-conscious. Moreover, processed food has been constructed to be affordable, convenient, portable, and accessible. If the aforementioned components are combined effectively, the possibilities for successful food products are essentially limitless.

The most basic level of food formulation comes down to flavor, aroma texture, and appearance. If a product does not taste, smell and look good, it has no chance of becoming a best seller. All large food manufacturers have separate facilities devoted to research and development, with hundreds of specialists and scientists striving to discover optimal ingredient combinations. These projects cost millions of dollars every year, but the payoff for the companies is even greater; a popular product has the power to provide financial security, brand loyalty, and line expansion, keeping a company going for years.

Much industry research is dedicated to finding the "bliss point" of various flavors, primarily sugar, salt, and fat. The human desire for these ingredients can be imagined as a bell curve - too much, and the flavor overwhelms, too little, and the taste buds are not adequately stimulated. To find the perfect medium of each ingredient separately, companies have engaged in thorough marketing research, expensive studies and focus groups. When the three are combined, things get more complicated. For every potential product, dozens of prototypes are developed with varying levels of key ingredients, which are subsequently tested and retested to determine the ideal formula. For instance, Cherry Vanilla Dr. Pepper began with sixty-one separate recipes, which, with the input of 415 tasters, was eventually whittled down to one.⁷⁶ This kind of exhaustive and detail-oriented quest for the perfect flavor is not unusual; any company that expects to turn a profit is sure to pay at least this attention to every nuance of taste.

⁷⁶ Moss, 36-41.

Although aroma, texture and appearance seem secondary to flavor, the food industry spends a comparable amount of time and money on perfecting them. This is not surprising, as perceptions of flavor are greatly influenced by color, texture and odor.⁷⁷ If any one of these characteristics is off, even if the taste of the product is spot-on, it will not be sensed as such. Companies have discovered ways to emphasize the best of quality. Specially designed aromas are added to provoke appetite and emphasize the flavor, particular mixtures of fats and oils improve the mouth feel, and natural and artificial colors are incorporated for a striking and intriguing appearance.⁷⁸ Just as flavor is tested and approved by hundreds of laypeople, so are aroma, texture, and appearance, guaranteeing an attractive and pleasant-smelling product that will sell.

What appeals to customers is not just the food itself, but also the convenience it provides. Cooking is a low priority for many Americans, behind work, family, errands, and countless other responsibilities. Food companies capitalize on the nation's time-is-money psyche with pre-prepared food. With the multitude of frozen, canned, refrigerated, dried, or otherwise preserved and processed meals available, it is essentially unnecessary for the average American to cook at all. Most of us spend less than a half-hour on daily food preparation, most of which is microwaving, reheating, or spreading peanut butter on toast - hardly haute-cuisine.⁷⁹ Portable packaging plays an equal role in convenience. Chips and cookies

⁷⁷ Carol Christensen, "Effects of Color on Aroma, Flavor, and Texture Judgments of Foods," *The Journal of Food Science*, 48(3), August 25, 2006.

⁷⁸ Y. Avramenko and A Kraslawski, "Product Design: Food Product Formulation," *Case Based Design* 87(2008), 109-116.

⁷⁹ Michael Pollan, "Out of the Kitchen, Onto the Couch," *The New York Times*, July 29, 2009.

are now sold in cups intended to fit into a car cup-holder, salad comes prewashed and precut, individual yogurt cups include plastic spoons, or are sold in tubes that require no spoon at all. Food companies have considered and taken care of every contingency, so their customers don't have to do so much as lift a fork.

The frozen TV-dinner is perhaps the archetypal convenience food. Invented in 1953 by Swanson and Sons, it has changed the nature of eating in American, and has obviated the home-cooked meal. Everything about it is convenient. It includes a full meal, entree, sides, and sometimes dessert, already cooked and ready to consume. This eliminates hours of kitchen time required to make a comparable meal by hand. The serving size is ideal for an individual person, which means no leftovers to pack up and refrigerate. Additionally, the plastic package is disposable - hence, no dishes to wash and dry. This design proved to be versatile as well as lucrative; the supermarket freezer is full of frozen dinners from every possible cuisine, and accounts for a large percentage of sales.⁸⁰

Children may be one of the few factions immune to the allure of convenience. Luckily, food manufacturers have other ways to captivate the minds and mouths of youths. In bliss point studies, children have consistently been found to have higher thresholds of sugar tolerance. Consequently, products specifically designed for younger customers use indiscriminate amounts of sweeteners.⁸¹ Of particular note are children's cereals; although adults' cereals contain a significant amount, children's cereals are tooth-achingly sweet. At more than half of the weight coming

⁸⁰ Brie Schwartz, "The History of the TV Dinner," *Gourmet Live*, October 19, 2011.

⁸¹ Moss, 8.

from sugar, many popular brands are more recognizable as candy than as breakfast food. As one paper astutely mentioned, a serving size of Kellogg's Honey Smacks contains more sugar than a Hostess Twinkie.⁸² Certainly no child benefits from this unreasonable amount of sugar, but these cereals please and reinforce our innate preferences for sweetness.⁸³



Oreo O's, a popular 1998 Post Cereal with nearly 12 g of sugar per serving.

Indeed, there is no reason why children cannot eat the same foods that adults do. However, the processed food industry has created an entire category of products intended especially for the under-18 crowd. While adults look for certain tastes and

⁸² Paul Pestano et al, "Sugar in Children's Cereals: Popular Brands Pack More Sugar than Snack Cakes and Cookies," Environmental Working Group, November 20, 2011.

⁸³ AK Ventura and JA Mennella, "Innate and learned preferences for sweet taste during childhood," *Current Opinion in Clinical Nutrition and Metabolic Care* 14(4), 2011: 379-84.

appearances in their meals, children look for something else - novelty. Unique shapes, colors and packaging are evident in product like purple ketchup, alphabet soup, and fruit roll-ups, which are unlikely to appeal to adults. In every aisle, there are "kid-only" foods - cereals, frozen meals, granola bars, juices, macaroni, and more. Because these foods are so ubiquitous and have been heavily marketed, children have come to eat these overly-processed foods to the exclusion of all else. Unfortunately, these foods are caloric and nutrient poor, causing a simultaneous influx of malnutrition and obesity in school-aged children.⁸⁴

What's more, armed with their in-depth research, companies are capable of tapping into the deepest psychological desires of children. Evidently, one of these



A 2013 advertisement for Lunchables.

desires is for independence, a need fulfilled by do-it-yourself products like Lunchables. Each ingredient for the meal is packaged, unassembled, in an environmentally destructive plastic container, allowing the diner to eat it however he or she chooses. As one television advertisement said, "All day, you gotta do what

⁸⁴ T. Lobstein, L. Baur, and R. Uauy, "Obesity in children and young people: A crisis in public health," *Obesity Reviews* 5(2004): 4-85.

they say. But lunchtime is all yours."⁸⁵ This shameless exploitation of the vulnerabilities of children has been a profitable technique; with twelve varieties of the high-fat, high-sodium, high-sugar meals sold nationally, Lunchables have secured a special place in the lunchboxes of American children.

Americans' relationship with processed food is not one-dimensional. Though we love and consume these unhealthy goods early and often, in light of the obesity epidemic, it is only fitting that Americans are alarmed about their health. Although processed food is largely responsible for the problem, they have also marketed themselves as part of the solution. However, the world of nutrition is in a constant state of flux; for every study indicating that a low fat diet is best, there is another that confirms that a low carb diet is healthiest. Food companies have formulated products suited to every kind of diet, while still producing their less-healthy snacks. This is a win-win for them; not only do they make twice the money by drawing in a larger customer base, but they also can shirk the blame of causing obesity.

In order to determine what health fad is up-and-coming, the food industry keeps its finger on the pulse of the American consumer. In recent years, gluten free foods have been one of the biggest success stories. Even though only a few percent of the population is gluten intolerant, about 30% choose to abstain from or restrict gluten, spurred on by celebrity endorsement and self-help books. Gluten-free diets reportedly aid in weight loss, prevent Alzheimer's, promote clear skin, and improve digestion.⁸⁶ Regardless of the validity of these claims, food producers have not

⁸⁵ Moss, 204-205.

⁸⁶ Carina Storrs, "Will a gluten free diet improve your health?" *CNN Health*, April 12, 2011, <http://www.cnn.com/2011/HEALTH/04/12/gluten.free.diet.improve/>.

hesitate to jump on the band wagon; there are dozens of glutenless breads, pastas, baked goods, cereals, and desserts cluttering the grocery store. Even products that don't naturally contain gluten, like yogurt or mixed nuts, are promoted as "gluten-free." Because many Americans don't know what gluten is, even those who profess to be gluten-free, this



manipulative technique works. The gluten-free sector is one of the fastest-growing in the food industry, and is projected to reach more than \$6 billion by 2017.⁸⁷

⁸⁷ Elaine Watson, "The rise and rise of gluten free: But can the meteoric growth continue?" *Food Navigator USA*, December 3, 2012.

Bacon deceptively labeled as "gluten free."

Countless other niches exist in the food world. Every day there's a new craze: raw vegans seek out uncooked fare, Atkins devotees buy carb-free, weight watchers look for low-calorie, health nuts look for all-natural and organic, and weight-lifters want high-protein. And that's not to also mention South Beach, paleo, low-sugar, allergen-friendly, kosher, halal, and other dietary lifestyles. To grab the attention of every possible shopper, companies have developed specialty products for all of them. There's not one, but six artificial sweeteners currently approved for use in American goods.⁸⁸ Similarly, protein has been extracted from a number of sources - peas, rice, whey, soy, and others. Low- carbohydrate flours include almond, coconut, oat, and flaxseed. For each specific audience, scientists combine these and other specialty ingredients to create the desired health claim.

While these designer ingredients are profitable, they aren't always cheap. To ensure that foods will generate net gain, shortcuts are taken elsewhere. Low quality, inexpensive ingredients are abundant in processed foods, making them cheap to manufacture and affordable. Fruit "flavored" products often contain no fruit at all, since fruit can be costly as well as unreliable. Instead, artificial colors, aromas and extracts emulate the taste, often quite realistically. Alternatively, some companies

⁸⁸ "Overview of Food Ingredients, additives and colors," International Food Information Council and US Food and Drug Administration, November 2004.

replace one fruit with one that is more accessible; blueberries, for instance, are sometimes replaced by grapes, which produce a similar color.⁸⁹

Further, bargain commodity crops like corn and soy are versatile additions to food, capable of being molded and shaped into an infinite number of applications. More than a quarter of American grocery store products contain corn in some form, an unsurprising discovery considering the fact that farmers are practically giving it away for free.⁹⁰ High fructose corn syrup (HFCS), a liquid sweetener, has offered a cheap and shelf-stable substitute for sugar, and is now used in most inexpensive processed foods.⁹¹ This is what has made soda, which is almost always sweetened with HFCS, such an unbelievably cheap calorie source, and such a profitable venture for the companies that sell them.

One of the food industry's cost-cutting tools is especially similar to the tobacco industry's "reconstituted tobacco leaf:" pink slime. Also known as "lean finely textured beef," or LFTB, it is comprised of the trimmings and morsels leftover after butchering. These scraps are consolidated, liquefied and treated with ammonia to kill any dangerous contaminants. The resulting material is added to ground beef, both to add volume and to reduce fat content of the final product.⁹² Pink slime was used for more than two decades before the public became aware of it in 2012 and

⁸⁹ "Fruit or fiction: Is it blueberry or blue dye?" *Consume Reports Magazine*, December 2012.

⁹⁰ Michael Pollan, "What's Eating America," *The Smithsonian*, June 15, 2006.

⁹¹ John White, "Straight talk about high-fructose corn syrup: what it is and what it ain't," *American Society for Clinical Nutrition* 88(6): 1716S-1721S.

⁹² Josh Sanburn, "One Year Later, the Makers of 'Pink Slime' are Hanging on, and Fighting Back," *Time Magazine*, March 6, 2013.

demanded its removal from circulation. Despite the public outcry, it is still incorporated into a number of inexpensive ground meat products.

Even though food products are not technically categorized as drugs, as tobacco is, both industries employ the powerful draw of addiction. In a number of studies, foods high in sugar and fat have been found to have a similar neurological effect as cocaine. Users of both substances are powerless in its presence, and develop an insatiable need for more.⁹³ This has the potential to be incredibly lucrative. If Americans cannot resist the products they consume, they will continue to purchase them, regardless of the cost. Consequently, food companies have hired specialists to discover the formula that harnesses the addictive qualities of food.

Separately, sugar and fat are enticing; together, they are magnetic, seductive, irresistible. It is no coincidence that many of our favorite foods contain some combination of these two - ice cream, cheesecake, barbecued meat, doughnuts, burgers slathered ketchup are all a tempting mix of sugar and fat. These foods have been cleverly designed to keep you coming back for more, and more, and more. The formulation is not quite as simple as sugar plus fat equals grocery store blockbuster. Manufacturers experiment with dozens of different kinds of sugars and even more varieties of fat to discover those that have the best taste, aroma, and mouthfeel. If those ingredients also have a long shelf life, so much the better.⁹⁴

Though they create drastically different products, the food industry and the tobacco industry go through the same steps to design competitive merchandise.

⁹³ Paul Johnson and Paul Kenny, "Dopamine D2 receptors in addiction-like reward dysfunction and compulsive eating in obese rats," *Nature Neuroscience* 13(2010): 635-641.

⁹⁴ Moss, 152-53.

These corporations know their customers, and customize goods to suit their needs. In particular, products target youth with sugary flavors and fun packaging. Children and teenagers are a key demographic for both, as they control the future fate of business. Product formulation has also proven to be an invaluable asset as the public becomes more aware of the negative consequences of their guilty pleasures. Supposedly healthier products enable companies to continue to stay in business and appear guiltless. However, their guilt is undeniable; the cheapest of ingredients make their products artificially inexpensive, while careful use of those ingredients keep their customers hooked.

Although the striking resemblances might seem a coincidence, they are not; Phillip Morris purchased General Foods in 1985, and then Kraft in 1988. It now controls giants like Kellogg, Jello-O, Birdseye, Kool-Aid, and Velveeta. Similarly, R.J. Reynolds Tobacco Company merged with Nabisco in 1985, creating RJR Nabisco, until 1999 when they split. Subsequently, Nabisco was purchased by none other than Phillip Morris.⁹⁵ Because there is so much overlap among the most prominent tobacco and food companies, it's clear that they share similar business goals. It is only fitting that the two industries would use corresponding techniques to achieve these goals.

Part Five: Cigarette Marketing

⁹⁵ Carrick Mollenkamp et al, "The People vs. Big Tobacco: How the States took on the Cigarette Giants," PBS Frontline.

Though tobacco industry spends millions of dollars to develop new products, they spend even more money to sell them. In 2011, more than \$8 billion went towards marketing in the United States, a remarkable number considering that advertising is now illegal in many forms of media.⁹⁶ Before these restrictions, however, the marketing of cigarettes occurred on every platform available. Television, radio, billboards, magazine, newspapers, movies - nothing was off limits. When these options proved to not be invasive enough, other, more creative ways were employed. While these were all over the board in message, the common objective among them was to sell more cigarettes.

As previously mentioned, teenagers are the most important demographic for tobacco companies to target, due to their increased risk of developing an addiction. Thus, specific marketing techniques were cultivated to infiltrate the young subconscious mind. One popular device was the use of kid-friendly icons. R. J. Reynolds did this brilliantly with Joe Camel, a "smooth character" first used in 1988.

⁹⁶ "Economic Facts about US Tobacco Production and Use," Centers for Disease Control and Prevention, February 6, 2014.



Joe Camel, circa 1996.⁹⁷

⁹⁷ "Joe Camel," Stanford Research into the Impact of Tobacco Advertising,
http://tobacco.stanford.edu/tobacco_main/subtheme.php?token=fm_mt015.php.

Often shown with beautiful women, fast cars, pool tables, and saxophones, Joe Camel was part three parts James Bond, two parts James Dean, and one part George Michael. These images unabashedly mimicked the "cool" aspirations of teenagers, searching for independence, glamour, and rebellion. Indeed, his phallic face was so ubiquitous that it was recognizable even by young children. In one 1991 study, 91.3% of six-year-olds recognized Joe Camel and correctly associated him with Camel cigarettes, about the same percentage that were able to identify Mickey Mouse as a Disney character.⁹⁸ Camel was the most recognizable of these characters but other brands created their own cartoons or used already existing ones; Kool had its cartoon penguin, and Fred Flinstone sang the praises of Winston cigarettes.⁹⁹

Cartoon characters may seem like an unethical method to draw in children, but the tobacco industry had other tools that made it look benign in comparison. As stated in a 1990 memo, tobacco companies very intentionally sell their goods in stores close to high schools and universities, targeting the most vulnerable customers.¹⁰⁰ Cigarette companies didn't settle for off-campus advertising. Chesterfield and Old Gold sponsored high school football programs and textbook covers, both emblazoned with brand logos.¹⁰¹ Phillip Morris followed suit. In the mid-sixties, the company paid college students known as "campus representatives" to hand out free cigarette samples, encouraging their peers to buy a pack.¹⁰²

⁹⁸ PM Fischer et al, "Brand logo recognition by ages 3 to 6 years," *Journal of the American Medical Association* 266(22): 3145.

⁹⁹ Debbie Elliott, "After Bans, Tobacco Tries Direct Marketing," NPR, November 18, 2008.

¹⁰⁰ RG Warlick, R. J. Reynolds Memo, April 15, 1990.

¹⁰¹ Hiltz, 66.

¹⁰² Ibid, 68.

Although children and teens are the most crucial demographic for cigarette companies, adults are still important to draw in. Women, predictably, are targeted with promises of weight loss and beauty. This has been done explicitly, with "diet" cigarettes. One brand called "Trim" even came with directions, suggesting a smoke instead of a meal or snack. Not all advertisements were so overt, however. Others simply depicted happy, thin women enjoying independence, beauty, and success. Though these ads did not come out and say that cigarettes caused weight loss, the message was implied in the image. Some were more oblique than others - Silvia



Thins boasted that "cigarettes are like women: the best ones are thin and rich."

These messages are undoubtedly persuasive; the top reason women cite for starting and continuing to smoke is a fear of weight gain.¹⁰³

*Trim Reducing Aid, 1958.*¹⁰⁴

¹⁰³ "Women and Tobacco Use," American Lung Association, <http://www.lung.org/stop-smoking/about-smoking/facts-figures/women-and-tobacco-use.html>

¹⁰⁴ "Cigarette Diet," Stanford Research into the Impact of Tobacco Advertising.

Men were not resistant to the tobacco industry's grasp. Rather than addressing physical appearance, advertisements took a more psychological approach. Masculinity and strength were the primary weapon to engage the Y-chromosome sector. Characters like the brooding and studly Marlboro Man signified that smoking was a manly pursuit, capable of winning wars and seducing women. And the accompanying slogans often verged on innuendo; a 1982 Camel ad read "Every Inch a Man's Smoke!" with a picture of a particularly macho military man.¹⁰⁵



A young Regan poses for Chesterfields, 1949.¹⁰⁶

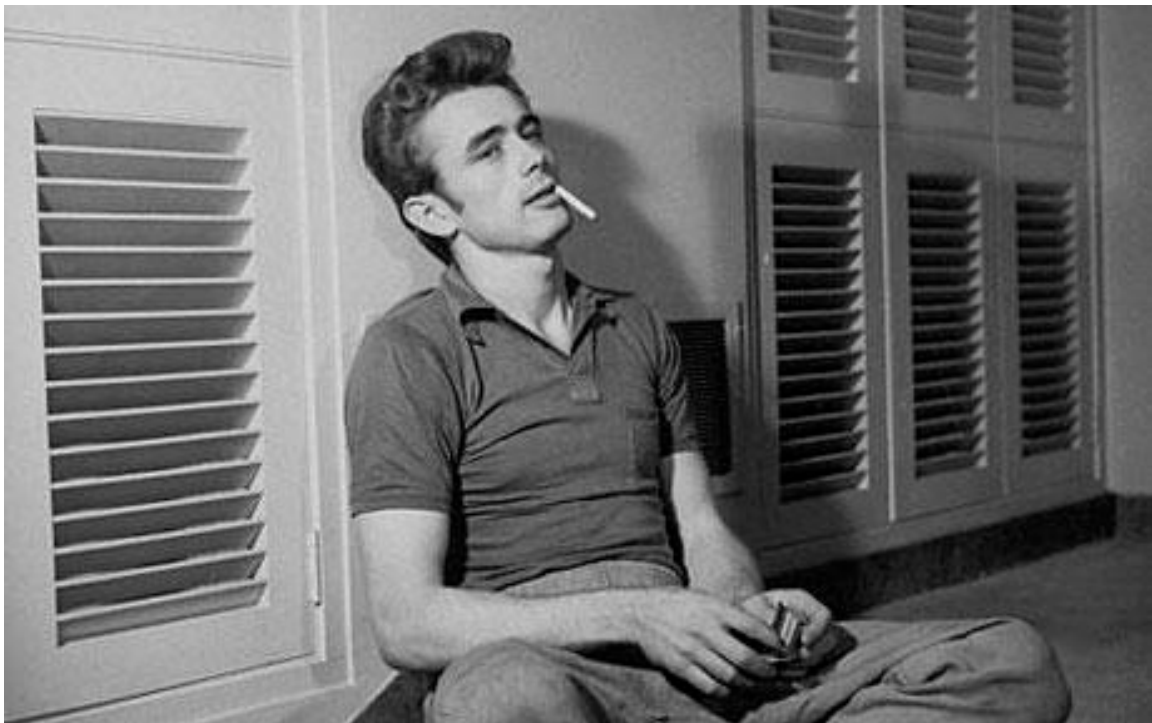
Another clever approach, inspired by James Buchanan Duke, appeals to all age groups and genders. Discounts, coupons, gifts and other incentives draw in

¹⁰⁵ "Macho Men," Stanford Research into the Impact of Tobacco Advertising.

¹⁰⁶ "Movie Stars - Men," Stanford Research into the Impact of Tobacco Advertising.

customers looking for a bargain. In 2006, almost 75% of advertising expenditures was devoted to price discounts.¹⁰⁷ Lower prices, coupled with the promise of a free t-shirt or lighter, is a tempting offer to those who are already addicted. If those aren't convincing enough, competitions and sweepstakes act as additional bait.

Few things rival America's love for free stuff, but fame might be one of them. There's a national fixation on celebrities, whom we admire, photograph, and emulate. Accordingly, they have been exploited by the tobacco industry to promote their products. Actors, musicians, athletes, and every other kind of star have appeared in cigarette advertisements throughout the decades. After all, if our greatest heroes smoke, could it possibly be that dangerous?



Film icon James Dean, more often seen with a cigarette than without.

¹⁰⁷ "Cigarette Report for 2006," Federal Trade Commission, 2009.

While actors and actresses weren't busy promoting cigarettes off-screen, they were likely smoking them on-screen. This started in the 1920's, when cigarette companies urged actors to smoke in movies. The actual brand names seldom appeared, but it was thought that greater public awareness of smoking and its association with Hollywood glamour would improve business.¹⁰⁸ The relationship between the cigarette industry and Hollywood continued throughout the 20th century, and both benefited handsomely. Tobacco provided filmmakers with much-needed funding and, in return, received insidious yet potent advertisements, underscoring the social acceptability and overall "coolness" of smoking. Individual actors were often personally rewarded for their support. Paul Newman was given a car worth more than \$42,000 for cigarette placement in *Harry and Son*. Additionally, in 1983, Brown and Williamson offered Sylvester Stallone \$250,000 for product placement in five films, including *Rocky IV* and *Rambo*.¹⁰⁹ It seems no celebrity was immune to the allure of tobacco; Betty Boop Steve Martin, John Travolta, Paul Newman, and James Bond have all co-starred with cigarettes.¹¹⁰

This kind of advertisement may be responsible for the pervasiveness of tobacco in every-day life. At one point, it was not uncommon for smokers to imbibe in restaurants, airplanes, hospitals, or libraries. It was considered a normal activity in all contexts, an attitude likely reinforced by films. Many scientific studies indicate

¹⁰⁸ Kerry Seagrave, *Product Placement in Hollywood Films: A History*, (North Carolina: McFarland, 2004), 17.

¹⁰⁹ James Ripslinger, "Agreements between Stallone and Associated Film Promotions," *Legacy Tobacco Documents Library*, June 14, 1983.

¹¹⁰ C Mekemson and S.A. Glantz, "How the tobacco industry built its relationship with Hollywood," *Tobacco Control* 11(2002): 81-91.

that cigarette cameos can improve perceptions of smoking. For instance, researches found that children who had viewed more films that featured smoking had more positive expectations about cigarettes.¹¹¹ In another study, after watching a video clip with a smoking character, adult non-smokers reported more approving views of the habit.¹¹² Clearly, the omnipresence of cigarettes has had a powerful affect on the public's opinions, making it a socially acceptable staple for most of the twentieth century.

Cigarettes companies have made their product essentially unavoidable. In addition to their prominence in movies and advertisements, they are physically accessible almost everywhere. As part of incentive programs, brands offer monetary rewards to stores that display their products in desirable shelf space and posting promotional material within the store. Although other industries offer similar incentives, cigarette companies are particularly culpable. More than 60% of these proposals are tobacco-related. As a comparison, the next-highest bidder, the soda industry, accounted for only 16% of incentives.¹¹³ Because of the generous spending, cigarettes receive special treatment; they're placed at eye-level and near the checkout counter, where they are more likely to be purchased.

In another endeavor to increase accessibility, tobacco companies expanded the kinds of stores where their products are sold. Cigarettes can be bought at gas

¹¹¹ JD Sargent et al, "Viewing tobacco use in movies: does it shape attitudes that mediate adolescent smoking?" *American Journal of Preventive Medicine* 22(3): 137-45.

¹¹² Bryan Gibson and John Maurer, "Cigarette Smoking in the Movies: The Influence of Product Placement on Attitudes Towards Smoking and Smokers," *Journal of Applied Social Psychology* 30(7): 1457-1473.

¹¹³ E. C. Feighery et al, "Retail trade incentives: how tobacco industry practices compare with those of other industries," *American Journal of Public Health* 89(10): 1564-1566.

stations, grocery stores, pharmacies and convenience stores, which pepper every street corner of every city in the country. For a time, cigarettes were sold in vending machines, but since it was so popular with under-age smokers, they have almost entirely disappeared.¹¹⁴ As accessible as cigarettes are now, they used to be even more so. Nearly every public place was within a stone's throw of tobacco. In the 30's and 40's, "cigarette girls" sold cigarettes and candy on trays, usually in movie theatres, airports, and casinos, just in case a smoker couldn't be bothered to walk to a store to buy a pack for himself.¹¹⁵

Tobacco marketing is essential to the success of the industry, especially in the face of greater legal restrictions and limitations. Keeping the public constantly aware of cigarettes, both explicitly through advertising, and implicitly through product placement, reinforces the habit in those who already smoke and encourages it in those who do not. Awareness of advertising is particularly high among young people, and exposure is strongly linked to more positive perceptions of smoking. Advertising also inhibits cessation; the constant barrage of tobacco images is a strong trigger for nicotine addicts, who often have an insatiable urge to smoke after seeing these images. Coupled with high accessibility and cultural pervasiveness, tobacco companies are able to attract new smokers and retain their loyal customers, ensuring the permanent profitability of the business.

Part Six: Processed Food Marketing

¹¹⁴ Michael Wilson, "A Fixture that Became a Rarity," *The New York Times*, July 11, 2010.

¹¹⁵ Bill Steig, "Cigarette girls bring back romantic flavors," *The Hour*, March 1988.

Although the tobacco industry devotes a great deal of resources to advertising, the processed food industry spends more than almost any other sector. Astonishing amounts of money are dedicated to marketing processed and prepared foods; McDonalds and Coca-Cola each spend \$2 billion on promotion annually, nearly exceeding the entire cigarette advertising budget.¹¹⁶ These expenditures span every media - television, Internet, mobile apps, social media, magazines, newspapers and billboards. Save for living under a rock, it is impossible to entirely avoid food advertisements.

Much of the vast sums of money are intended to sell food to children. Unlike tobacco companies, who are forced to carefully veil their advertising to minors due to legal restraints, food companies are able to directly target customers of all ages. Because children typically do not read magazine and newspapers, a majority of this occurs on television. More than half of the advertising time on children's television programming promotes food products, most of which are highly processed and nutritionally lacking. Indeed, fruits and vegetables account for a mere 1%, while dairy makes up an additional 4%. The other 95% of airtime is dominated by sugary cereal, candy, snack food, and fast food. Over time, this exposure accumulates; in a single year, a child between the ages of 8 and 12 views nearly 8,000 food advertisements on television.¹¹⁷

This number does not include other media through which children are addressed. Food companies have infiltrated every facet of public communication.

¹¹⁶ Keith O'Brien, "How McDonald's Came Back Bigger than Ever," *The New York Times*, May 4, 2012.

¹¹⁷ "The impact of food advertising on childhood obesity," *American Psychological Association*, <https://www.apa.org/topics/kids-media/food.aspx?item=1>.

Special websites intended specifically for preschool and elementary school students include "advergimes," a stealthy way for children to unknowingly interact with food products. It has become an increasingly popular way to target this demographic, due to its relatively low cost as well as its efficacy. A recent study identified 475 websites containing advergimes. Unfortunately, but unsurprisingly, the majority of food promoted this way does not meet USDA and FDA recommendations for saturated fat, added sugar, sodium and cholesterol.¹¹⁸ Along those same lines, advertisements disguised as phone apps are also extremely popular, featuring games, discounts, and coupons. Some of these applications actually reward players with free food, like a KFC's "Snack! in the Face" and Hungry Jack's "Shake and Win."¹¹⁹

Children are susceptible to other marketing ploys, like collectibles and cartoon characters. Many food brands have their own licensed characters - the Kool Aid Man, Tony the Tiger, Cap'n Crunch, and Mr. Peanut, among others. These familiar faces are especially important for building brand recognition in customers who may not read or remember names.¹²⁰ And if a brand doesn't have its own front man, it's likely to borrow a character from elsewhere. Spongebob Squarepants, Dora the Explorer, Shrek, and Spider Man have all recently adorned the boxes of processed snacks. Their presence is strongly persuasive; if a product has a cartoon

¹¹⁸ Lorraine Weatherspoon et al, "Consistency of Nutrition Recommendations for Foods Marketed to Children in the United States, 2009-2010," *Preventing Chronic Disease* 10(2013).

¹¹⁹ Emily Dunn, "Fast food apps target kids," *Medical Observer*, November 2013, <http://www.medicalobserver.com.au/news/fast-food-apps-target-kids>.

¹²⁰ SM Connor, "Food-related advertising on preschool television: building brand recognition in young viewers," *Pediatrics* 118(4): 1478-85.

character on the packaging, children will rate its taste higher than an identical product *sans* Scooby Doo's approval.¹²¹

These characters are particularly lethal in toy-form. Several fast food restaurants offer collectible items along with a children's meal, often associated with a recent movie or TV show. The intention is to encourage children to come back to the restaurant several times to collect all of the toys, eating several fast food meals in the process. In truth, children may actually prefer the toys to the food itself; fast food advertisements often neglect to mention the meal at all, instead focusing on the prize that comes with it. This tactic is not unique to restaurants; packaged goods like cereals and snacks often include small toys, stickers and other giveaways to tempt young customers.

¹²¹ Christina Roberto et al, "Influence of License Characters on Children's Taste and Snack Preferences," *Pediatrics* 126(2010), 88-93.



Honey Nut Cheerios with Kung Fu Panda prize.

Some of the ways companies appeal to kids are less blatant than outright advertising. Placement within a grocery store is as important as any other tactic to catch the eyes of children. Companies spend significant amounts of money to guarantee their products will be in prized shelf space that receives the highest traffic. Eye level placement and end-of-aisle displays cost a "slotting fee" that only the wealthiest brands can afford. Those who aren't willing to pony up are isolated on the top shelf, out of sight and reach.¹²² Though these rules apply to most shoppers over four feet, different considerations are made for shorter citizens. Sugary cereals, candy, chips, and other snacks usually sit on the lowest shelves,

¹²² Brandon Copple, "Shelf- Determination," *Forbes*, April 2002.

waiting to be grabbed by pint-sized hands. For food companies, this is a win-win; adults are unlikely to notice products at their feet, and repurposing the bottom shelf in this manner is a profitable alternative to letting the space go to waste.¹²³

Even more duplicitous is the processed food industry's involvement in schools. Though food companies are only seeking their own gain, they disguise their selfishness with an intention to "help" fund school programs. This occurs in a variety of ways - fast food is sold in the lunch room, popular soft drinks and snacks are available in vending machines, advertising appears on school buses and educational material, and food coupons and discounts are offered for academic achievements. Schools are powerless to escape this relationship, as they rely on these programs for crucial financial aid. The combination of school stores and vending machines can bring in tens of thousands of dollars annually, which in turns can support sports teams, arts programs, and other after-school activities. This leaves schools in a bind, forcing them to prioritize quality of education over nutrition.¹²⁴

Though children are valuable customers because of their impressionability, adults are equally important because they control the purse strings. Obviously, adults have different triggers - cartoon characters and collectibles do not generally appeal to those who are long past puberty. Food manufacturers have developed other strategies to pull in older consumers, with the help of expensive research and focus groups. As expected, women are targeted with promises of weight loss and

¹²³ "Pestering Parents: How Food Companies Market Obesity to Children," Center for Science in the Public Interest, http://www.cspinet.org/new/pdf/pestering_parents_final_part_1.pdf.

¹²⁴ Brownell, "Food Fight," 129-149.

beauty. For instance, Yoplait Yogurt recommends that its customers cut calories by switching out indulgent desserts for a yogurt analogue. However ridiculous this suggestion may be, it seems to be an effective marketing ploy; in 2013, Yoplait



reported net retail sales of \$1.3 billion in 2013.¹²⁵

Some brands have even developed products specifically for women. Clif Bar & Company started producing Luna Bars in 1999, "the whole nutrition bar for women." The bar supposedly fulfills the nutrition requirements of female consumers. On their website, they have

detailed information about their "core four" nutrients that women need to thrive - calcium, vitamin D, iron, and folic acid. These claims are supported with various articles and blog posts about women's health and nutrition.¹²⁶ Because women are more likely than men to consider nutrition when purchasing products, it is not uncommon to see similar women-specific health claims on processed food items.¹²⁷

While men are not as diet-centric as women, they are interested in bodybuilding and physical strength. Men are particularly focused on eating enough protein, with the expectation that it will assist with muscle growth.

¹²⁵ Yoplait Yogurt lifts General Mills' Q1 Sales," *Dairy Foods*, September 18, 2013, <http://www.dairyfoods.com/articles/89894-yoplait-yogurt-lifts-general-mills-q1-sales>.

¹²⁶ Luna Bar, <http://www.lunabar.com>. March 15, 2014.

¹²⁷ "Nutrition," *Food Marketing Institute*, <http://www.fmi.org/docs/facts-figures/nutrition.pdf?sfvrsn=2>.

Correspondingly, products are marketed to men with "masculine" colors and intimations of vitality and might. In contrast to the pastels Yoplait container, Powerful Yogurt, a high protein product for "active, health-conscious and time-strapped men," is packaged in a black and red cup with the silhouette of a bull. Their website includes pictures of male athletes accomplishing stereotypically masculine feats of strength - dunking a basketball, racecar driving, mountain biking, and weight lifting.¹²⁸ These images imply that Powerful Yogurt is responsible for these impressive displays of manliness, and that those who consume it will also be capable of such accomplishments.



For men who are less athletically inclined, food is marketed as a challenge or a dare. Eating is a competition in masculinity, and the man who eats the most wins. Lay's Potato Chips taunted with its slogan, "Bet You Can't Eat Just One," urging the consumer to overeat. Other advertisements exploit gender stereotypes more blatantly, like Hungry-Man frozen dinners. Even its name is laced with hetero-normative messages. The meals, that often clock in at over a thousand calories, are accompanied by the slogan "Eat like a man," intentionally excluding the entire female half of the population. A social media campaign promotes the product with

¹²⁸ Powerful Yogurt, <http://www.powerful.yt/index.php>.

equally misogynistic catch-phrases; a recent twitter update read, "Three words men hate to hear....Hold. My. Purse." Images of machismo and large appetites are also employed by Mars to market Snickers candy bars. "Get some nuts," "Hungerectomy," and "Pledge Sigma Nougat," often printed over the face of a hyper-masculine celebrity, specifically target the Y-chromosome set.

If masculinity isn't enough to reach male customers, sex is the next best thing. A common, if contradictory, image in fast food commercials is a beautiful, slender women indulging in a head-sized cheeseburger with all the fixings. Carl's Jr. is a notable example. Over the past decade, dozens of models and actresses have posed with their burgers, though these women likely seldom actually eat them. These advertisements, full of sexual innuendo and phallic imagery, are clearly not intended for female consumers. Indeed, many women were so offended that Change.Org published a petition to ask Carl's Jr. to stop objectifying women.¹²⁹ Gender equality aside, sex seems to sell; Carl's Jr. is one of the fastest growing fast food chains, with 3,300 locations in 29 countries.¹³⁰

¹²⁹ Bethany McGarry, "Carl's Jr: Clean up your advertising campaigns to stop objectifying women," change.org, <https://www.change.org/petitions/carl-s-jr-clean-up-your-advertising-campaigns-to-stop-objectifying-women>.

¹³⁰ Allysia Finley, "Andy Puzder: Of Burgers, Bikinis, and ObamaCare,," *The Wall Street Journal*, June 14, 2013.



Model Kate Upton for Carl's Jr.

Though men and women often have drastically different opinions and ideas, there are some marketing strategies that apply to both genders. Ordinary citizens idolize the rich and famous, and even trust them. If a favorite celebrity endorses a product, it reassures consumers that it is, in fact, a worthy purchase.

Furthermore, celebrities, unlike

models, have a connotation - perceived beliefs, attitudes and values. If a particular star appears with a food item, consumers are likely to ascribe the star's image to the food as well. Wheaties, for example, are often promoted by professional athletes. Michael Jordan, Muhammed Ali, and Bruce Jenner have all graced the front of the bright orange box, as have Olympic gymnasts, skaters, and swimmers. By associating these figures with Wheaties, Americans are prone to assume that the breakfast of champions is truly nutritious. In reality, however, Wheaties are a

processed food; after whole grain wheat, the next three ingredients are sugar, salt, and corn syrup.¹³¹

Other products have been marketed similarly; the California Milk Processor Board started the "Got Milk?" campaign in 1993, featuring celebrities sporting milk moustaches. Stars from all professions, races, ages, and genders participated, from Michael Jackson to Taylor Swift, Harrison Ford to Heidi Klum. This tactic is especially brilliant because it not only associates celebrity with the product, but it



appeals to every possible demographic. With over three hundred different faces representing milk, there was bound to be at least one that spoke to a consumer.

Heidi Klum with the infamous milk moustache.

¹³¹ Wheaties.com Nutrition, accessed March 15, 2014. <http://www.wheaties.com/recipe/you-better-eat-your-wheaties-2/>.

Media can be used in other, more subtle ways to sell food products.

Television, movies and video games rely heavily on product placements to support production costs. Although automobiles are the most commonly promoted product, food and drink are a close second. These product placements, or "embedded marketing," are pervasive and unavoidable; food, beverage, and restaurant brands appeared more than 35,000 times during prime-time television in 2008, according to Nielson Data.¹³² In another study, almost 70% of movies contained at least one food-related product placement, most of which were for high-calorie, fat-laden products.¹³³ Both the entertainment and fast food industries profit from this

relationship; the advertisements provide necessary funding for the media, while food products become well recognized by viewers. The recent Superman movie, *Man of Steel*, included \$160 million worth of product placements, including



Walmart, Twizzlers, Kelloggs, Hardee's, and Carl's Jr. In addition to being featured in the movie itself, many of these companies also featured the film with giveaways and games, a clever way to promote both the film and the product simultaneously.¹³⁴

¹³² Sarah E. Speers et al, "Child and Adolescent Exposure to Food and Beverage Brand Appearances During Prime-Time Television Programming," *American Journal of Preventive Medicine* 2011, 41(3): 291-296.

¹³³ Lisa A. Sutherland et al, "Prevalence of Food and Beverage Brands in Movies: 1996-2005," *Pediatrics* 135(3): 468-474.

¹³⁴ Maureen Morrison, "Superman Reboot 'Man of Steel' Snags \$160M in Promotions," *Advertising Age*, June 3, 2013, <http://adage.com/article/news/superman-reboot-man-steel-snags-160m-promotions/241822>.

This kind of insidious advertising has a notable effect on consumption; children who had viewed Pepsi product placements were more likely to later choose Pepsi over Coca-Cola, even though they often didn't remember seeing the Pepsi advertisement at all.¹³⁵

Subway in the TV Show "Chuck."

In addition to ubiquitous marketing, food companies have made their goods available at every venue at every time of the day. Even when Americans aren't hungry, they're reminded of food. There are more than seven million vending machines in schools, hospitals, office buildings, bus stations, malls, and other public locations, bringing in more than \$22 billion in coins and bills annually.¹³⁶ Fast food restaurants, cafes, convenience stores, grocery stores and other food businesses are on practically every corner of every street. Even stores that do not specialize in food - clothing stores, bookstores, toy stores, furniture stores, etc. - often sell food.¹³⁷ Everywhere else an American could possibly go, food is sold. Museums, sporting events, concerts, plays, zoos, airports - where there are people, there is food. By making their product effectively inescapable, the processed food industry has created a no-fail business model.

If the constant presence of food and food advertising is not enough to compel Americans to eat processed foods, coupons, freebies and discounts further encourage the habit. These tactics are so successful that companies actually spend more for them than they do for advertising. In 2012, food manufacturers distributed

¹³⁵ C Lewis and S Auty, "Exploring children's choice: the reminder effect of product placement," *Psychological Marketing* 21(9): 697-713.

¹³⁶ Olga Kharif, "Vending Machines Get Smart to Accommodate the Cashless," *Bloomberg Businessweek*, August 29, 2013.

¹³⁷ Farley et al, "The Ubiquity of Energy Dense Snack Foods: A National Multicity Study," *American Journal of Public Health* 100(2): 306-11.

116 billion coupons to consumers, via magazine, newspaper, Internet and in-store displays. Though coupons and discounts require a significant amount of money to produce, they ultimately benefit the food companies more than the consumer; almost half of all coupons require consumers to purchase two or more items to receive the discount, causing many to purchase more goods than initially intended.¹³⁸ Additionally, because coupons offer a perceived bargain, they often convince consumers to purchase a product they have never tried before. Not only that, but coupons induce repurchase; in one study that examined cereal coupons, consumers were more likely to purchase a product again if they had used a coupon previously.¹³⁹

By infiltrating every facet of daily life with advertisements, promotions, discounts, product placements, and more, both tobacco and processed foods have become inextricable components of American culture. We are constantly reminded that these products exist and are given reasons why we should buy them. At one point, cigarettes were essentially inescapable - everywhere you went, cigarettes were advertised, sold, purchased, and consumed. It was once acceptable to smoke in restaurants, airplanes, stores, and on the street. Though the acceptable domain has since significantly decreased, we can see similar trends with eating. People eat everywhere, at all times of the day, and in all situations. The mere sight of food has

¹³⁸ "NCH Annual Topline U.S. CPG Coupon Facts Report for Year-End 2012," *NCH Marketing Services Inc.*, 2013.

¹³⁹ Aviv Nevo and Catherine Wolfram, "Why do manufacturers issue coupons? An empirical analysis of breakfast cereals," *The RAND Journal of Economics* 33(2): 319-339.

the power to cause hunger, and as Americans are barraged with images of food all the time, it is only sensible that they feel a perpetual urge to eat.¹⁴⁰

What is more, tobacco and processed food have made themselves necessary for other industries to function. Schools, the media, and entertainment companies all cannot afford to function without advertising revenue and contract royalties. As such, reigning in these industries has proven exceedingly difficult. Legislators have faced backlash not only from the corporations themselves, but also from the groups who benefit from their vast sums of money. Because these industries have managed to wedge their way into culture, education and business, cigarettes and processed foods have not only been lucrative business ventures, but they have also been legally infallible. In the case of cigarettes, this is only partially true - gradually, the federal government and the Food and Drug Administration have restricted the sales, formulation and promotion of tobacco. However, the food industry is still largely unmonitored, free to sell and advertise their products in any and all ways, which has surely been no boon to the weight of the nation.

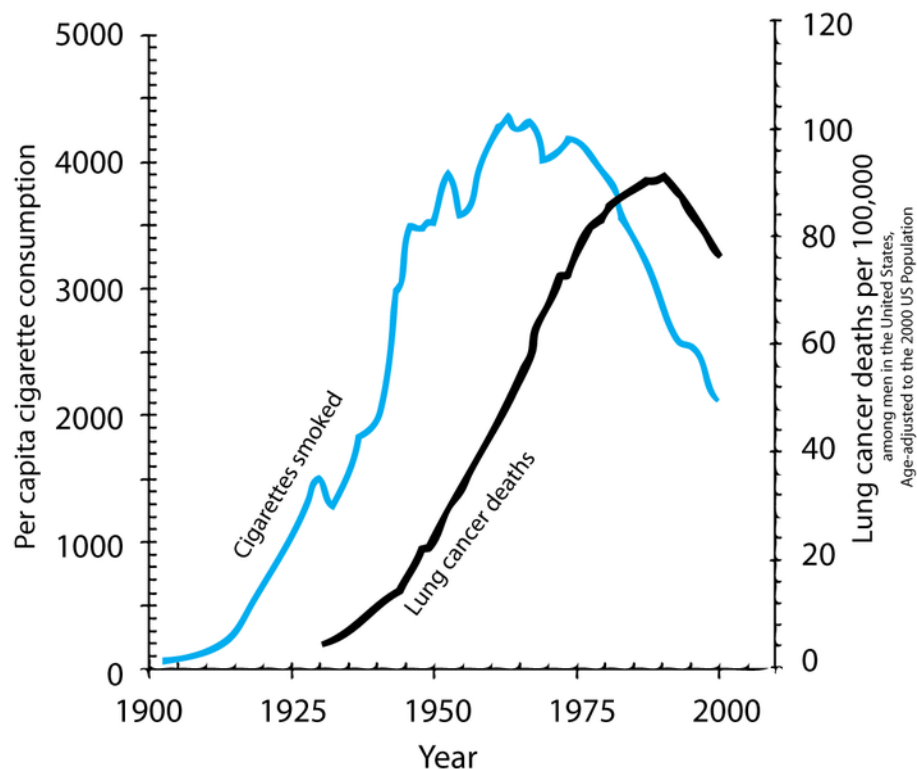
Part Seven: Federal Regulation

Throughout the 20th century, studies were released citing the ill effects of tobacco on lung health. This research was all but conclusive; in light of the evidence, in 1944 the American Cancer Society warned the dangers of smoking.¹⁴¹ However, the government and the general public were impervious to this information.

¹⁴⁰ LN vander Laan et al, "The first taste is always with the eyes: A meta-analysis on the neural correlates of processing visual food cues," *NeuroImage* 55(1):296-303.

¹⁴¹ "A Brief History."

Americans continued to smoke at increasing rates, and the government neglected to regulate the industry in any relevant capacity. In 1963, cigarettes smoked per-capita peaked at about 4,500 annually. Lung cancer increased at a corresponding rate, delayed by about twenty years, with approximately 4,000 deaths per 100,000 in 1985.¹⁴²



*Cigarette smoking and lung cancer deaths, 1900 to 2000.*¹⁴³

Cigarette smoking may well have continued on this upward trend if it weren't for a significant shift in political ideology. In 1964, in the Surgeon General's

¹⁴² Burns et al, "Cigarette Smoking Behavior."

¹⁴³ Matthew Herper, "Gene Test for Pfizer Cancer Drug to cost \$1,500 Per Patient," *Forbes*, August 29, 2011, <http://www.forbes.com/sites/matthewherper/2011/08/29/gene-test-for-pfizer-cancer-drug-to-cost-1500-per-patient/>

Report, the federal government explicitly criticized tobacco for the first time. With the support of more than 7,000 studies and research articles, the report specifically indicated that smoking caused lung cancer, laryngeal cancer, and chronic bronchitis.¹⁴⁴ This was by no means new or radical information, but the government wields a certain amount authority and reliability that individual scientific studies do not. This was a turning point in Americans attitudes towards smoking, from one of indifference to one of concern.

In the following years, the federal government enacted various laws and regulations intended to both restrict the tobacco industry as well as deter Americans from smoking. These include the Federal Cigarette Labeling and Advertising Act, the Public Health Cigarette Smoking Act, the Comprehensive Smoking Education Act, and most recently the Family Smoking Prevention and Tobacco Control Act in 2009, in addition to dozens of local and state laws. Though these laws vary in content and degree, they can be separated into three broad categories: advertising, sales and distribution, and consumer restriction.

Advertising, Promotion, and Labeling

- No television or radio advertisements
- No billboards or other outdoor marketing
- Free samples are prohibited
- Other products cannot be branded with cigarette logos or brand names

¹⁴⁴ "Smoking and Health: report of the Advisory Committee to the Surgeon General of the Public Health Service," United States Department of Health, Education and Welfare, January 11, 1964.

- The words "light," "mild" and "low-tar" cannot be used
- Cartoon characters and other kid-friendly advertising techniques are banned
- No corporate sponsorship of social, cultural athletic, or musical events
- Cigarette boxes must include a warning label
- Distribution of gifts in return for purchase of tobacco products is prohibited

Sales, Distribution, and Formulation

- Cigarettes and chewing tobacco cannot be flavored
- Ingredients and additives must be labeled
- All cigarette packages must contain at least 20 units
- Tobacco companies must publish research about the dangers of smoking
- Cigarettes cannot be sold in vending machines or self-service displays unless in an adult-only venue - i.e. a bar or club
- Levels of nicotine must be published

Consumer Restrictions

- People under 18 cannot purchase tobacco products
- Federal cigarette tax
- Restrictions on where cigarettes can be consumed - hospitals, airplanes, restaurants and other public places are legally smoke-free

Furthermore, with the passage of Family Smoking Prevention and Tobacco Control Act, the United States Food and Drug Administration was given control to regulate tobacco products. Previously, tobacco had eluded the grasp of the FDA, unlike every

other food, beverage, or legal drug sold in the United States, all of which have been strictly monitored for safety and ethical business practices for decades.¹⁴⁵

These regulations have been remarkably effective at altering public perception of smoking, decreasing per-capita consumption, and decreasing rates of lung cancer. In 1965, more than 40% of adults smoked cigarettes; today, that number is down to 19%.¹⁴⁶ Such fast and drastic results are relatively rare in the field of health policy; changes this significant often take much more time. However, because the government was so comprehensive in regulation, attacking the industry at all levels, the atmosphere changed almost instantly. Tobacco became less present,

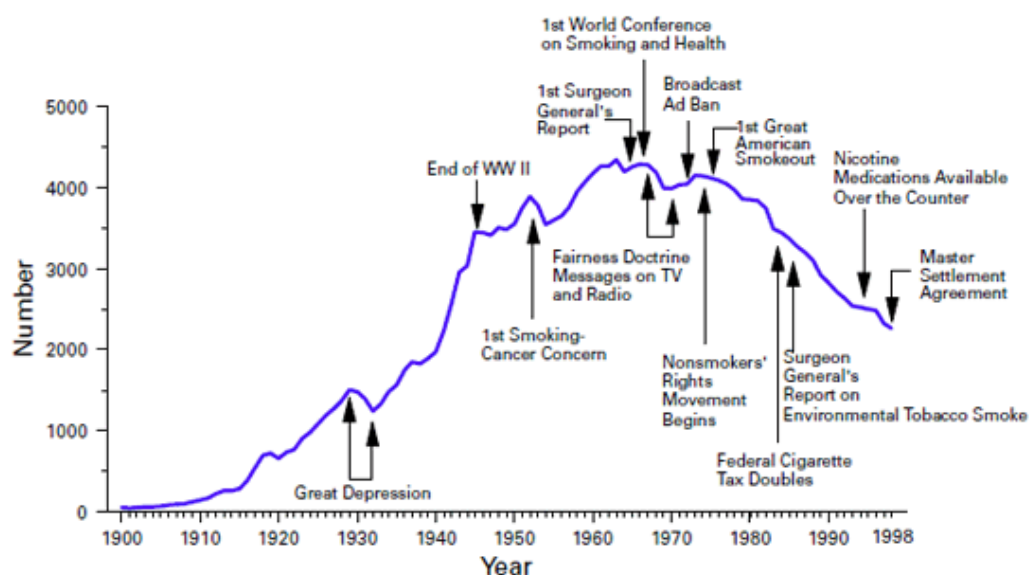
¹⁴⁵ "Tobacco Products," U.S. Food and Drug Administration,
<http://www.fda.gov/TobaccoProducts/default.htm>

¹⁴⁶ "Trends in current cigarettes Smoking Among High School Students and adults, United States, 1965-2011," Centers for Disease Control and Prevention,
http://www.cdc.gov/tobacco/data_statistics/tables/trends/cig_smoking/index.htm

less accessible, more expensive, and, as a result, a less desirable purchase.

Additionally, smoking has been stigmatized as a "dirty" habit, and is often associated with poor character and low socio-economic status.¹⁴⁷ Cigarettes, now both a known cause of cancer as well as a symbol of poverty and lack of discipline, have lost their allure. Consequently, fewer teenagers and young adults are drawn to try

FIGURE 1. Annual adult per capita cigarette consumption and major smoking and health events — United States, 1900–1998



Sources: United States Department of Agriculture; 1986 Surgeon General's Report.

smoking. In 2007, only 20% of high school students had admitted to smoking within the past month, compared to 36.4% a decade earlier.¹⁴⁸

The success story it is, it should come as no surprise that tobacco regulation is often used as model for other public health issues. Although food is a very different product than tobacco, similar policies could cede similar outcomes. As was

¹⁴⁷ Sei-hill Kim and James Shanahan, "Stigmatizing Smokers: Public Sentiment Toward Cigarette Smoking and its Relationship to Smoking Behaviors," *Journal of Health Communication: international Perspectives* 8(2010).

¹⁴⁸ "Children and Teens," American Lung Association, February 2010, <http://www.lung.org/stop-smoking/about-smoking/facts-figures/children-teens-and-tobacco.html>

explored in previous sections, the tobacco and processed food industries employ comparable methods to create, promote, and sell their goods. Because tobacco regulation has focused primarily on these three elements, with moderate alteration, similar laws could be used to reign in the food industry and potentially curb the national obesity epidemic.

It is important to recognize that the food industry cannot ever be as regulated as strictly or extensively as the tobacco industry. Because food is a necessary form of sustenance, it must be at least somewhat available, accessible, and affordable. However, it is undeniable that some foods are better than others. The key in regulating food is to not restrict the sales and advertisements of all foods, but of those deemed less nutritionally beneficial. Determining what is "good" food and what is "bad" can be a tricky and somewhat subjective task, and must be executed carefully. Furthermore, there is no analog to second-hand smoke; eating affects on an individual basis, with no external consequences on nearby persons. As such, any restrictions on food purchase or consumption can be seen as a violation of personal freedoms.

Considering this, it is wise to primarily regulate the industry, rather than the consumer. Some modest federal legislation has already attempted to do this. Starting in 1906 with the Pure Food and Drug Act, the government monitored food safety and purity. Though the act also required labeling of active ingredients in drugs and medications, it did not require the same of food products.¹⁴⁹ In 1913, the Gould Amendment ordered that the "weight, measure, or numerical count" of food

¹⁴⁹ Pure Food and Drug Act, *United States Statutes at Large*, 59th Congress, Session I, 1906.

be listed on the outside of food packaging. It wasn't until 1992, after the passage of the Nutrition Labeling and Education Act, that nutrition facts were required and standardized on all packaged food products.

During the eighty-year interim, food policy has centered mostly on safety rather than nutrition, by eliminating contaminants or dangerous ingredients, enforcing recalls of toxic or contaminated foods, and rating the quality of certain items like eggs and maple syrup. Nutrition was addressed externally, in the way of recommended daily intakes for macro and micronutrients. This information, though valuable, is only useful to health-conscious consumers. Those who do not actively follow guidelines are relatively unaffected by such measures.¹⁵⁰ Indeed, most foods that are accessible, affordable, and widely advertised do not fulfill nutritional requirements.

Because federal involvement has been minimal, it is unsurprising that it has had little effect on our nation's health. If current trends continue, obesity rates could exceed 60% in some states.¹⁵¹ Given the substantial physical and economic toll of overweight and obesity, this could have severe consequences for our country. It is clear that more invasive measures are necessary if we intend to continue to be a financially stable nation with healthy citizens. Using cigarette legislature as a template, I suggest the following actions to regulate the food industry and, correspondingly, slow the nation's weight gain.

¹⁵⁰ "Significant Dates in U.S. Food and Drug Law History," US Food and Drug Administration, 2014, <http://www.fda.gov/aboutfda/whatwedo/history/milestones/ucm128305.htm>

¹⁵¹ "F as in Fat: How Obesity Threatens America's Future 2012," *Trust for America's Health*, 2012, <http://healthyamericans.org/report/100/>

- **Limit advertising and marketing to children**

Children, without the discerning and jaded eyes of adults, are far more vulnerable to the manipulative marketing tactics employed by the food industry. As such, advertising to children should be strictly monitored. Foods advertised directly to children should meet specific nutritional guidelines and should not exceed certain levels of sugar, salt, fat, and other additives. Foods that do not fulfill these requirements should not be advertised using cartoon characters, child-friendly celebrities, games, or toy giveaways, nor should their advertisements appear on children's TV shows, websites, or magazines. These rules should also be applied to foods that are novel shapes and colors, a formulation technique specifically used to target a younger audience. Furthermore, only nutritionally adequate foods should be placed on shelves at children's eye-level.

- **Restrict the sales and advertisement of junk food in schools**

Soda, candy, and high-fat, high-salt foods should not be sold at schools, either in vending machines or in the lunch room. These rules should be especially rigorous in elementary schools, where children are not cognitively capable of making wise dietary decisions. Food advertising should not appear in the classroom, on school buses, in textbooks, or in other scholastic venues.

- **Regulate the location of convenience stores and fast food restaurants**

Processed food is readily available to children and adolescents outside of the home and school at restaurants, food trucks, and convenience stores. Vendors that stock primarily unhealthy items should be banned from within a certain distance of school

zones. Alternatively, these vendors could be incentivized to sell healthier products if located within these zones.

- **Enforce accurate and truthful food labeling**

Currently, vague terms like "all natural," "made with real fruit," and "multigrain" are not strictly defined, and are often used to mislead consumers into believing products are healthier than they actually are. Ill-defined and deceitful messages such as these should be prohibited in advertising and on food labels. All health claims, such as "organic," and "GMO free," should be clearly defined and rigorously enforced.

- **Apply taxes to sugar-sweetened beverages**

Taxing food is always a precarious undertaking. How does one determine what should or should not be taxed? How can "fast food" or "candy" be clearly defined? Many foods, regardless of salt or sugar content, offer at least some nutritional content, and arguably should not be taxed. There is one exception, however - sugar sweetened beverages. These foods are easily categorized as all beverages that contains added sugar or other sweeteners. Additionally, these beverages offer little nutritional value, besides calories. This makes soda, sports drinks, and energy drinks an easy target for taxation. The Rudd Center for Food Policy and Obesity recommends that a cent per-ounce tax on sugar-sweetened beverages could reduce consumption by 8%. Though this amount may seem insignificant, it is enough to promote moderate weight loss over time.¹⁵²

¹⁵² Kelly D. Brownell et al, "The Public Health and Economic Benefits of Taxing sugar-Sweetened Beverages," *The New England Journal of Medicine*, October 15, 2009.

- **Regulate the size of packaged and processed foods**

Just as cigarettes cartons have a regulated size, there might be some benefit to limiting the size of certain food products. Food companies often entice consumers with "super-sizing," offering quite a lot more food for only a small price increase. A typical serving size today is significantly larger than it was just twenty years ago.¹⁵³ Recently, Mayor Bloomberg of New York unsuccessfully attempted to limit the size of soda fountain beverages to 16 ounces. Though ultimately deemed unconstitutional, this kind of law has potential to decrease calorie intake. Although consumers would be allowed to purchase as many sodas as desired, the limited size adds an extra barrier. Many people wouldn't hesitate to buy a 32-ounce soda, but buying two separate sodas may not be quite as easy, since it appears greedy or excessive. Similar size limitations may be considered for candy, chips, and other nutrient-poor products.

- **Require the food industry to publish studies regarding the dangers of consuming excessive amount of processed food**

The food industry already dedicates a significant amount of money to scientific research. However, this research is not beneficial to the health of Americans; instead, it is either intended to formulate successful products, or to evade responsibility for dangerous and unhealthy products. This money could instead be used to fund nutritional studies focused on the negative effect of a highly processed diet.

¹⁵³ "Portion Distortion," National Heart, Lung and Blood Institute, 2013, <http://www.nhlbi.nih.gov/health/public/heart/obesity/wecan/portion/index.htm>

It is likely, of course, that many of these laws would be met with resistance from legislators and from ordinary citizens. Many still attribute obesity entirely to personal responsibility, and see these laws as oppressive and unnecessary. This belief will not change until the federal government both formally acknowledges the role of the food industry as well as makes a conscious effort to supervise and limit its actions. A comprehensive and aggressive attack on the availability, affordability, and ubiquity of processed foods could very quickly reverse attitudes and positively affect dietary behaviors.

It's undeniable that processed foods are not the only contributing factor to our current disposition. Long commutes, busy schedules, sedentary occupations, increased use of technology and media, and limited access to recreational activities have led to a decline in physical activity. However, this is not sufficient to entirely account for the rampant weight gain seen over the past several decades. Another cause of obesity is low access to healthier options. This can be caused by physical, (distance from grocery stores or lack of transportation), economic (the prohibitive cost of healthier foods), or educational factors (low health literacy or inability to cook). If healthy food is inaccessible or inconvenient, people often turn to easier options - processed, packaged foods that require little or no preparation and are inexpensive. These determinants should surely not be ignored; greater efforts to provide fruits and vegetables in low-access areas, increasing physical activity opportunities, and improving nutritional knowledge have the capacity to promote positive health outcomes. Nonetheless, these efforts will be a mere drop in the

bucket unless the entire food environment in this country is wholly reformed. This issue is so monumental and far-reaching that grass-roots efforts and personal responsibility are no longer enough to combat the negative consequences of processed foods. The federal government, with its substantial influence and control, is in a unique position to effect change. With so much at stake, it would be unconscionable for legislators and officials to stand idly by as Americans eat their way into the grave.

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