CONSUMING NATURE: FRESH FRUIT, PROCESSED JUICE, AND THE REMAKING OF THE FLORIDA ORANGE, 1877-2014

By

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DISSERTATION

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I am writing these words while sitting in my cube in Baker Hall, in room 360, the windowless area where the lights are orange and the dust continually drifts down from the ceiling. For the past six years, it has been a kind of second home, a place to work, a place to laugh, a place to hang out. Photographs of my children adorn the walls, showing the passage of time. In some, there is just Lauren, then some have Lauren and Max, and then finally some have Lauren, Max and Helen. Across the micro-hallway from my cube I see Maroon’s cube, with his Steelers and Pens pictures; Kaaz’s cube, with his Chicago Bulls basketball hoop; Flip’s cube, down the way with his Soviet-era propaganda. I think of the conversations we had about Marx, about DQEs, about conferences, about life. I can smell the copier—I could always smell the copier—and I think of all the photocopies we made as we exchanged books, articles, and ideas. I spent six years of my life here, in graduate school. I came in planning to get a PhD and write a dissertation, both of which I’ve done, but in the process I’ve also met fascinating people, made wonderful friends, and had some truly extraordinary experiences with them.

I owe much of that to my adviser, John Soluri. John is a remarkable person. Never hesitant to call a spade a spade and nail somebody if they call it a heart, he was nevertheless an ideal adviser. He read draft after draft after draft of my dissertation, he met with me whenever I felt it was necessary, and, to top it all, he was an eager if somewhat oft-injured power forward on the basketball teams I put together. Rare is
the adviser who is a great mentor; John was that and a great friend besides. Working with him has been one of the greatest joys of graduate school.

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From Carnegie Mellon, I received Graduate Small project Help (GuSH) Research Funding and assistance from the Graduate Student Association that enabled me to do research and attend conferences. A department fellowship cleared time for me to research and write, and several small grants supported my research and conference participation. John Soluri, true to form, assisted me in this regard as well.

A project like this also depends on inspiration from a variety of people outside of the academy. Jeff Bergeson, Aaron Gordon, Simeon Harrar, Leif Meyer, and Aaron Roberts, in very different ways, helped fuel the fire when it needed fuel and helped reignite it when it needed reigniting. Like any true academic, I also received inspiration from authors and books. Carl Barks, the author of so many extraordinary Donald Duck comic book adventures, was the guidance counselor of my youth. A direct line can be traced between his comics and my academic interests today. Also notable among others, Charles Dickens and Arthur Conan Doyle introduced me to worlds very different from my own, and Alexandre Dumas opened my eyes to the glories as well as the problems of life in the past. I’ve turned to these personal and literary friends often over the course of this journey.

Finally, there is my family. My mother and father developed in me the sense that life’s an adventure for the curious. They encouraged me to read, to travel, to seek answers even when I’m not sure of the questions. My brothers similarly helped me push myself in unexpected ways. My many aunts, uncles, cousins, and grandparents, in the Northeast, the Northwest, and the Midwest, at Thanksgiving, Easter, and over the summer, were there with words of encouragement when I needed them and
probing questions when I could handle them. As for the people I live with, well, I probably could have done this without them, but I doubt I actually would have. After a bad day at the office, there's nothing better than coming home, opening the front door, and hearing your kids yell “DADDY!” as they run to the door. When I first started at CMU, Lauren was eight months old. Now she’s nearly seven, whip smart and wonderful. Max is the most amazing and endearing four year old boy I’ve ever seen. Helen is a spunky delight whose smile makes my day. She’s two and a half and bringing up the rear—until her sister is born in a few months. And then there’s my wife, Shana. She’s been with me during the high times and the low times, on the high roads and the low roads, when it’s been peaches and when it’s been pits. She’s brilliant, beautiful, and wonderful, my “top orange,” and I could not have done this without her. It is to her that I dedicate this dissertation.
ABSTRACT

Consuming Nature: Fresh Fruit, Processed Juice, and the Re-Making of the Florida Orange, 1877-2014

This dissertation complicates popular and academic perceptions of agribusiness as a hegemonic and environmentally destructive force. Using Florida’s orange industry as an example, I focus on the life cycle of oranges—their production, distribution, and consumption—and the interrelated activities of the people involved in each stage. I argue that agribusiness is heavily dependent upon and constrained by the attitudes and behaviors of different groups of people within and outside the industry, and, because all of these interactions revolve around a commodity subject to the whims of nature, that nature ultimately sets the parameters of the agricultural enterprise.

During the first half of the twentieth century, distributors of Florida oranges exercised their influence over the people in the production stage by transporting and storing fruit according to their own cost-benefit analyses. In the process, they often let fruit spoil at producers’ expense. Consumers exercised influence through their buying power. Their decision to buy or not buy was rooted in assumptions about quality, novelty, and exoticism, and these assumptions often more closely matched Californian growers’ environmental realities than Florida growers’.

As a consequence of these two forces, Florida growers viewed the 1945 development of frozen concentrated orange juice as a technological fix to joint
environmental and market dilemmas. The juice was an enormous success with consumers, and growers responded by exponentially expanding acreage. Yet, the fix was ultimately a mixed blessing for growers. Juice processing companies, most of which were owned by large national food corporations, took over the orange industry and transformed growers into de facto employees. Equally significant for both processors and growers was the fact that frozen juice necessitated constant refrigeration to prevent spoilage, leaving them more reliant upon distributors than ever before. It was also very capital intensive and thus they were more reliant upon consumers than ever before as well. As a result, although Florida’s orange industry became a multi-billion-dollar entity, the shift to frozen orange juice paradoxically amplified rather than mitigated growers’ and processors’ struggle to make nature profitable.
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INTRODUCTION

Women, for the most part, believe frozen orange juice to be somewhat inferior in taste, in vitamin content, in consistency and in color to fresh orange juice. Yet the convenience in using and storing frozen orange juice is more compelling than its shortcomings.—Institute for Motivational Research, 1961

One day in 1961, two “Martian” housewives entered a non-descript room at the headquarters of the Institute for Motivational Research in upstate New York with pressing queries for the fifteen women there assembled: what type of frozen concentrated orange juice should they serve their husbands awaiting their return? Which has the best flavor? The right consistency? The most vitamins? Which is most like fresh-squeezed juice? Eager to help their unearthly counterparts, the ladies replied that “most frozen concentrated orange juices are pretty much alike,” and moreover that Minute Maid juice and the cheaper store-branded juices were one and the same. As for flavor, consistency, and vitamins, the frozen stuff paled in comparison to fresh juice. Its only advantages were that it was significantly more convenient to use and to store; for everything else, the Martian women would be best advised to take home a suitcase full of Florida oranges and a juicer and forget about concentrate.1

The study’s existence was a recognition of the utmost significance of consumers in the sale of commodities like oranges and orange juice, implicitly

acknowledging that at the root of both the orange industry’s successes and failures, behind every orange grown, behind every can of juice produced, every dollar made, and every industry problem resolved, were consumers. Their dollar, spent or not spent, determined where companies jumped and when. In other words, one of my central arguments is that consumers, merely through their buying power, played a key role in transforming orange production in Florida from a local cottage industry in the early 1870s to a multi-billion dollar juggernaut by the 1970s.

This is not to say, however, that growers and juice processors merely did consumers’ bidding. They most certainly did not, often to consumers’ frustration and equally often to their own. They did not because, as the study above suggests, the lines of communication between consumers and producers were not at all well established. For most of the hundred year period examined in this dissertation, consumers’ primary method of communication was through their purchasing habits. This, at best, was an indirect way for consumers to tell producers what they wanted. For producers, understanding the garbled message that came back amounted to little more than a guessing game. They could see what sold and what did not, but not why. The purpose of such studies as the one above was to take some of the guesswork out of interpreting the message, but even so, a lot was lost in the deciphering. Additionally, marketing research did not fully develop until after World War Two. But understanding consumers was important for producers because they operated in a competitive marketplace. Florida oranges competed directly with California oranges. Various brands of frozen concentrated orange juice competed against one another,
and all of them competed against other forms of orange juice, oranges, and other juices. Staying in business, let alone advancing one’s business, required as deep a knowledge of consumer habits as one could possibly attain, in spite of poor lines of communication. All of this was complicated further because neither consumers nor producers were monolithic entities. Consumers, at a minimum, varied according to class and geographic location. And producers were nearly as diffuse, each operating independently with, for the most part, little sense of common objectives. Thus, the relationship between the two broad parties was both dialectical and extremely complex.

But important as they were, consumers were not the only force acting upon growers. Growers did not sell directly to consumers, and consumers did not buy directly from growers. What consumers bought, therefore, was determined by what was available in the marketplace, and that was determined by a variety of different groups of middlemen at different times. Before the mid-twentieth-century supermarket revolution, a grower typically contracted with a shipping agency to bring his or her oranges to market, the shipper contracted with an auction house, the auction house sold the oranges to wholesalers or jobbers, wholesalers and jobbers then resold them to retailers of various sizes, and retailers resold them to consumers. All of these middlemen had influence over the supply of oranges in a given place at a given time. They also had a fair degree of influence over the quality. According to their cost-benefit analyses, for instance, a shipper might take pains to see that the fruit is carefully packaged and handled en route to the auction. Or, they might not. Similarly,
the auction house might put fruit up for sale immediately, or wait several days in hopes of a better price. As supermarkets took over the retail sector in the middle third of the century, they consolidated or eliminated these middlemen but lost none of middlemen’s influence. With far greater purchasing power than any single entity in the orange chain had previously had, they became *the* fresh orange middlemen between growers and consumers. In short, because most consumers never saw oranges on the tree and most growers never saw oranges at the market, these middlemen had significant influence over consumers’ perception of Florida oranges and growers’ ability to grow them profitably.

The same was largely true for frozen concentrated orange juice. Juice processors like Minute Maid, Birds Eye, and Snow Crop were the main middleman between growers and consumers of this processed food. Like supermarkets, processors exercised a great degree of influence over consumers’ perception of Florida oranges, albeit in the processed format, and because of the unique characteristics of mass-produced juice, over growers’ ability to grow oranges profitably. Unlike supermarkets, though, processors were not quite so hegemonic within the industry. They relied fully upon Florida growers, for oranges, upon refrigerated rail cars and trucks to get concentrate to market, and upon grocery stores to have adequate freezer space to retail it. Ironically, as they became the dominant force within the orange industry, they became increasingly subject to forces further along the commodity chain and outside the industry.
All of these interactions between and among consumers, growers, juice processors, and other middlemen were further complicated by their implicit connections to the natural world. Environments, both real and imagined, had a tremendous affect on what growers could grow, how it would get to market, in what form, and what consumers would buy. Different growing environments yielded vastly different oranges. But what consumers thought of those places was just as important. The words “California,” “Florida,” and “Indian River” had specific and qualitative meaning in reference to oranges. For instance, the major California cooperative Sunkist in the first half of the century capitalized on romantic notions of California as an Edenic paradise as it emphasized the beauty of its fruit on crate labels, in-store signage, and even doormats. Snow birds from the Northeast created a mythology about the wonders of Florida—and by extension its oranges—that they themselves believed along with others not wealthy enough to see for themselves. But the natural world also manifested itself on a more basic level. Soil quality and rainfall were variable, and consequently so were flavor and juiciness. Oranges decayed and even frozen concentrated orange juice spoiled. Profits and consumer opinion declined accordingly. Thus, environmental reality and environmental perception were tightly interlinked, though they were not the same thing, as they informed consumers’ purchasing habits of oranges and orange juice.

As the foregoing suggests, my primary argument in this dissertation is that human efforts to profit from nature were constrained by the attitudes and behaviors of people far removed from oranges groves, as well as by nature itself. I argue that
consumers exercised influence over growers and juice processors through their buying power. They routinely made decisions having minor consequences for them and major consequences for growers and companies like Minute Maid. The various middlemen involved in the orange business over the years similarly constrained growers and processors because of what they would carry and how they would carry it at any given point in time. Moreover, Minute Maid and other processors, themselves middlemen between growers and consumers, sometimes acted according to a self-interest that did not line up with growers’ interests. And, all of these interactions between and among consumers, middlemen, and growers revolved around a commodity subject to the whims of nature. That nature, manifesting itself most often in the form of growing environments and perishability, ultimately set the parameters of the orange business. Only out of this complicated web of negotiations did particular oranges and juices ever come to market.

The history of Florida oranges is important for several reasons. To begin with, commercial production began with the fervor of a gold rush. This was unusual in agricultural history. Although land booms certainly took place in the Midwest and West, the character of those booms was different. They were in large part settlement projects. Federal and state governments recruited people to these lands in an effort to populate them and expand their reach and influence. For the settlers, agricultural production was important, but, again, settlement—a place to call home—was more
so.\textsuperscript{2} That, for the most part, did not happen in Florida. The gold rush began in the 1870s with the introduction of railroads.\textsuperscript{3} In response to promoters' efforts, thousands of people, particularly those from northern climes, flooded the state with orange growing on the mind. Most of these people were not Jeffersonian farmers, or even Jacksonian farmers. Most of them were middle class and from towns and cities. They were there to make a fast, easy, buck.\textsuperscript{4}

As it turned out however, easy money proved remarkably elusive and gold rush fervor devolved into a red queen quagmire. Production was not the issue. In 1885, when the first trees started to produce fruit, growers sold 54 million pounds, up from almost nothing a few years earlier.\textsuperscript{5} Four years later, they produced 283 million pounds,\textsuperscript{6} and in 1893 over 450 million pounds.\textsuperscript{7} From 1899 to 1938, production increased at an annual rate of 5.8 percent.\textsuperscript{8} The issue, rather, was that producing oranges anyone might want to buy was more complicated than most growers had realized when they arrived. Everything from hurricanes, freezes, droughts, excess rainfall, the peculiarities of specific trees, the peculiarities of specific types of

\begin{thebibliography}{8}
\footnotesize
\item[4] See, for example, Mark Howard Long, "Cultivating a New Order: Reconstructing Florida's Postbellum Frontier" (PhD diss., Loyola University, Chicago, 2007).
\end{thebibliography}
oranges, the use or non-use of fertilizer or irrigation; all of these combined in any given season to produce oranges that might or might not taste good to potential buyers. Furthermore, scruples seemingly were in short supply such that growers often shipped inferior oranges north while trying to pass them off as higher grade, an act which did considerable damage to the reputation of Florida fruit over the years. On the distribution front, growers were utterly at the mercy of auctioneers at the port cities with whom a grower had contracted to sell fruit. Unless a grower sent a trusted agent along with his fruit, an impossible act for most growers, the auctioneer could easily sell the fruit at auction then wire back to the grower that the fruit had arrived unfit for sale. As auctions were the only wholesale format until well into the twentieth century, growers had no other recourse. In short, natural disasters, marketing errors, corruption, and general disharmony and distrust among participants placed the industry perpetually at the doorstep of extinction.9

Oranges, though, were also culturally important as purveyors of good health. This characteristic arguably developed following a Sunkist advertising campaign in 1907, but took on special importance as a result of the flu pandemic following World War One. Doctors, ignorant of vitamin C but believing that good dietary habits were a protection against disease, ordered their patients to consume orange juice to ward off the flu.10 In general, until the beginning of World War Two, Sunkist tapped growing consumer awareness of health, courtesy of Progressive era reforms and breakthroughs

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9 See the testimonies to this effect of scores of growers, processors, and shippers in: *Problems of the Citrus-Fruit Industry, Hearings Before a Subcommittee of the Committee on Agriculture and Forestry, United States Senate, 80th Cong., Second Session, (20-24 September 1948).*

in medical knowledge, and effectively convinced Americans that oranges were “almost synonymous with health.”11 A USDA study conducted in 1950 asked homemakers “whether citrus fruits were categorically different from other fruits.” Some 61 percent said yes “and usually these differences were described in terms of health and food values,” particularly as concerned “the vitamin characteristics.”12 The heightened association of oranges and orange juice with health remained more or less constant through the twentieth century.

That very association caused the federal government not only to purchase around 20 percent of Florida’s orange crop during World War Two13 but also to invest heavily in the creation of a less-perishable orange-based product.14 Scientists from the United States Department of Agriculture collaborated with federally and state funded scientists at the University of Florida’s Agricultural Extension Service to develop such a product.15 One that came out of this research was orange juice powder—juice that had been evaporated down to powder form. This discovery was predicated partly on earlier discoveries made by the National Research Corporation of

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11 Douglas C. Sackman, Orange Empire: California and the Fruits of Eden (Berkeley: University of California Press, 2007), 108. For more along these lines, see chapter 3, subsection “Oranges for Health.”
13 Problems of the Citrus-Fruit Industry (statement by Marvin H. Walker), 22. Walker was the general manager of the Florida Citrus Commission.
Boston, including the dehydration of penicillin, blood plasma, and streptomycin.\textsuperscript{16} And, in 1945, the federal government contracted with NRC to produce this powder. While the war ended before the contract went into effect, NRC was able to alter its production process slightly to create a new product: frozen concentrated orange juice. It established a subsidiary, Vacuum Foods, to produce and sell this product, and two years later renamed the company Minute Maid.

Concentrate itself is perhaps the most significant indicator of the importance of Florida oranges. Technologically and environmentally speaking, it was a remarkable invention, for it homogenized the day-to-day vagaries of nature. Oranges varied in size, color, flavor, sweetness, and juiciness according to the season, to their type, to when they ripened, to where they were grown in the state, and to their location vis-à-vis lakes and oceans, among other such factors. They also varied due to the amounts and types of fertilizer a grower used, the extent of irrigation, the rootstock, and many other agricultural practices. All of these differences vanished when the orange came in the form of concentrated orange juice. The juice of each orange mixed with the juice of millions of other oranges, and, under the watchful eye of processor employees, all of these environmental factors and limitations balanced each other out. Moreover, oranges were perishable and rapidly declined in quality over time. Concentrate did not. In essence, frozen concentrated orange juice was the same product every day, every week, every month, and every year.\textsuperscript{17}

\textsuperscript{17} Although from consumers' perspective this was true, in point of fact, this was not exactly right. Processors relied upon something marketing researchers have subsequently referred to as the just-
Concentrate, moreover, was not merely a more efficiently produced or fresher version of the orange, nor even of orange juice. It was a wholly new product; the various stages of production transformed what had been agricultural commodity into a highly processed food. It called to mind the fresh orange and it resembled earlier orange juices, and processors, consumers, government analysts, and researchers saw it as essentially an improved version of both, but in fact it was not. This difference in perception made concentrate different from all earlier processed foods. Ketchup, for example, transformed the tomato, but only by adding sugar and vinegar and thereby turning a basic fruit with many uses into a processed food with more limited uses. Similarly, nobody mistook Kellogg’s Bran Flakes for actual bran, or substituted one for the other. But concentrate was different. That difference lay in the apparent lack of additives; instead of sugar or some other seemingly foreign ingredient, oranges served as their own additives with higher quality fruit balancing out lower quality fruit. It was a neat technological trick.

It was also a commercially successful trick. The total estimated sales value of Florida oranges in the most lucrative pre-concentrate season, 1936-1937, was $29,759,000. In 1950-1951, it was $129,107,000. A decade later, it had more than doubled to $295,559,000. This was nearly a five-fold increase since 1936, adjusting noticeable-difference effect, or jnd. When a producer alters the manufacture of a product, particularly when the alteration involves ingredients in a food product, he or she tries to do so in such a way that consumers, at worst, will just barely notice the change. The consumer is thus more likely to explain away the difference as due to some vagary in the consumer (e.g., the candy bar tastes different because the consumer is getting over a cold) instead of recognizing that the product itself has been changed. In the context of concentrated juice, all manner of changes might affect quality from year to year—freezes, fertilizers, rainfall, rate at which oranges were picked, company attempts to sell a lesser product for the same price, et cetera—but the jnd effect prevents consumers from realizing the juice does not taste the same as last year.
for inflation. Another statistic is equally telling. In 1950-1951, roughly the same number of oranges were sold fresh as were sold in the form of juice: 1,122,075 tons compared to 1,866,175 tons. But, ten years later, the split was 754,650 and 3,115,800 tons, respectively. These latter figures tell two stories: first, that concentrate was clearly becoming the focal point of orange growing in Florida; and second, that concentrate’s commercial success had encouraged much greater planting. Concentrate, in other words, was something that consumers, processors, and growers liked, at least well enough.¹⁸

As the foregoing suggests, this dissertation is an agricultural, environmental, social, cultural, business, and consumer history of Florida orange production and consumption. I engage these fields simultaneously by utilizing commodity chain analysis. Originating in the fields of economics and sociology, commodity chain analysis explores the connection among capital flows, human relationships, and the natural world throughout the life cycle of a given product—that is, from the point of its production to the point of its consumption and at all points in between. In this manner, scholars can demonstrate the extent to which human activity at all of these points is interrelated even when those humans are hundreds or thousands of miles apart.

One of the defining characteristics of commodity chain analysis, therefore, is attention to movement across space as much as change over time. In *Sweetness and Power: The Place of Sugar in Modern History*, for example, Sidney Mintz illustrates the connection between the simultaneous development of capitalism in England and sugar production in the Caribbean, noting that the former encouraged and depended upon the latter. William Cronon abolishes scholars’ (artificial) distinction between the city and the country in *Nature's Metropolis: Chicago and the Great West*, arguing that the production of finished goods in the city depended upon the receipt of raw materials from the country as well as consumption of those finished goods in the country. John Soluri suggests in *Banana Cultures: Agriculture, Consumption, & Environmental Change in Honduras & the United States* that environmental and human disaster in Honduran banana plantations resulted from decisions made by United Fruit Company executives in response to market forces, involving both wholesale and retail, in the United States.

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19 The major theoretical works are Ben Fine and Ellen Leopold, *The World of Consumption* (New York: Routledge, 1993) and Gary Gereffi and Miguel Korzeniewitz, eds., *Commodity Chains and Global Capitalism* (Santa Barbara: Praeger, 1994). The principle differences between the two are that Fine and Leopold argue that food, by virtue of its perishability, can never be industrialized like other commodities and therefore industrial agriculture is a fallacy, and that consumption has greater weight on production than vice versa. Gereffi and Korzeniewitz suggest, like most scholars, that agriculture certainly is an example of industrialization and that consumption, again like most scholars, is less important—though still important—than what occurs before. For a good overview, see Shane Hamilton, “Analyzing Commodity Chains: Linkages or Restraings?,” in Warren Belasco and Roger Horowitz, *Food Chains: From Farmyard to Shopping Cart* (Philadelphia: University of Pennsylvania Press, 2009), 16-28.


This approach enables scholars to draw from and contribute to a number of different fields. In a representative example, Douglas C. Sackman, in *Orange Empire: California and the Fruits of Eden*, presents the stages he deemed most relevant as separate chapters, extracting horticulture, agriculture, advertising, labor, and politics from the chain, analyzing each, then reinserting them into the chain to explain the total significance. Sackman not only follows the orange from California orchards to New York markets, he engages the literature on business, the environment, agriculture, and labor as well. His book, therefore, is germane to each of those fields.

It is worth noting, though, that although commodity chain analysis provides scholars with the tools to examine every stage of a given commodity’s chain, practical considerations prevent that from happening. Significantly, while almost all major studies have chapters on production, labor, advertising, and to a lesser degree interstitial factors like wholesaling, consumers have received less attention. Among the works above, for instance, consumer agency is, at best, implied. Sackman demonstrates the ways advertisements sought to appeal to consumers through ideas about nature, notes that consumption rates went up, and explains what that meant for Sunkist and California’s environment, but he does not explain why consumers actually bought oranges or what such consumption reveals about consumers. Soluri pays more attention to the consumer links of the banana chain but implies consumer agency was less significant than the agency of others in the commodity chain, and in any event was less important than the effects consumer agency wrought. Cronon

23 Sackman, *Orange Empire*. 
takes consumers completely for granted and focuses instead on the creation of Chicago as a hub of capitalist activity. These examples suggest an opportunity to reimagine commodity flows with greater attention towards consumers.

This intervention seeks to combine the literature on commodities and the field of consumer history. The field of consumer history originated in the mid-1980s in large part due to Roland Marchand’s examination of advertisements in Advertising the American Dream: Making Way for Modernity, 1920-1940. Marchand argues that advertisers imbued advertisements with their own social and class assumptions, but that they were also loose with facts and accuracy in the presentation of their product. The point was to facilitate the movement of merchandise, and that meant appealing to consumers’ visions, not their realities. Advertisements, he suggests, made the American dream seem both more exciting and more attainable.24 This was an analysis Jackson Lears built off in his own book, Fables of Abundance: A Cultural History of Advertising in America, published in 1994. Lears posited that advertisers “collaborated with other institutions in promoting what became the dominant aspirations, anxieties, even notions of personal identity, in the Modern United States.” Their advertisements, which he calls “commercial fables,” heavily influenced American values in the age of mass consumption.25 Works like these explained how middle management and their proxies manipulated the market (that is, consumers) to further the development of big business.

Despite Marchand's and Lears's influence, though, scholars by the late 1990s began to argue that the effect of advertising was overstated and that consumers themselves played a critical role in creating the consumer economy. In her groundbreaking work on consumer agency, *Imagining Consumers: Design and Innovation from Wedgewood to Corning*, Regina Blaszczyk turns long-standing assumptions about the relationship between producers and consumers upside down. Focusing on glassware, she notes that consumers granted meaning to such objects and were therefore rather selective shoppers. This selectivity, she argues, put manufacturers in the subordinate position of always trying to figure out what consumers wanted. She also argues, with respect to Chandler's managerial revolution, that these manufacturers intentionally eschewed growth in favor of remaining smaller and therefore more adaptable to the caprices of American consumers.26

But whereas Blaszczyk emphasized the day-to-day agency of consumers as a contrast to Chandler, others explored consumer agency as a political force. A number of these scholars have emphasized the link between consumerism and citizenship. For some, like Lawrence Glickman and Dana Frank, consumers were militant actors wielding their purchasing power like a sledge. This activist agency manifested itself in boycotts, buy union campaigns, and other organized forms of consumer expression.27 Kathy Newman, on the other hand, questions the extent and meaning of

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consumer activism in her study of radio audiences. She suggests consumers resisted
outside efforts to define their own consumerism, but not with the organization or
purpose Glickman and Frank ascribe to them. Still other scholars, among them
Charles McGovern, Meg Jacobs, and Lizabeth Cohen, acknowledge the existence and
relevance of consumer agency but are more interested in the ways consumption fit
into political debates about what America was and should be, and about it meant to be
an American.

Importantly, though, because they place the emphasis on consumers
themselves, these scholars tend to ignore the production and circulation of
commodities and thus miss how those forces shape the terms on which people
consume. Historians working within this consumer-oriented framework explain ideas
about health, technology, cost, advertising, worker rights, and other factors that
reflect the mentalité of a given period, but do not look at how commodity chains
shaped the choices consumers made. Indeed, they tend to isolate and emphasize the
consumer and downplay the significance of the commodities themselves.

Examining consumers within the context of a commodity chain requires
engagement with the literature on business history. Over the last three decades, that
literature has emphasized, downplayed, debated, and generally engaged the findings

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Organizing, Gender, and the Seattle Labor Movement, 1919-1929 (New York: Cambridge University
Press, 1994).

28 Kathy M. Newman, Radio Active: Advertising and Consumer Activism, 1935-1947 (Berkeley:
University of California Press, 2004). See also Katherine J. Parkin, Food is Love: Food Advertising
and Gender Roles in Modern America (Philadelphia: University of Pennsylvania Press, 2006).

29 Charles F. McGovern, Sold American: Consumption and Citizenship, 1890–1945 (Chapel Hill:
University of North Carolina Press, 2006); Meg Jacobs, Pocketbook Politics: Economic Citizenship in
Twentieth-Century America (Princeton: University of Princeton Press, 2005); Lizabeth Cohen, A
Consumer’s Republic: The Politics of Mass Consumption in Postwar America (New York: Alfred A.
of Alfred D. Chandler in *The Visible Hand: The Managerial Revolution in American Business*. In his expansive examination of business growth in the United States, Chandler found that business activity fell into two broad categories: those industries that were dominated by a handful of large, heavily capitalized firms, like the oil and steel industries; and those that were not, like textiles and shoemaking. The difference was the existence or lack thereof of middle management. The large firms had begun developing middle managers when they were still small, using them to manipulate production, distribution, and the market, and the firms therefore outpaced their peers and eventually subsumed them. Part and parcel to this was technology. Centralized industries had the intellectual and financial capital to take advantage of technological innovations and decentralized industries did not. Thus, some industries became increasingly oligarchic in nature while other industries did not.

Significantly, Chandler argues that agriculture did not experience the managerial revolution. He suggests it was usually characterized by family farmers spread across considerable space who therefore lacked the inclination and opportunity to industrialize. Furthermore, he points out that agriculture was influenced by rainfall, soil quality, perishability, and a wide range of other environmental factors. Technology could limit the ability of these forces to affect farmers, but it could not bring them under farmers' control.31

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31 Ibid., 241-2.
Chandler’s split between modern business and agricultural enterprise is equally manifest within the academy. To a significant degree, historians of agriculture and historians of business have gone their separate ways. Agricultural historians most often have engaged their subject with an eye towards politics, economics, and social dynamics in an effort to explain the transformation of the family farm into agribusiness.32 Business historians for their part have demonstrated greater interest in commodities that are manufactured rather than grown.33

Yet, in the case of Florida oranges, these two fields are intertwined. Orange production before World War Two in Florida matched Chandler’s characterization of agriculture very well. Frozen concentrated orange juice, on the other hand, provided the catalyst for just the sort of revolution Chandler did not believe possible in agriculture, and which agricultural and business historians have not, generally speaking, explored.34 For the very reasons described above, most business historians who examine technology focus not on agriculture but on factories and consumer

32 See for example: Pete Daniel, Breaking the Land: The Transformation of Tobacco, Cotton, and Rice Cultures Since 1880 (Urbana: University of Illinois Press, 1985); Deb Fitzgerald, Every Farm a Factory: The Industrial Ideal in American Agriculture (New Haven, Yale University Press, 2003); Jack Temple Kirby, Rural Worlds Lost: The American South, 1920-1960 (Baton Rouge: Louisiana State University Press, 1987). This is obviously not true of environmental historians, many of whom argue that agribusiness was indeed industrial.

33 In their new and thoughtful book written solely to offer ideas on redirecting the field of business history, Philip Scranton and Patrick Fridenson’s scarcely mention agriculture. Scranton and Fridenson, Reimagining Business History (Baltimore: The Johns Hopkins University Press, 2013).

34 Peripherally, this dissertation takes heed of Philip Scranton and Patrick Fridenson’s caution never to ignore the state (Reimagining Business History, 16-21. Additionally, with respect to the origins of the capital that funded the concentrate revolution, this dissertation makes use of C. Vann Woodward’s famous observation of the flow of northern capital into the South following Reconstruction in Origins of the New South, 1877-1913 (Baton Rouge: Louisiana State University Press, 1951). Although his book has a pre-World War I focus, scholars have taken the book’s arguments generally and this observation particularly into the late twentieth century to explain the economic and demographic growth of the South after World War II. See especially George B. Tindall, The Emergence of the New South, 1913-1945 (Baton Rouge: Louisiana State University Press, 1970); and Numan V. Bartley, The New South, 1945-1980 (Baton Rouge: Louisiana State University Press, 1995).
goods, and while most historians of agriculture do address technology, they place the emphasis on tractors, mechanical harvesters, irrigation systems—that is, on things related to production. Very few scholars have investigated technology between the stages of production and consumption. Frozen concentrated orange juice was a stage of technological transformation between the production and consumption of oranges. Oranges came in and concentrate came out.

This dissertation, then, integrates the story of agricultural production into the story of consumerism and vice versa by examining the transformative effect of a technology in the middle of the commodity chain. Susanne Freidberg approaches this in Fresh: A Perishable History. Looking at several different commodities and spanning continents and centuries, Freidberg argues that the use of refrigeration in the production and circulation stages of the chains effectively caused consumers to redefine the meaning of “fresh.” An egg, for example, could be weeks old and still taste good. A frozen cod filet could be years old and still fine eating. That consumers accepted these foods as fresh, or at least as reasonable facsimiles, was never a


foregone conclusion. Yet, for a variety of social, political, and economic reasons, ultimately most of them did.

Roger Horowitz provides a more holistic model for this type of approach in *Putting Meat on the American Table: Taste, Technology, Transformation*. Examining “the tangled relationship between consumers and producers,” he asks “how did the ways people consume, handle, preserve, and obtain meat reverberate back up the provisioning chain, to producers, the meatpacking companies, and the farmers who actually raised the animals in the first place?” Much of his analysis centers on meat producers’ use of technology to make less profitable cuts of meat pay more. For instance, mass-produced foods like ground beef and hot dogs, both of which were distinct from traditional cuts of meat because they combined parts from thousands of animals, eventually transformed throw-away scraps and lower-grade cuts into major money makers. In order for this transformation to occur, however, meatpackers not only had to develop the technology to produce these foods, they had to develop technologies to preserve them en route to consumers, and consumers had to decide these foods were worth buying in the first place. In this respect, the story of meat, and especially lower grade meat, resembles the story of Florida oranges.

In the context of oranges and orange juice, following the line of thinking Freidberg and Horowitz provide is important because it gets at the heart of today’s processed food diet. Since about 1950, most Americans have consumed mostly processed foods. Such foods are fundamentally changed between the point where

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their ingredients are produced and the point where the final product is consumed. Understanding the circumstances in which those changes occurred enables us to understand how the American diet became so laden with processed foods. That people started consuming manufactured foods like frozen concentrated orange juice or hot dogs is evidence of a complicated relationship between producers and consumers, and between both of them and the natural world that yields the food in the first place. But, it is also evidence that those relationships have changed over the years. Despite the popularity of books like Michael Pollan’s *Omnivore’s Dilemma: A Natural History of Four Meals*, however, this is something most scholars have yet to tackle.\(^{39}\) Doing so, however, is vital to our understanding of food in America.

In the process of exploring those relationships, this dissertation also explores the influence local environments, both real and imagined, had on actors within the supply chain. The fascination with transnational or global history of recent years, with its emphasis on relationships and interactions that cross geographical boundaries, and which is particularly suited for commodity scholars, risks sacrificing important local specifics. The environmental characteristics of the place of agricultural production shape the type of commodity that is produced. In his book on California agriculture, for example, Stephen Stoll argues that growers interpreted the landscape according to the Ricardian values of industrial capitalism.\(^{40}\) That is, they believed every growing environment had a unique productive advantage compared to other growing


environments, and they therefore planted specific crops in specific places in order to maximize that advantage. Place for Stoll was critical (as it was for the growers he examines). But his focus is on the growing. This dissertation takes that same argument and looks at it not merely from the perspective of growers trying to increase yields but also from consumers and later juice processors interested in good fruit. Place in this context is just as important and arguably more so because for consumers, it was often synonymous with quality. Jamaican Blue Mountain coffee, Madagascar vanilla, and Copper River salmon, to name a few examples, clearly connect place with quality, and citrus was no exception.

Aside from Stoll, moreover, most environmental historians either ignore or downplay the significance of place of origin. Focusing on agricultural efficiency and the transformation of the family farm into agribusiness, into “factories in the field,” as journalist Carey McWilliams put it, enables them to explain how that process happened and what it meant for lots of people. But that approach prevents them from explaining how it almost did not, or where it almost did not happen, or why, and how in many places the transition was not nearly as seamless and inevitable as it appears at first glance. After all, the precise environmental circumstances in which a food is grown can matter a lot. In John Soluri’s work for instance, United Fruit demonstrated the potential irrelevance of place-of-origin as it continually laid down new banana plantations in Honduras as old ones were overcome by disease. And yet, the company’s plantations were primarily in a specific place in Honduras, the North

Coast, and eventually the company shifted operations altogether to disease-free places like Ecuador. Growing bananas in Honduras was not the same as growing them in Ecuador.

This dissertation pushes further on observations like Soluri’s, arguing that in the orange groves of Florida, the connection between place-of-origin and quality appeared as early as the 1880s when northeastern consumers demonstrated a marked preference for fruit grown in the unique environment of the Indian River region on Florida’s east coast. With rich but swampy soil, growers were unable to produce oranges at the rate of their peers elsewhere, but those they did produce were much sweeter and juicer. They thereby commanded a higher price in the marketplace. The connection appeared again in the middle three decades of the twentieth century as the oranges labeled “California” began to trump those labeled “Florida” in the retailer and consumer mindsets. California’s Mediterranean climate produced fruit with considerable visual appeal while Florida’s subtropical climate produced fruit severely lacking in that regard. And, in the postwar period, the particularity of place appeared in the development and exponential sales growth of frozen concentrated orange juice, something that until the 1980s could only be made from oranges grown in the subtropical groves of Florida. Despite the best efforts of Californian growers, their growing environments simply did not produce profitable juicing oranges. Only Florida’s growing environments did, and even most of these were inadequate unless juiced along with Indian River oranges. An orange, to upend Gertrude Stein, was not an orange. Place mattered.
Finally, this dissertation contributes to the growing body of scholarship on Florida. To begin with, it advances knowledge of the orange industry, begun with Jerry Woods Weeks’s 1977 dissertation, “Florida Gold: The Emergence of the Florida Citrus Industry, 1865-1895.” Mark Howard Long’s 2007 dissertation “Cultivating a New Order: Reconstructing Florida’s Postbellum Frontier,” builds off Weeks’s excellent description of early citrus growing in Florida in exploring the development of the state in the last quarter of nineteenth century. The story of oranges also touches on agricultural development more generally in the state, as well as Florida’s economic growth and its environment. Only the latter has received significant attention, with most of the scholarship relating to the Everglades.

This dissertation is divided into six chronological and thematic chapters. Chapters one and two focus on the fresh fruit trade. Examining the relationship

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42 Weeks, “Florida Gold.”
between consumer assessments of quality and environmental realities from the 1870s to about 1960, chapter one contrasts the histories of Florida’s famed Indian River growing district with that of the interior part of the state. The soils and rainfall in Indian River combined to create a growing environment in which growers could produce sweeter, juicier, and more flavorful oranges than those grown anywhere else in Florida. Yet, they could not grow them at nearly the same rate or per-orange cost. As citrus production increased across the state in the 1870s and 1880s, Indian River growers’ ability to compete was thereby threatened. Concurrently, however, Florida experienced a surge in tourism, and these tourists ate Indian River oranges and wrote of their wonderful qualities to friends and family back home. This word-of-mouth promotion effectively linked environment with perceptions of quality and created an “Indian River” brand.

Chapter two examines the extraordinary influence supermarkets wielded within the orange commodity chain during the middle three decades of the twentieth century. Taking the place of the tens of thousands of mostly small-scale produce retailers, their huge purchases gave them unprecedented control over supply channels. This enabled them to dictate terms to orange growers, including prices paid, and granted them the ability to choose which supplier they wanted. Because they sold a shopping experience as much as actual products, they desired aesthetically pleasing fruit more than good-tasting fruit. Increasingly, this meant they bought Californian oranges because California’s growing environment yielded much prettier fruit than either Indian River or interior Florida. As such, “California,” or its proxy “Sunkist,”
became more valued to consumers than "Indian River," to say nothing of "Florida." In effect, they homogenized the market and diminished the meaning of "Indian River."45

Chapters three and four shift the focus to the environmental and business dimensions of the production of frozen concentrated orange juice. Chapter three argues that concentrate was the catalyst for the conversion of a disorganized, chaotic orange industry into a highly efficient, enviro-industrial machine. Concentrate was the technological fix for virtually all of the environmental and business problems Florida and Indian River growers faced in the fresh fruit market. And, concentrate provided an economic incentive for large-scale corporate investment. This, by almost all accounts, was a most welcome shift from the earlier days discussed in chapter one. Whereas chapter three is a happier story for growers, processors and consumers, at least compared to chapter two, chapter four examines problems the transition to concentrate created even as it resolved others. It argues that concentrate required an environmental life support system; it depended upon a regular and adequate supply of

high quality oranges, and upon constant freezing from factory to the point of consumption. Processors thus had to negotiate with growers whose interests were not always processors’, and they had to battle a range of forces to ensure the trucks and trains conveying concentrate and the grocery stores selling it always kept it frozen.

The final two chapters of the dissertation place the emphasis squarely on consumers. Chapter five seeks to explain the immediate and stratospheric sales of concentrate. Anthropological in approach, the chapter examines a variety of social and cultural factors to argue that concentrate, among the thousands of consumer goods newly available in the 1950s, was perhaps the quintessential product of the Cold War period. Whereas this chapter is entirely consumer-oriented, chapter six examines the takeover of the orange juice industry by multinational food corporations. The central contention is that those companies, including most prominently the Coca-Cola Company, shifted their focus to market segmentation, or the production of lots of similar but different products in order to sell to as many different consumers as possible. Thus, they bought heavily in the orange juice industry (along with other food industries) and quickly subsumed the processors and growers who composed it. Growers’ and processors’ various responses to the entrance of these multinationals ultimately consolidated power within the industry and transformed it from an orange-based industry to a beverage-based industry in which oranges were merely one part.

The conclusion sums up the dissertation and briefly carries the analysis into the twenty-first century. It suggests that now, perhaps more than ever, the relationship
among growers, middlemen, and consumers—interlinked within the context of the natural world, is vitally relevant.
CHAPTER ONE

What's in a Name: Indian River, Consumers, and the Creation of a Brand

_The oranges of Indian River are superior to any that come to the market for size and sweetness. We were struck with this fact in Jacksonville when we went out to buy some oranges to send home to our friends, and found the occupant of every shop we entered, representing his oranges as Indian River oranges, though they might have been grown in the suburbs of Jacksonville._—Joseph E. Brown, _Atlanta Constitution_, 27 April 1876

Joseph E. Brown, a Democratic politician from Georgia, wrote these words as part of a long piece written for the _Atlanta Constitution_. Having traveled across the border to Florida, he regaled his readers with tales of alligator hunts, sport fishing, and journeys deep in the Florida swamps. And, he spoke about the developing orange industry. In the statement above, Brown pointed to size and sweetness as measures of quality, and he noted the dubious practices within the orange industry. But his words also reflected an emerging truth: the importance of place-of-origin in a mass market economy. For what Brown observed was the significance everyone—Brown, his readers, shop owners, and consumers—attached to the phrase “Indian River.”

This chapter examines the evolving ecological, economic, and social factors that gave market meaning to phrases like “Indian River.” In doing so, it suggests a counter-narrative to the story of debt and dispossession so often told about small-scale, family farmers operating between the end of the Civil War and the start of World War 2. Here, if not in the wheat fields of the Midwest and West, farmers did not succumb to the logic of industrial agriculture or to market forces emphasizing a standardized product. Instead, playing the game by different rules, Indian River
growers overcame enormous disadvantages that, theoretically anyway, should have rendered them non-competitive. These disadvantages, primarily environmental in nature but with a direct translation into much higher per-orange costs, paradoxically became advantages as tourists like Brown found Indian River fruit to be sweeter, juicier, and more flavorful than their cheaper industrial counterparts. Brown and his fellow travelers wrote letters home about these oranges to their friends and families, letters that were often published in local newspapers. Most of these friends and neighbors ate very few, if any, Indian River oranges in a given year, but this word-of-mouth promotion created renown well out of proportion with consumption and even availability. As a result, “Indian River” became one of the most powerful brands in agriculture. In contrast to a brand like “Sunkist,” which was consciously created much later by a highly organized, well-managed, and heavily capitalized cooperative of more than 75 percent of growers in California and Arizona, the creation of “Indian River” was a wholly organic movement, begun by tourists and maintained by consumers.¹ This movement provided Indian River growers the ability not only to avoid being crushed in the cogs of industrial agriculture, but to thrive.

The Indian River region is an area skirting a misnamed lagoon on Florida’s east coast. It is approximately two hundred miles in length, stretching from Daytona Beach in the north to West Palm Beach in the south, and it varies in width from a few hundred feet to about twenty miles. In the 1950s, construction of what is now the John F. Kennedy Space Center and the Cape Canaveral Air Force Base launched a

real estate boom in the northern half of the Indian River region. Today, oranges are
grown primarily in the southern half of the region, especially in Indian River and St.
Lucie counties. Historically, however, they were grown commercially throughout the
entire area.

Commercial orange growing in Indian River, and in fact all of Florida, dates
to the 1830s when a man named William Dummitt began to tend a stand of wild
growing citrus trees with an eye towards commerce. ² Such trees had grown
throughout the state since the days of Ponce de Leon, having sprouted from the spat
seeds of traveling Spaniards and, later, Indians. ³ For several decades Dummitt and his
family had few competitors and nearly as few customers, since there was no good
way to get oranges to larger population centers up the east coast. In the 1870s,
however, that abruptly changed when the railroads came in. They provided existing
growers with a means to get their fruit north, and they opened up the center of the
state for would-be growers. ⁴ These would-be growers flooded in to what became
known as “the Interior,” especially present day Polk, Orange, and Lake counties.
They went there rather than Indian River for several reasons. One was in response to
boosters’ siren call, and another the availability of land developers had pre-cleared for
orange growing. But a third was Indian River’s well-earned reputation for having a
difficult growing environment.

³ Herbert John Webber, “History and Development of the Citrus Industry,” in History, Botany, and
Breeding, vol. 1 of The Citrus Industry, ed. Herbert John Webber and Leon Dexter Batchelor (1943;
The difficulty lay in a convergence of two environmental factors: soil and rainfall. Some two or three feet below the surface was something called hardpan. In agricultural terminology, hardpan is a very dense layer composed of some non-porous or mostly non-porous substance. The substance can be anything; in Indian River, it was a fusion of dirt and the calcium carbonate from decaying seashells. The second factor was rainfall. The Indian River region averaged about 52 inches of rain a year.\(^5\) This was about the same amount as the rest of the state received. However, in conjunction with the hardpan, it had a great effect on the water table; that is, the point below the surface at which water had entirely saturated the soil. In Indian River, the hardpan effectively established that saturation occurred never more than two or three feet from the surface. The rainfall, by itself virtually assured it was much higher. The high water table was the relevant factor in orange growing. It had the effect of drowning many trees outright and keeping other trees' root structure underdeveloped. These latter trees, consequently, were shorter and scrawnier and had a much shorter lifespan than similar trees in other environmental circumstances.\(^6\)

In contrast, the water table in the Interior was much lower. Though rainfall was about the same, hardpan either did not exist, or if it did, it was buried far beneath the surface. Moreover, the soil was particularly sandy, which meant it did not soak up

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water the way soil in Indian River did. Consequently, the Interior had a low water
table. And that meant citrus trees grew with vigor and produced a lot of oranges.  

Two additional environmental characteristics help to explain the higher
quality and lower quantity of Indian River groves. The first was the nutrient-rich
nature of the hardpan.  

The Indian River growing region bordered the Atlantic Ocean, and because the winds
tended to blow east to west, the soil had a higher degree of salinity than inland
Florida or the Gulf Coast. This meant that trees had to pump more water through the
root system to offset the salt in that water. This extra work was in effect another stress
on the tree.  

William Dummitt was the first to appreciate Indian River’s environmental
limitations as he tried to domesticate his wild grove and turn a profit. Unlike the
growers who followed him, of course, his efforts did not take place among a bunch of
competitors in a market economy. All the same, after a considerable amount of trial
and error he discovered a growing technique that ultimately provided the foundation
for a commercial citrus industry in Florida. The technique was rootstocking. This was
a practice in which an aspiring citrus grower planted the seed of a particular type of
citrus tree and let it grow for two or three years. After it reached a height of about
three feet, the grower incised the bark, inserted the bud of another type of citrus
tree—the type of tree yielding the desired fruit—and closed the incision. After

9 B. J. Boman and E. W. Stover, Managing Salinity in Florida Citrus (Gainesville: University of
another year, in which the bud sprouted, he or she pinned the top of the tree down in
such a way that the bud became vertical. It thus received the bulk of the nutrients
from the roots—the rootstock—and grew.10

Dummitt did not live long enough to appreciate the critical role his technique
had in establishing the orange industry. With the exception of Dummitt’s trees and
probably a few others, most orange trees were grown from seed. Seedlings, as they
were called, were fine for a subsistence or semi-subsistence farmer, but were
problematic for a commercial grower. Fred Lawrence, who spent his entire life in
citrus, said of seedlings, “the trees were tall; they were thorny; they were hard to get
fruit out of….Some were shy bearers and others would be good bearers, but you
never knew which was which until you had them in the grove for fifteen or twenty
years.”11 Furthermore, the fruit of a seedling was of variable size, taste, and
appearance, and often dissimilar to that of the parent tree.12 On top of all that, in
Indian River, the harsh conditions made keeping trees alive, let alone productive, very
difficult.

Ltd, 1990), 73-81. In citriculture this is called budding; another technique, grafting, used more
commonly on apples and other fruit, is a far more complicated procedure in which one removes all but
the trunk of the tree prior to insertion of the scion. Godden writes of budding and grafting that although
both are common in growing fruit trees, “Only the budding method is preferred for citrus trees as it is
quicker, requires less scion material and is more satisfactory than grafting” (76). Hume, writing in
1926, concurs: “Grafting is objectionable as it cannot be done so rapidly and the whole top of the stock
is often wasted, whereas, in budding, if the bud fails to take, a second attempt may be made shortly
afterward on the same stock” (Hume, The Cultivation of Citrus Fruits, 190).
11 Transcript, Fred Lawrence, Oral History Interview with Paul Weaver, 13 June 1977, Samuel Proctor
Based on Dummitt’s work, growers by the 1870s knew they could probably solve most of the problems seedlings created by matching the right rootstock to the right bud.\(^\text{13}\) The trick was finding the match. This was simply a matter of trial and error, though the caprices of fate favored Indian River growers. The oranges Ponce de Leon and his fellow Spaniards ate as they explored the Florida coast were sour oranges, now commonly called Seville oranges. In the Mediterranean, most people had eaten them in a sweetened, processed form, like marmalade. The explorers of Florida, however, only had them in fresh form, most likely because they had picked them up in the Caribbean where Christopher Columbus had introduced them some years earlier.\(^\text{14}\) Exceedingly tart, their only purpose was to prevent scurvy, a disease they understood from experience even if not scientifically.\(^\text{15}\) The wild trees of Indian River, some of which Dummitt adopted, were therefore sour orange trees. Commercial growers by the 1870s, however, were interested only in sweet oranges, not sour oranges. But as they began to realize the importance of rootstocks, and observed that most trees drowned in the Indian River district, they naturally turned to the variety that had grown successfully in the wild for some 350 years. By the turn of the century, the rootstock of choice in Indian River was sour orange.\(^\text{16}\) Meanwhile, in

\(^{13}\) Ibid., 159.


\(^{15}\) Albert Szent-Gyorgyi, Hungarian physician and chemist, located vitamin C in oranges in 1927.

the Interior, growers increasingly chose to plant on something called rough lemon. Rough lemon had an advantage over several other possible rootstocks partly because it grew well in sandier soils but also because it produced a lot of fruit.

The environmental and agricultural differences between the growing regions of Indian River and the Interior became the foundation for a practical split within the Florida orange industry. Not only did the high water table constrain Indian River growers in terms of how many trees they could grow, it constrained them in terms of how much fruit each tree that did grow could yield. Such constraint had two significant effects. First, it severely limited production. Second, it increased the quality of the oranges growers produced. This latter phenomenon was the outcome of a symbiotic relationship. Symbiosis refers to a mutually beneficial relationship between two distinct organisms. In this case, orange trees produced fruit that animals ate, and the animals spread the trees' seeds through their waste. Because the stress on Indian River trees prevented them from growing as many oranges as they might have under other circumstances, the trees' biological response was to put more energy into the oranges they did grow. Since energy in this context meant photosynthates, or more commonly, sugars, the oranges were sweeter. The fact that growers used sour orange rootstock heightened both effects. Trees with sour orange rootstock

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19 Spyke, conversation with author.
20 Fred G. Gmitter, e-mail message to author, 21 April 2008. Dr. Gmitter is a professor of citrus genetics and breeding at the Citrus Research and Education Center in Lake Alfred, Fl., part of the University of Florida-Institute of Food and Agricultural Sciences.
consistently had sweeter fruit than trees on other rootstock, even under similar conditions. And, they were known to produce less fruit.\textsuperscript{21} For growers in the Interior, on the other hand, these factors were reversed. The well-draining soil was conducive to high yields in the first place, and rough lemon rootstock notoriously produced a lot of fruit per tree.\textsuperscript{22} But, equally notoriously, fruit produced from a tree with rough lemon rootstock was not particularly sweet or flavorful.\textsuperscript{23} The oranges from the Interior were great in quantity but not in quality.

This practical split in the orange industry created a more ideological split. Given their environmental circumstances, Interior growers viewed oranges as strictly a volumes business.\textsuperscript{24} There was nothing unique in this position. Citrus growers in California, for instance, had taken the same general position, as had wheat growers in the Midwest, rice growers in the South, and apple growers in the Northwest. This was the model of industrialized agriculture, then in its nascent stage.\textsuperscript{25} For most people earning a living from agriculture, making more money meant selling more crops. Only when the market was saturated was this strategy potentially flawed. Even then, however, growers might try to increase demand or better control costs. This required cooperative action; without it, each individual grower was heavily incentivized to

\textsuperscript{22} Hume, The Cultivation of Citrus Fruits, 203-6.
\textsuperscript{23} See, for example, Edsall, “A Comparison of Citrus Rootstocks Being Used in the Indian River Area,” 24.
\textsuperscript{24} For an extensive discussion of “orange fever,” see Jerry Woods Weeks, “Florida Gold: The Emergence of the Florida Citrus Industry, 1865-1895” (PhD diss., University of North Carolina, 1977), 12-34.
\textsuperscript{25} For the logic of industrial agriculture, see Debra Fitzgerald, Every Farm a Factory: The Industrial Ideal in American Agriculture (New Haven: Yale University Press, 2003).
produce as much as possible, and then to get it to market before his neighbor. In such a circumstance, growing would remain a volumes business and quality still would not matter.

This is what happened in the Interior. Unlike the citrus growers in California, Florida growers were not a cooperative bunch. Many of them were from the urban middle and upper class or were the heirs of Wall Street investors. In those settings, they had learned the lessons of getting while the getting was good, not the benefit of unified action. This was no doubt particularly true of absentee owners, most of whom resided in Illinois, Ohio, Pennsylvania, and New York, and who did not have the benefit of on-the-ground exposure to the problems of the citrus industry.

That is not to say, however, that no effort was made in the Interior to organize a cooperative. The considerable and rapid success of Sunkist, founded in 1893, effectively made certain that even Florida’s bankers-turned-growers would give cooperative action a shot. Of the hundreds of cooperatives that developed, however, most were small-scale outfits with insufficient influence to accomplish their goals.

At various times, for instance, cooperatives required their members to hold their fruit off the market so price would go up, but non-members were of course free to sell as

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26 From 1870 to 1945, and excluding Florida’s border states, New York and Pennsylvania contributed the most migrants to Florida. Most of these were from urban centers and most settled in relatively less-urban areas of central and somewhat southern Florida. Donald R. Dyer, “The Place of Origin of Florida’s Population,” *Annals of the Association of American Geographers* (December 1952): 294.


much as they wished, and they did so. Similarly, many cooperatives took dues from members to boost the image of Florida citrus in the eyes of consumers, but non-members benefited just as much as members from these campaigns. The unhappy result for those collectively minded was that their efforts acted as a subsidy for those going alone. Consequently, there was actually a disincentive to joining a cooperative. And, naturally, members often tired quickly of supporting non-members and dropped out.30

Sunkist had gotten around these same issues by establishing itself as a federation of smaller cooperatives, which is to say, it was a cooperative of cooperatives. These cooperatives all were individually founded to create farmer influence in a particular arena, whether it was shipping, advertising, the acquisition of loans, or any other issue farmers regularly faced. By uniting them under the Sunkist banner, they collectively became a large-scale enterprise with sufficient influence in all areas of agricultural production and marketing. Not insignificantly, that influence enabled the cooperative to attract high-level managerial talent and contract with leading advertising firms.31

The Florida Citrus Exchange, founded in 1909, was a federated cooperative modeled directly off Sunkist, but its member cooperatives often seemed to forget they were in a federation. Constantly undercutting one another, violating Exchange policy, and smearing reputations through rumor and lies, the Exchange in practice was

nothing like what it was on paper. For example, a freeze in 1917 dried out oranges and made them by any objective measure unfit for sale, yet many growers sent them to market anyway. Their were other displays of unscrupulous activity as well. C. E. Stewart, business manager for the Florida Citrus Exchange, remarked in 1925, “The matter of green and immature fruit, for so many years a problem spot for the Exchange, again plagued the board during the 1924-1925 season.” Summing up the early history of Florida citrus, longtime grower Fred Lawrence remarked that “as a young person I can remember there were great arguments over production, green fruit, and unethical practices within the industry…. The industry was disorganized, there was a lot of talk of dishonesty…. It was shipping immature fruit—fruit that wasn’t first class. Dealers”—wholesalers and speculators—“would flood the market with it.”

As the inadequacy of the Florida Citrus Exchange suggests, the key to Sunkist’s success was not in its design, per se, though that was very important, but in the fact that growers agreed to cooperate. This simply did not happen in the Interior. Whereas Sunkist counted around 75 percent of all California and Arizona growers as members, the Florida Citrus Exchange at its peak had only 39 percent. Even more

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33 F. L. Skelly, Report on Sales, 20 March 1918, in Hopkins, Fifty Years of Citrus, 36.
34 Quoted in Hopkins, Fifty Years of Citrus, 78.
35 Lawrence, oral history.
36 C. C. Commander, report, 1928, in Hopkins, Fifty Years of Citrus, 97-98. Despite its extraordinary success, Sunkist was not immune to some of the difficulties associated with cooperatives. In 1939, for example, the 30 percent of growers not in the cooperative fomented a revolt among enough Sunkist members that their combined numbers gave them a majority in opposition to a pro-rate decision.
stark was the difference in their advertising budgets. In 1918, the Florida Citrus Exchange created a brand specific to their cooperative, using Sunkist as a model; fruit bearing the label SEALD SWEET hit markets that year with heavy advertising.\(^{37}\) This meant a jump in advertising expenditures from about $50,000 around 1915 to about $97,000 in 1919.\(^{38}\) Significant for the cooperative, but compared to Sunkist’s annual advertising budget of around $1,000,000, almost nothing.\(^{39}\) The label met with some success over the years and in fact still exists today, but the Exchange’s limited control over the Florida supply—in addition to its own internal problems—prevented the label from becoming the magic potion the Exchange hoped it would be.

For most growers in the Interior, the chaos and inefficiencies of the orange industry were extremely frustrating, but they were not usually deadly. They mitigated the effects by producing ever more oranges and thereby remained in business. Focusing on quantity at the expense of quality was not a tenable strategy in the long run, but then, no one could afford to look at the long run.\(^{40}\) And in the short run, which proved to be until the end of World War Two, this strategy worked.

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Sunkist had favored. Sunkist’s general manager, Charles A. Teague, went on the radio to encourage cooperation and put down the revolt, even while making concessions to his internal opposition. See Anonymous, “Sunkist Revives Self,” *Business Week*, 7 January 1939, 23-24; and, more generally, Charles C. Teague, *Fifty Years a Rancher: The Recollections of Half a Century Devoted to the Citrus and Walnut Industries of California and to Furthering the Cooperative Movement in Agriculture* (Los Angeles: Anderson and Ritchie, 1944).

\(^{37}\) J. H. Ross, report, 17 April 1918, in Hopkins, *Fifty Years of Citrus*, 41-42.

\(^{38}\) Hopkins, *Fifty Years of Citrus*, 46.


\(^{40}\) See the grower testimonies in *Problems of the Citrus-Fruit Industry, Hearings Before a Subcommittee of the Committee on Agriculture and Forestry, United States Senate, 80th Cong., Second Session*, (20-24 September 1948). The hearings were held in Vero Beach, Florida and led by United States Senator Claude Pepper of Florida as part of an effort “to investigate the problems relative to production, distribution, and marketing of citrus fruit” (1).
Indian River growers, however, could not hope to compete in this kind of market environment. They could not sacrifice flavor for the sake of economy because they lacked the ability to do so at the rate of their peers in the Interior. J. J. Parish, an Indian River grower, remarked “of necessity we have to go for quality and thus get a premium price for this fruit. Otherwise, we couldn’t competitively stay in business.”

Reliable statistical data prior to the 1930s is scarce, but according to the U. S. Census of Agriculture in 1935, production in the largest producing counties in the region, Indian River and St. Lucie, was dwarfed by production in the Interior counties of Polk, Orange, and Lake (see table 1). Remarked a 1949 state-of-the-industry article in the *St. Petersburg Times*, “a 250-acre Indian River grove is considered big, whereas in the Polk-Orange-Lake counties area, a grove isn’t classified as ‘big’ until it gets over 1,000 acres.”

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Table 1: Orange Production of Five Florida Counties in 1934

<table>
<thead>
<tr>
<th>County</th>
<th>Number of Groves</th>
<th>Fruit-Bearing Trees</th>
<th>90-pound boxes of oranges</th>
<th>Average box-per-tree ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indian River</td>
<td>471</td>
<td>42,175</td>
<td>163,770</td>
<td>3.88</td>
</tr>
<tr>
<td>St. Lucie</td>
<td>324</td>
<td>29,271</td>
<td>124,236</td>
<td>4.24</td>
</tr>
<tr>
<td>Polk</td>
<td>3,081</td>
<td>253,404</td>
<td>4,943,607</td>
<td>19.5</td>
</tr>
<tr>
<td>Orange</td>
<td>2,419</td>
<td>331,030</td>
<td>4,453,399</td>
<td>13.5</td>
</tr>
<tr>
<td>Lake</td>
<td>2,255</td>
<td>229,678</td>
<td>1,738,943</td>
<td>7.6</td>
</tr>
</tbody>
</table>

Just as significantly growers in Orange and Polk counties were able to produce oranges at a much lower unit cost than growers in Indian River. Reliable financial data is just as hard to come by, but in the late 1940s, when the production costs for a box of oranges oscillated between $2.00 and $4.00 in the Interior, they were a dollar more per box in Indian River. Over the long term, that gap was still more significant because of the difference in the commercial lifespan of each region’s trees. A grower in the Interior could expect an orange tree to be profitable at least until it was 50 years old, barring disease or disaster. In Indian River, a similar tree would only last about thirty years. This was even reflected in the rates of depreciation allowed by the federal government for tax purposes. This meant that Indian River growers bore the expense of replacing trees more regularly, which further made their costs greater than interior growers.

As a consequence, most would-be growers went to the Interior. As J. J. Parrish told an interviewer in 1977, “we never really had hungry people here on the river.”

43 Problems of the Citrus-Fruit Industry (statement by J. J. Parrish), 455. Comparative statistics are extremely hard to find for earlier years. Anecdotal evidence, however, strongly suggest Indian River's costs were always higher.


45 Parrish, oral history. Dr. Louis Gardner MacDowell, a major twentieth-century citrus researcher, similarly commented to journalist John McPhee in 1965, “in Indian River, they have some feeling that citrus is a way of life. Over here, on the Ridge, citrus to most people is just a way to make money.” McPhee, Oranges, 126. Parrish also said in 1977, “We remarkably transact a great amount of business without even a written contract and still do as a matter of fact.” This was still true among some citrusmen I talked to in 2008, particularly George Hamner, Sr. and Jr. (conversations with author, Vero Beach, Fl., 31 July 2007).
That is to say, the get-rich-quick schemers who flooded the Interior beginning in the 1870s never came to Indian River. Although Parrish’s statement might understandably be interpreted as romanticism or perhaps boosterism, the evidence supports it (see figure 2). From the end of the Civil War to the onset of the Great Depression, the population in Indian River remained relatively low and stable. Because Florida’s counties subdivided often and unevenly during this period, county-level population growth is extremely difficult to track. However, there is enough data to support Parrish’s basic observation. In 1870, Brevard County had a population of 1,216. In 1890, it and Osceola County, which largely came from formerly Brevard territory, had populations of 3,401 and 3,133, respectively. In 1910, Brevard’s count was 4,717 (third smallest of the 47 counties), and St. Lucie County, formerly included within the boundaries of Brevard, had 4,075 residents (the smallest of the 47 counties; if taken together, Brevard/St. Lucie’s population would have been thirty-first largest).
By 1930, St. Lucie County had a mere 7,057 and Indian River County, formerly included within St. Lucie, had 6,724. Even combined, they were distantly behind Orange, Lake, and Polk counties, which had counts of 49,737; 23,161; and 72,291, respectively, despite being roughly the same size geographically.46

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46 T. Stanton Dietrich, *The Urbanization of Florida’s Population: An Historical Perspective of County Growth, 1830-1970* (Gainesville: University of Florida, Bureau of Economic and Business Research, 1978), 17-23. For comparison’s sake, these are the growth rates of Orange, Lake, and Polk counties. In 1870, Orange County had a population of 2,195, and neighboring Sumter County had 2,952. In 1880, Orange County had jumped to 6,618 and Sumter County to 4,686. In 1890, geographically smaller Orange and Sumter counties had a population of 12,584 and 5,363, respectively, while Lake County, created from them, had 8,034. Over the same period, nearby Polk County had an increase from 3,169 to 7,905. In 1930, the population of Orange was 49,737; of Lake, 23,161; and Polk, 72,291. In other words, from 1890 to 1930 the population increased 395% in Orange County; 288% in Lake County; and 915% in Polk County. All of these are near or greater than the growth rate of the state, which jumped from 391,422 to 1,468,211 (a 375% increase) largely due to the growth of Tampa, Jacksonville, and Miami.
Table 2: Population figures in eight Florida counties

<table>
<thead>
<tr>
<th>County</th>
<th>1870</th>
<th>1890</th>
<th>1910</th>
<th>1930</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brevard</td>
<td>1,216</td>
<td>3,401</td>
<td>4,717</td>
<td></td>
</tr>
<tr>
<td>Osceola</td>
<td>-</td>
<td>3,133</td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Lucie</td>
<td>-</td>
<td>-</td>
<td>4,075</td>
<td>7,057</td>
</tr>
<tr>
<td>Indian River</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6,724</td>
</tr>
<tr>
<td>Orange</td>
<td></td>
<td></td>
<td></td>
<td>49,737</td>
</tr>
<tr>
<td>Lake</td>
<td></td>
<td></td>
<td></td>
<td>23,161</td>
</tr>
<tr>
<td>Polk</td>
<td></td>
<td></td>
<td></td>
<td>72,291</td>
</tr>
</tbody>
</table>

Beyond these figures, though, the basic composition of growers in Indian River and the Interior diverged significantly in a way that supported Parrish’s statement. Absentee ownership was much higher in the Interior, particularly in Polk and Lake counties, than in Indian River. These growers were not really growers at all, as they contracted out all aspects of production. For them, oranges were an investment, not a livelihood. Additionally, anecdotal evidence strongly suggests that Interior growers came and went with abandon compared to growers in Indian River, as the citrus industry in the Interior was largely boom-and-bust. On top of that, Indian River had a history of semi-subsistence growers dating to the conclusion of the Civil War. Homesteaders trickled down from Alabama, Georgia, South Carolina, and even north-central Florida. They established groves and eventually participated in the orange industry, giving the Indian River region a social character distinct from the Interior.

None of this, however, is to suggest Indian River boosters and developers did not try to establish an orange industry along the lines of the Interior. Indeed, they did. In 1911, the town of Fellsmere hired an underwriting agency and conducted a major advertising campaign in the eastern United States. In particular, the town distributed circulars proclaiming cheap land and suggesting a lucrative future in agriculture.

48 See all of the interviews of citrusmen conducted in 1977 with Paul Weaver and kept at Samuel Proctor Oral History Program Collection, P.K. Yonge Library of Florida History, University of Florida.
Their success was negligible at best.\textsuperscript{50} The North St. Lucie Water Control District launched a similar effort about 1905. The outfit installed drainage canals both to turn swamps into agricultural land and for irrigation. But, few people came.\textsuperscript{51} To be sure, there were a few heavily capitalized citrus corporations in the region. One of them, Vinnedge Farms Company of Florida, was formed in 1917 by two brothers who had earlier made fortunes in Indiana and Missouri. In 1919 the company doubled the capital stock to $200,000 and sold shares to investors in Chicago, Cleveland, New York, and St. Louis.\textsuperscript{52} Another, Deerfield Groves Company, founded in 1912, was a combination of Florida grower money and Pennsylvania investor money and was incorporated in New Jersey.\textsuperscript{53} But these were exceptions. Most of these firms invested in the Interior.

What all this meant in terms of the orange industry was a huge disparity between Indian River and Interior growers with respect to distributing and marketing their fruit. By all appearances, Indian River growers should have folded. But they did not, for even as orange production in the Interior developed, so did association of Indian River with high quality oranges. This was partly the product of growers' actions. Staying in business required that they collectively publicize the higher quality of their oranges, that they take care to sell only higher quality oranges, and that they

\textsuperscript{50} Sidney P. Johnston, \textit{A History of Indian River County: "A Sense of Place"} (Vero Beach, FL: Indian River Historical Society, 2000), 51. Johnston presents the development of Indian River County very positively and to that end argues large-scale development was a success. The evidence for that argument, however, is not convincing.

\textsuperscript{51} Lucille Rieley Rights, \textit{A Portrait of St. Lucie County, Florida} (Virginia Beach, VA: Donning Company Publishers, 1994), 137.

\textsuperscript{52} Johnston, \textit{A History of Indian River County}, 59.

\textsuperscript{53} Ibid., 63-64.
receive a higher per-orange return. "When we market our fruit and spend our own advertising money," said one grower referring to Indian River growers' collective action, "50 cents [of each dollar spent on advertising] tells the public that we are the best in Indian River." Remarked Chester Fosgate, a grower from the Interior, in the 1947, "Those boys on the Indian River for a period of 50 years have been so much smarter than we over here.... They got the story over to the housewife, 'It is not the way it looks, it is the way it tastes,' and so today in your Eastern markets you can go into a store and there will be pale, discolored oranges from Indian River" selling for twice as much as other oranges “and the housewife pays the difference. Why? Because she has learned that Indian River is the same as 'sterling' on silver.”

Fosgate probably exaggerated the difference in retail price, but Indian River oranges from 1933 to 1942 did command around 34 cents more per 90-pound box in the wholesale marketplace, or about 14 percent over Interior oranges. From 1945 to 1949, the difference increased to 75 cents a box for early and mid-season oranges and to 37 cents for Valencias.

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55 Problems of the Citrus-Fruit Industry (statement by Chester Fosgate), 366. See also the statement by Interior grower Murl E. Pace on Indian River’s “master brand” approach (357-8).
56 J. Wayne Reitz, “War-Time Price Control of Fresh Citrus Fruits,” Journal of Farm Economics (1945): 3. Sale prices for fruit prior to the 1930s is extremely difficult to find. Newspapers often printed commodity prices in a “markets” column, and retailers often listed prices in advertisements, but these figures vary too much to be trusted. Common to all of them, though, was a higher price for Indian River oranges. The figures presented in the text reflect the average price for Interior oranges from 1933-1942 ($2.41/box) and the average premium for Indian River oranges (34 cents).
57 J. Wayne Reitz, “Fresh Fruit and Future Citrus Production,” draft of speech given at Indian River Citrus Seminar, October 1950, Presidential Collection, Series 915, Institute of Food and Agricultural Sciences, J. Wayne Reitz Papers, 1925-, Box 3, Writings and Speeches, 1945-1951, University of Florida Archives, University of Florida.
Although Fosgate, and others in the industry understandably gave credit to Indian River growers for the creation of the Indian River brand, the growers did not so much create the brand as benefit from its creation. Indeed, American tourists created the Indian River brand, and, Indian River growers notwithstanding, were its most ardent promoters. These tourists were not generally conscious of either action, but by experiencing Indian River oranges, writing and talking about Indian River oranges, and ultimately demanding Indian River oranges, they established and reified over the decades a milieu in which Americans of all stripes unconsciously conceived of Indian River oranges as premier. And inherent in this milieu was the creation of a brand explicitly linking a particular place to the quality of an orange grown there.

This process began by happenstance as middle and upper class Americans began traveling to Florida in the 1870s. Rather abruptly, Florida developed a reputation for enabling one to live the good life. Journalists for publications like *Scribners' Magazine, Popular Science Monthly* and numerous others wrote of Florida's many wonders, from wintertime warmth to the availability of fresh fruit, and told stories of consumptives recovering and medical invalids enjoying life again. Readers were encouraged to move there, or at least live there during the winter months. One E. P. White proclaimed to his fellow Vermonter's, "Many a man living in Vermont could prolong his life ten years by coming here winters, and the expense would be but trifling compared to the benefit received."58

By the 1890s, though, only

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the wealthy could actually follow White’s admonitions. As that happened, "Florida" became a thing one “did” within the social set. Daughters “came out,” men went to clubs, women held balls, and everyone, it seemed, went to Florida for the winter. A brief blurb in a section entitled “What is Doing in Society,” from The New York Times in April 1899, captures its essence: “The Florida season is virtually over. It has been a prosperous one, but guests are leaving the hotels by every train and the larger houses will close their doors within a few days.” The blurb ended by mentioning the dates when prominent New Yorkers, including “Mr. and Mrs. Colgate Hoyt” and “Mr. and Mrs. H. B. Plant,” would again reside in the city.

Although some of these turn-of-the-century snowbirds went to Tampa and elsewhere on the gulf, the wealthiest preferred the eastern side. From Jacksonville to Miami, they hunted, fished, swam, golfed, played bridge, and, significantly, ate oranges. By making these annual social excursions to the Sunshine State’s eastern coast, they became familiar with Indian River oranges. This familiarity quickly took on social implications. When T. Sanford Beatty bought a branch of the Key West Railway running through Indian River in 1899, The New York Times noted he “will now be in the position to favor his Newport friends with early shipments of Indian

61 A major exception to this were Mr. and Mrs. H. B. Plant, as he invested heavily in the Tampa area and was one of Florida’s leading developers.
63 Ralph, “Our Own Riviera,” 509.
River oranges, and it is laughingly said in the clubs that ‘he picked an orange if not a plum’ at this sale.’  

For the rich, the link between place-of-origin and quality was obvious; they were in the place and they tasted the quality. Their part in the creation of the “Indian River” brand was merely a by-product of their existing activities. At the same time, however, elite preference for Indian River oranges was an example of conspicuous consumption at its finest and most literal. During precisely the time when Thorstein Veblen articulated his famous thesis, the very practice of eating Indian River oranges established and reinforced a social more. In other words, the elite had to buy Indian River oranges. Even more importantly, though, it influenced the consumer ideology of middle class Americans. As Pierre Bourdieu has argued, members of the lower classes strive to emulate the upper class, at least in concept if not often in practice. A more expensive orange, which had a reputation among the elite for being high quality, and was referred to by its place-of-origin, a place well-known as a winter home for the wealthy—such an orange was certainly going to acquire acclaim beyond the boundaries of the social set.

But although the ultra-rich from the Northeast undoubtedly played a major role in making Indian River oranges the archetypal orange, middle class Americans

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from the North and Midwest played their own role. For while the former composed most of the snow-bird crowd, plenty of middle class Americans went to Florida on vacation. The majority of these tourists spent most of their time in the cheaper Tampa area but excursions inland and to Indian River were commonplace. And, not infrequently, these travelers wrote long open letters back home for publication in their local newspaper. Their friends and neighbors thus read about the relaxing paradise that was Florida. They also read about Indian River oranges. The ways the authors wrote about these oranges, the fact they mentioned them in the first place, and the assumed fact that readers read the published letters, testifies to the organic development within the consumer psyche of a linkage between the place of Indian River and the quality of that place’s oranges.

Several examples speak to this. Lydia Strawn of Ottawa, Illinois, traveled to Florida in the spring of 1882. She wrote of enjoying Indian River oranges, telling her readers they were “large and lusciously sweet.” Strawn’s characterization is noteworthy because she writes as if informing her readers of the existence of Indian River fruit. This was probably the case, as almost certainly few of her readers had by 1882 ever eaten an Indian River orange. Another traveler from Phillipsburg, Kansas wrote in his “Florida Letter” published in 1885, “let me say there is no reason why

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the people of Kansas should not use the fine Indian River Orange (the best in the world)...,” and as for the oranges in the Interior, they were “plenty and cheap though not nearly as fine as the Indian River oranges.” In 1892 a vacationer from St. Clairesville, Ohio wrote of Indian River oranges, “They are juicy and luscious. There is nothing in the inside to discard but the seed; all the balance dissolves in your mouth as does a good watermelon.” Letters like these helped build and maintain the “Indian River” brand, giving the fruit a cachet the envy of other Florida growers.

While earlier, railroad-based travelers laid the groundwork, subsequent car-based vacationers continued to reinforce the Indian River brand. As these tin can tourists descended upon Florida, growers hoped to attract some of them to their groves. One early advertisement from 1909, a year after the Model T hit the market in force, declared in large letters, “Notice to Tourists” then said, “If you want the very best Oranges apply to Point Grove and the Redland Indian River Orange, the best in the state, situated 11 miles south from Daytona on the Daytona and New Smyrna Road.” An L. A. Smith, down from Mt. Sterling, Kentucky, wrote the local paper, “We saw a sign up at a yard gate reading, ‘Indian River Oranges for Sale.’ We stopped and bought a couple of dozen to eat, and, speaking of good oranges, I never

72 For tin can tourism in Florida, see Revels, Sunshine Paradise, 63-78.
tasted any like them before.”74 In a later letter, he wrote, “In Jacksonville we saw a
new looking kind of orange. It was said to be the best in the world....We tried one,
but they were nothing to compare to the Indian river oranges that we gathered off the
trees on the river.”75 Examples like these abounded through the 1920s and suggest the
role tourists’ word-of-mouth played in establishing “Indian River” within the broader
milieu of consumer activity.

Retailers, of course, did their own bit of establishing. Just by advertising the
fact they sold Indian River fruit, they reinforced the power of the brand. In early
1889, a small ad in a Washington, D. C. newspaper encouraged readers to “Order
some of those delicious Indian River oranges at Cummings & Morris, telephone
30.”76 A larger-scale retailer named John Magruder, also based in Washington, ran
ads in 1896. The text included “Indian River ORANGES” printed in enormous type,
and stated, “We’ve closed a contract with one of the best-known orange growers in
Florida for his ENTIRE CROP of INDIAN RIVER ORANGES....INDIAN RIVER
ORANGES are the finest in the world. They have thinner skins—contain more
juice—are sweeter—and more delicious in flavor—than any other.”77 A 1916 ad for
Trimmers’ Busy 5, 10, and 25c store in Gettysburg declared in its entirety,
“ORANGES! oranges! You all know how much better Indian River oranges are than

any others. I have just received and have specially priced these goods. 25, 30, and 35c a dozen.” Other advertisements, like one from a Kentucky retailer, pitched “Christmas Goods” and emphasized “INDIAN RIVER FLORIDA ORANGES.” Advertisements like these proliferated well into the twentieth century, but additionally, since most fruit until the 1930s was ultimately sold to consumers at produce stands, most proprietors undoubtedly did little more than put a sign up announcing the arrival of the fruit.

The cachet of the “Indian River” brand was not restricted merely to those likely ever to see them in the marketplace. Indeed, it was widespread. The gossip column of the Omaha Daily Bee reported in 1893, “A. B. Smith, assistant general freight agent of the Burlington, will eat Indian river oranges for the next week, several boxes of the Florida brand having been sent him by Mr. J. M. Metcalf, who has been in the tropics for a month or six weeks.” Such casual reference to Indian River, even with the “Florida brand” reminder, suggests readers in Nebraska knew about the oranges already. An 1899 article about the Spanish-American War published in a Salt Lake City newspaper, quotes Major General Guy Vernon Henry as saying of Puerto Rico oranges, “They are as good as Indian River oranges.” The article was originally printed in the New York Herald and the comparison to Indian River certainly would have resonated with that paper’s readers. Nevertheless, the editors of Salt Lake’s Deseret Evening News evidently found it reasonable to leave

the reference in even as they made other changes. And in 1903, the Hawaiian Gazette referenced the “Indian river orange” as an example of a superior and branded version of something widely available, and argued that perhaps Hawaiian coffee growers might consider this fact.

Figuring out exactly who would have experiential knowledge of Indian River oranges, though, is almost impossible. This is partly because the orange industry in Florida was fairly diffuse and record keeping spotty, but more significantly because the magic of “Indian River” inspired charlatans in the Interior to engage in brand infringement. As the quotation from Joseph E. Brown’s story leading off this article indicates, some Interior growers sought to use the “Indian River” name to sell their inferior fruit to consumers at higher prices. In fact, such fraudulence was so commonplace it was literally laughable. In 1896, *The Sun* of New York City printed a satirical pastiche of an interview with a presumably fictitious Florida grower. A “Colonel Carr” was asked, “How far can the public depend on your own Florida marks on a box,” and “Do you always brand them fairly.” The colonel cried with indignation, “Absolutely, sah! That is, there is only one trick of the trade in marking Florida oranges, and that is so plain that I suppose everybody understands it. Up in the orange belt we very often mark our boxes ‘Indian River oranges,’ though we are a hundred miles away from the Indian River. You see, the public has a great prejudice in favor of Indian River fruit, because the first good Floridas come from that region.

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But, bless you, sah, there ain’t enough oranges raised in the whole Indian River region to supply this one market for a month—not for a single month, sah. And the man that raises them can’t tell the difference between fruit from Orange County and the same grade of fruit from the Indian River.83

Such deception was all the easier as most consumers did not know what the boundaries of Indian River actually were. One article reprinted around the country detailing the destruction of an 1894 Jacksonville hurricane noted, “It is expected that many Indian river orange groves are totally ruined and that orange crops are damaged.”84 But Jacksonville was some ninety miles north of the northern-most point of the Indian River district. A different example concerns the oranges grown along the Halifax River, which was just north of the Indian River region. These too were frequently branded “Indian River,” and consumers were even led to believe the Halifax area was part of Indian River. In fact, neither the oranges nor the area had any claim to that status.85

Of course, even if consumers did know the boundaries of Indian River, most still did not have any idea if the so-labeled “Indian River” oranges they bought at the fruit stand were actually from that region. In fact, there is no reason to believe even most wholesalers and jobbers knew. By all appearances, the problem seemed to lie with other Florida growers. In 1902 one Indian River grower expressed his outrage

over the situation. In a letter to the editor of *The Florida Star*, he declared no more than 75,000 boxes of Indian River fruit has ever gone to market, but that “one cannot go to a fruit stand of any importance anywhere that the writer has traveled without finding at all times of the season when Florida oranges are in the market a great pyramid of shiny-looking fruit marked Indian River oranges.” Lots of oranges “arrive in New York City marked Indian rivers (sic) that we were sure never saw Indian River, and did not come from this section of the state.” He concluded by arguing, “If the orange growers of Indian River could contrive some plan to put a stop to this deception, both in the box and on the fruit stands,” their profits would soar because their true scarcity would become known and because consumers’ connection between “Indian River” and quality would increase if the lower quality, false oranges were not dragging it down.86

Putting a plan like this into action proved tough to do. Nearly thirty years passed before one grower, Will Fee of Ft. Pierce, was able to gain traction. He gathered a number of growers together and collectively sought legal support. After much lobbying, they attained it in 1930 when the Federal Trade Commission banned the use of the phrase “Indian River” on all fruit grown outside the region.87 And yet, one major question remained: what were the boundaries of the region? In 1931, Fee and some other growers founded a cooperative, the Indian River Citrus League, to

keep watch on the market and maintain brand integrity.\textsuperscript{88} They did this not through consumer-based advertising, which was not necessary, but by trying to define the boundaries of the Indian River region and convince the state legislature to codify them legally. That proved very difficult, however, as all counties with even a remote claim to “Indian River” status argued for their inclusion. Finally, in 1947, the United States Department of Agriculture conducted a public hearing to discuss the possible creation of separate marketing laws, a result of which would be legal distinction for Indian River growers. Several growers spoke about the longstanding differences in production methods and in marketing, including the significance of the Indian River brand; and the very different grading measures with respect to size and color.\textsuperscript{89} The testimony was persuasive: following the hearing, the Secretary of Agriculture legally codified the Indian River region.\textsuperscript{90} Seventy-one years after Brown wrote of the fraudulence in Jacksonville, Indian River growers had finally harnessed the fused power of place and quality.

Theoretically “Florida” should have exhibited the power of place as much as Indian River did. After all, though the wealthiest socialites went to the eastern coast and threw their consumer weight behind Indian River, wealthy urbanites went to the Gulf Coast as well, and everyone went on forays into the Interior. But “Florida” never acquired a consumer base like “Indian River” because Interior growers squandered

\textsuperscript{88} Participation among Indian River growers in the League was about 98 percent. Problems of the Citrus-Fruit Industry (report from the Citrus Committee of the Florida Bankers Association to J. D. Camp), 372.


the opportunity. An article in the trade journal *Manufacturer’s Record* in February of 1928 declared that, “Unless cotton, of which it has been said, ‘it is the most barbarously handled product in the world,’ can claim the primacy for bad methods of marketing, the citrus industry of Florida holds the lead.” Oranges’ myriad benefits to consumers did not translate into increased sales for Florida growers because they were “marketed in an almost recklessly bad way.” Retailers of all stripes were “afraid to bid a decent price because” they had little idea what they were going to get except that a good portion of it would be “bad fruit.”\(^*\) And it would be bad fruit because the ethos of industrial agriculture mixed toxically with Interior growers’ individualism, preventing them from cooperating and capitalizing like their peers in the Indian River region.\(^\ddagger\)

In effect, Interior growers made “Florida” a derogatory word when it came to oranges. This, as they well knew, was to their detriment. And yet, the appeal of oranges was strong enough that for seventy years the market overcame their abhorrent business practices. And then, following World War Two, that was no longer the case. The world of produce retail, formerly composed of thousands of independent jobbers, wholesalers, and fruit vendors, quickly consolidated as supermarkets took over the retail industry. This transformation in the supply chain had an enormous effect on Florida grower’s economic standing. Supermarkets relied upon selling not just the produce but the store itself and the experience of shopping at the store. Creating a

\(^\ddagger\) Dorothy Howard’s master’s thesis, “Cooperative Marketing of Citrus,” is probably the single best encapsulation of the pre-war industry. James T. Hopkins provides an excellent summation of primary sources relating to the Florida Citrus Exchange in *Fifty Years of Citrus*. 
packaged store experience similar in design to any other consumer good required standardization to ensure the store looked and felt the same each time a consumer entered it. But it also required that the store looked and felt good so consumers wanted to enter it in the first place. Supermarkets placed produce, suggesting Edenic notions of freshness and vitality, just inside the entrance to create that effect. And naturally, they wanted the best looking produce available. For citrus, this meant California oranges. Whereas Florida oranges were mottled, pockmarked, and discolored, California oranges, by contrast were beautiful. Moreover, for nearly five decades California growers had utilized agricultural research to create a spotless orange, and spent money on advertising campaigns to create consumer demand for spotless oranges. Thus, supermarkets privileged California when they stocked their shelves. For Indian River growers, this was a problematic development, though to some extent they continued to ride on their reputation for high quality fruit. For Interior growers, however, it threatened to force them from the market. The significance of place, which consumers had interpreted to lift Indian River oranges above all others, gained new meaning in an environment of mass consumption, and supermarkets were the creators and benefactors of that meaning.
CHAPTER TWO

A Bite from the Middle:
Supermarkets and the Decline of the Fresh Florida Orange

What thoughts I have of you tonight, Walt Whitman, for I walked down the sidestreets under the trees with a headache self-conscious looking at the full moon.

In my hungry fatigue, and shopping for images, I went into the neon fruit supermarket, dreaming of your enumerations!

What peaches and what penumbras! Whole families shopping at night! Aisles full of husbands! Wives in the avocados, babies in the tomatoes!--and you, Garcia Lorca, what were you doing down by the watermelons?

—excerpt from Allen Ginsberg, “A Supermarket in California,” 1955

The poem represents Allen Ginsberg’s somewhat erotic lament for an America that lost its way and became a place privileging homogeneity over creativity, conformity over expressionism. It was a lonely America, a country where people were isolated and vulnerable at the very same time that by all outward appearances they were united and powerful. Significantly, Ginsberg used the supermarket to express this paradox. The supermarket, where Americans could get almost anything they wanted almost any time they wanted, prevented them, by its institutional power, from getting what they most wanted. Peaches, avocados, tomatoes, artichokes; the supermarket had them, but somehow Ginsberg, Garcia Lorca, and the ghost of Walt Whitman could not find what they were looking for, and neither, Ginsberg suggested, could husbands, wives, and babies even though none of them realized it. The allegory

1 Allen Ginsberg, Howl and Other Poems (New York: City Light Books, 1956).
worked because this was what supermarkets did. Taking full advantage of their enormous influence in grocery retail, they eventually seizing control of the supply chain, dictating to producers the types of food they would buy and under what circumstances, and determining for consumers their range of choices, all while seemingly providing Americans more choices than ever before. Like Ginsberg’s America, they provided the illusion of freedom while circumscribing it.

It was an illusion, of course, because supermarkets were not concerned with freedom. They were concerned with profits. They did not want to offer customers hundreds of varieties of oranges, apples, and bananas; they wanted to offer one variety, or possibly two varieties, buying in enormous quantity at a lower per-unit cost and selling at a relatively higher mark-up. Supermarkets were the retail equivalent of mass production. Selecting the one or two varieties of a type of fruit to sell, therefore, was a major decision. A piece of fruit had to do multiple things for the supermarket. Most obviously, it had to sell itself. In earlier days, customers told grocery clerks what they wanted to buy and the clerks selected the items for the customer. Often the two parties were on opposite sides of a counter, and the retail goods were on the side with the clerk. In mid-century supermarkets, however, customers selected their own items. Thus, packaging became a necessary advertising tool, and usually the only packaging fresh produce had was its peel. That meant supermarkets were only interested in fruit that looked like it was good eating. Discolored or disfigured fruit, even if it tasted great, had no value. But there was another, less obvious consideration. Supermarkets used bright, colorful produce to
sell the supermarket experience to consumers. Then, as now, when Americans walked into the grocery store, fresh, ripe produce was the very first thing they saw. It served as a lure to get them deeper into the store where they might purchase other things, and to get them to come back to the store again when their pantries were wanting. It was all an illusion, but it was a good one.

Creating and sustaining the illusion had enormous ramifications for orange growers around the country. Supermarket managers’ decisions about which oranges to buy were implicitly but directly tied to growing environments. That is to say, they were tied to place-of-origin. However much managers were aware of this fact, orange growers in California and Florida were extremely aware. All of them knew that California oranges were far more aesthetically appealing than Florida oranges. California’s drier climate was simply far more conducive to producing beautiful fruit. As supermarkets increased their influence within grocery retail over the middle three decades of the twentieth century, California oranges displaced Florida oranges in most retail outlets around the country. The meaning of place-of-origin in the marketplace evolved as well. As supermarket managers joined consumers as the major force in the production, distribution, and consumption of oranges, the meaning of place shifted from internal to external quality. By the 1950s, place still meant everything, only the meaning was as much for the middleman as for the consumer.

Supermarkets’ role in the decline and fall of the Florida orange over the course of the first half of the century rested primarily on two distinct yet interrelated phenomena. The first of these was a shift in the way Americans acquired food. As the
United States industrialized following the Civil War, Americans became less and less self-sufficient and more and more dependent upon retailers for the food they ate. The supermarket of the 1950s was, in many ways, merely the logical business development of this trend. The second phenomenon was innovation in transport technology. It is no accident that long haul trucks developed around the same time as supermarkets. Their ability to travel almost anywhere almost anytime, especially as compared to railroads, provided supermarket managers the leverage to ensure that they got precisely the type of fruit they wanted, when they wanted it. As it turned out, these phenomena, opposite sides of the same coin, put Florida orange growers in an extremely disadvantageous position.

Regarding the first of these, the supermarket of the 1950s was the culmination of a major transformation in the grocery business. By the end of the First World War, the growing consumer economy provided millions of urban Americans the financial standing to participate themselves in that economy. They did so in many ways, most notably by watching motion pictures and riding around in automobiles, but also by buying more and better food. More—and more sophisticated—agricultural mechanization and transport technology helped increase the supply of a wide variety of food, and at lower costs. This of course included such staples as meat and bread, but it also included exotic or tropical foods like coffee, bananas, chocolate,

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and citrus. As such, longstanding differences in diet according to wealth and locale declined. In this context, Robert Strawn, reflecting on his childhood and his parents’ efforts in the Florida orange groves, said, “people used to think that an orange was a luxury.” By the time he began working in the groves in 1920, though, it was not.

Getting oranges and other fruit from farmer’s field to consumer’s home around the turn of the century was a complicated and disjointed business. Growers, whether in California or Florida, contracted with a packing house to pick the fruit, beautify it as necessary, and box it for transport. The oranges were then conveyed in enormous quantities on ships and trains to a handful of terminal cities. There, the fruit was offloaded into a warehouse. Usually within a few days, the fruit was auctioned off, often at railroad-owned auction houses, to the highest bidders. At all these stages, growers hired commissioned brokers or salaried employees to facilitate the process of conveying and selling their fruit. The buyers were usually jobbers or other

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wholesalers, and they resold the fruit to retailers. These were primarily small-scale, independent fruit vendors, and often recent immigrants. Lebanese transplant Habib Koory Ayoob was one of them. In a story typical of immigrant fruit vendors, he came to a large city (Pittsburgh) in 1900 and shortly began peddling fruit in his neighborhood. In business for himself, he purchased his fruit from one of the many jobbers down along the railroad tracks, who had in turn bought it at auction as it came off the train. Ayoob’s dream was to set himself up as a wholesaler, and by 1908 he had saved enough money to do so. Ayoob had plenty of company, too. By the 1920s, Pittsburgh, like other American cities, had a large and vibrant network of wholesalers and fruit peddlers.

Although Ayoob probably was unaware of it, though, his version of the American Dream was gradually being exterminated. The supply chain of citrus and most other commodities lacked any central organizing force; there were few barriers to entry and consequently it was composed primarily of people like Ayoob who bought and sold on a very small scale. At the very same time he navigated the chaos of the fruit business to achieve success as a wholesaler, a new retail format, the chain store, was in the process of completely restructuring the retail industry. In contrast to fruit wholesalers and venders and mom-and-pop corner stores, chain stores bought and sold on a large scale and therefore had far greater economic power in the

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marketplace. As such, they provided the first major push to consolidate the retail market, which in turn effected the first major push to consolidate the entire supply chain leading to the retail stage. Thus, folks like Ayoob became decreasingly common over the first half of the century.

By far the biggest player in this new format was the Great Atlantic and Pacific Tea Company, shortened to A&P. Between 1914 and 1916, A&P opened 7,500 stores, a rate of expansion unparalleled in retail. A&P and its chain competitors typically did their own wholesaling, generally operated on the cash-and-carry principle (meaning that customers bought with cash, not on credit, and took their groceries home with them, rather than have the store deliver them), and were cheap. They also subscribed to the ideology of scientific management, which manifested itself not only in improving employee efficiency but in activities like conducting consumer surveys and stationing employees on busy street corners to count the number of passers-by. While these early chain stores did not typically carry produce, they established the business foundation for the supermarkets that would.

The first supermarket opened its doors in 1930. In an effort to take advantage of the automobile’s increasing prevalence and Americans’ penny-pinching

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10 Levinson, *The Great A&P and the Struggle for Small Business in America*, 81, 84-5. Susan V. Spellman argues that this transition did not, however, reflect a lack of modernity on the part of the mom-and-pops. The notion that supermarkets were “modern” and mom-and-pops “traditional,” she suggests, is a myth. Spellman, "Cornering the Market: Independent Grocers and Innovation in American Small Business, 1860-1940" (PhD Diss., Carnegie Mellon University, 2009).
13 Ibid., 203-04.
mindset during the Great Depression, entrepreneurs began building enormous
discount grocery stores in or near large cities. Referred to as “cheapies,” they had
bare-bones aesthetics, even fewer frills than the chain stores, and rock-bottom prices.
They also developed techniques like loss leaders, which was the practice of attracting
customers to the store by selling a popular item below cost with the hope that
customers would come to buy that item and then buy other items as well.\(^{14}\) Further,
while chain stores primarily sold products under their own label, the cheapies sold
under the manufacturer’s label. Not only were manufacturers agreeable to this, they
took on the role of advertising.\(^{15}\) The creator of the cheapy concept, Michael Cullen,
even bragged that his only advertising expense would be a one-time, two-page ad
listing his prices.\(^{16}\) This enabled Cullen and others to undersell chain stores by around
13 percent, thereby fueling the cheapies’ enormous success.\(^{17}\) From 1930 to 1935, the
cheapies were a force in the retail world. Their brief reign ended abruptly when
employment and incomes increased and consumers switched to nicer and cleaner, if
more expensive, stores.\(^{18}\)

Concurrent to the advance of chain stores and cheapies was something
called Piggly Wiggly. Established in 1916 by Clarence Saunders, Piggly Wiggly
turned grocery shopping into entertainment. Prior to Piggly Wiggly, stores were
designed in such a way that all of the products were on shelves behind a counter, and
shoppers told the clerk what they needed. The clerk then took the items from the shelf

\(^{15}\) Tedlow, \textit{New and Improved}, 213, 238.
\(^{16}\) Ibid., 227.
\(^{17}\) Ibid., 235.
\(^{18}\) Charvat, \textit{Supermarketing}, 18-25.
and placed them on the counter, tallied the bill, and sold the groceries.\textsuperscript{19} In his store, Saunders removed the counters and the clerks and encouraged shoppers to examine produce and packaged foods on their own.\textsuperscript{20} In addition to generating enormous savings in reduced operating expenses, he made shopping a fun and exciting activity and customers came in droves. In his first six months of business, he sold $114,000 in groceries; in a year, his entire inventory had turned over thirty-nine times. By 1920, just four years after opening his first store, he ran 404 Piggly Wigglys and had an annual sales total of sixty million dollars.\textsuperscript{21}

These phenomena helped set the stage for post-war supermarkets, but other foundations were laid during the war and late 1940s. Capital formerly consolidated more or less in Northeastern and Midwestern cities began to spread out to smaller towns and to the suburbs in response to lower wage possibilities, lower taxes, and the fear that centralized manufactories were vulnerable to attack from the Soviets. This phenomenon was mutually reinforced by suburbanization. Not uncommon before the war, suburbanization ran rampant following it as Americans left cities in droves for the jobs that had also left cities, as well as for their own little patch of grass with their own home in the middle of it. Suburban commerce naturally proceeded apace. Favorable tax policies and an apparent and growing consumer base encouraged the development of malls and shopping districts alongside busy streets. And, the rapid

\textsuperscript{19} Tedlow, \textit{New and Improved}, 186-88.


\textsuperscript{21} Sharrer, “Food Technology in the 20th Century,” 24.
increase in population and rising affluence meant there were more Americans spending more money at these places.\(^\text{22}\)

With these trends providing momentum, supermarket operators built off the lessons the cheapies had taught the grocery industry. Recognizing the success of the cheapies but also acknowledging that their demise was primarily due to the lack of aesthetics, supermarkets paid more attention to their parking lots, put in better lighting, played music, and even installed air conditioning. They also carried far more products, including meat, that many prewar chains did not carry, and average volume doubled or tripled from prewar levels.\(^\text{23}\) In other words, the chain stores and the mom-and-pops, with their limited variety and dingy atmosphere, were out. And supermarkets, bright, beautiful, and stocked with everything a housewife might want, were in. Shopping at a supermarket was supposed to be an enjoyable, pleasant, and one-stop-shop experience.

Supermarkets, however, were after more than just convincing consumers that a supermarket could be fun. They wanted to convince consumers that supermarkets were a veritable Garden of Eden, one consumers could enjoy just by walking in the door. They wanted consumers to believe, as U. S. Secretary of Agriculture Ezra Taft


Benson did, that "A super market is like a trip through fairlyland." This was about marketing. One of the key lessons Saunders taught his peers was the value of encouraging consumers to buy things when he or she otherwise might not have done so. Not everyone had supported Saunders on this point. George H. Hartford, co-founder of A&P, wrote in 1915, "Don’t try to sell a customer something he or she does not seem inclined to buy." It was a good way, Hartford thought, to irritate and lose customers. But most postwar supermarket operators agreed with Saunders, resulting in the heightened preference for a product that could self-advertise through its packaging, or in the case of an orange, through its peel. But supermarkets took it a step further: they actively encouraged shoppers to examine produce, and even to enjoy examining it, and they created displays to make it ever more appealing. And produce, bright, beautiful, and bountiful, uniquely helped to sell supermarkets’ Edenic message to consumers. In this kind of atmosphere, fruit that looked, smelled, and from the consumer’s perspective presumably tasted good was not only preferable, it was required.

This kind of sensual persuasion certainly existed before the 1950s, but supermarkets were uniquely positioned to take advantage of it. In the earlier part of the century, thousands of small, urban, street-level vendors collectively made up produce retail but individually were at the mercy of producers and suppliers. Supermarkets, however, as large, heavily capitalized corporations initially relied upon

and then exercised considerable influence over the distribution and wholesaling stages of the produce commodity chain. Where Habib Ayoob and thousands of others had seen livelihoods, supermarkets saw inefficiencies and profit drain. When modern supermarkets became the norm in the 1950s, their economic influence quickly subordinated those in the produce distribution and wholesaling stages. Supermarkets determined which fruit was brought to stores, when, by what means, and under what terms. In the context of the Florida orange industry, they held the fate of Florida growers in their hands.\(^\text{27}\)

Supermarkets were able to exercise this influence because they had the capital to take full advantage of a major technological innovation in the supply chain: trucking. Trucking, of course, had been a booming form of transport since the 1930s. Its chief advantages were evident mostly in comparison to trains. In the 1930s, for instance, trucks expanded the market for Florida citrus both inland and to smaller locales. While railroads continued to serve cities like Chicago, Pittsburgh, and those in the Northeast, trucks supplied Georgia, Alabama, the Carolinas, and Virginia—places that in the pre-war years for the most part did not have the large metropolitan centers that railroads relied on.\(^\text{28}\) The more important advantage, however, was cost.

\(^{27}\) Packing house owner George Hamner, Jr. remarked of supermarket managers, "They don't call me up and say, 'Hey George, I need some [fruit], just send me what you got.' They'll tell me very specifically what they want. If I don't have it, they'll get it from someone else." Although referring in this quotation to present relations with supermarkets, Hamner, whose family has been involved in the orange industry since the late 1800s, said that supermarkets had always conducted business that way. George Hamner, Jr., conversation with author, Vero Beach, Fl., 31 July 2007.

Over the course of the middle third of the century, trucks became increasingly cheaper than railroads for transporting fruit, regardless of destination.

Florida citrus sales to truckers were generally done through one of two ways. The first, especially popular in the 1930s, was what was called “on-tree” selling. Anyone who happened to own a truck could buy citrus directly from the grower while it was still on the tree, then drive around the country selling the fruit wherever he or she preferred. “It was the individual truckers,” said grower Harvey Snively, “that had one truck... They’d have man and wife teams where they would drive together, and they could cover a lot of territory. In fact, some of them made $25,000 a year just by keeping those trucks going.” Not all “on-tree” buyers were small, though; chain stores often bought “on-tree” as well.  

The second manner of sales to truckers, and far more prevalent after the 1930s, was a practice called f.o.b. selling, or “free on board.” Although the usage and definition of f.o.b. varied, in the Florida citrus industry it generally meant that the fruit was officially sold when it was loaded on the truck. The grower no longer had any responsibility for the fruit. Responsibility for its care in this arrangement belonged to the trucking company or the party that had made the purchase.

29 Dorothy Howard, “Cooperative Marketing of Citrus” (master’s thesis., University of Florida, 1950), 9; Transcript, Harvey Snively, Oral History Interview with Paul Weaver, 6 June 1977, Samuel Proctor Oral History Program Collection, P.K. Yonge Library of Florida History, University of Florida. Independent truckers almost certainly did not make $25,000 a year in the 1930s, even if Snively was thinking in terms of 1977 dollars. All the same, the 1930s was a period in which independent truckers did have some measure of success. See Shane Hamilton, Trucking Country: The Road to America’s Wal-Mart Economy (Princeton: Princeton University Press, 2008).


Oftentimes, these were commissioned agents or salaried representatives of a shipping company who canvassed the country drumming up buyers. More significantly, they were also employees of chain store. As grower Rip Graves said, “the marketing of fresh citrus began to change with the growth of the large chain stores. They had the volume to purchase in car or truck lots on an f.o.b. basis.”

This was a major development, and something growers celebrated. As Graves put it, “a major retailer who has a warehouse—we can ship the fruit directly to that warehouse. If it goes by rail to a terminal market, it has to be unloaded and handled another time.” Fred Lawrence added, “whenever you went to the terminal market, the fruit had to be unloaded, set on the platform, moved into the house, sold and then moved out of the house onto another conveyance to get it to where it was going. Thus, it had to be handled several times, and each time it was handled it cost about $.05 to $.07 a box. That got to be mighty expensive before the grower ever got anything returned back home.” And, as Fred Johnson in a speech to the Indian River Citrus School in 1951 pointed out, “good roads and big heavy truck equipment were capable of carrying carloads of fruit from one end of the country to the other at a lower rate than railroad freight rates, with delivery twice as fast,” and could do “store-

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35 Graves, oral history.
36 Transcript, Fred Lawrence, Oral History Interview with Paul Weaver, 13 June 1977, Samuel Proctor Oral History Program Collection, P.K. Yonge Library of Florida History, University of Florida.
door delivery as against the buyer having to haul the fruit from the railroad side track
to his warehouse.” In short, trucks were the future.37

Nearly as significant was the fact that f.o.b. sales were conducted before the
fruit was shipped, or even picked. Auction sales occurred only after growers had
incurred significant expense picking and shipping fruit, and therefore they had no
leverage vis-à-vis buyers. Moreover, growers had to wait as many as 30 days to find
out how much profit, if any, they had realized.38 As one old-time grower said of f.o.b.
sales, “A grower knew what he was going to get before the fruit left the packing
house, or perhaps even he had a good idea what he was going to get before it was
picked from his grove. Yes, that was a wonderful, wonderful thing.”39 For this reason,
Nathan Mayo, Florida Commissioner of Agriculture, wrote in 1948, “In my opinion
the northern auction market should be abolished.”40

Of course, f.o.b. selling and trucking were not necessarily linked. Railroads
theoretically could have bought f.o.b. too. And as Graves’ comment above suggests,
this did happen. But, the railroads were not vigorous participants in the f.o.b. market.
For one thing, the railroad companies often owned the auction houses and therefore
had a vested interest in that format. For another, even the biggest supermarkets rarely
needed an entire trainload of citrus at once, and delivering piecemeal was not
profitable for the railroads. But most significantly, the decline of the rail-and-auction

37 Fred Johnson, “Disposal of Fruit” (lecture, Indian River Citrus School, Vero Beach, Fl., 1951), in
“Summary of Lectures Covering PRODUCTION & MARKETING METHODS” (pamphlet, Indian
River Citrus League, 1951), 140. See also Garmony, “Adaptive Strategies and Three Family
39 Strawn, oral history.
format was gradual until the 1950s when it occurred abruptly. And even then, it still had grower support, especially in the Indian River district on the state’s eastern coast.

Indian River grower Robert Strawn reminisced in the 1970s, “The railroad had always been good to us. We liked the railroad, and we are the kind of people that when we find something satisfactory we don’t change. We don’t change for change’s sake. When we change, it’s got to be for a reason for the better. We felt that the railroad did the best job that was being done.” A flowery statement for sure, but for people in Indian River, it was probably true. Their annual production was small enough it was mostly consumed in the northeastern cities where the auction houses were located. Many of the savings associated with f.o.b. truck sales mattered more to Interior growers because their fruit far more often left the city. Additionally, although actual profitability was unclear for upwards of a month, payment from the auctions was generally greater than f.o.b. sales and it was nearly immediate. Thus, as late as 1955, well after f.o.b. sales were the norm, the majority of Indian River oranges were still sold at higher prices in Northeastern auction houses than Interior oranges.

But there were other factors prolonging the existence of the auction format. Although supermarkets dominated the grocery industry, they did not have a full monopoly on the sale of fruit in the United States. But more consequentially, the limited range of auctions also meant that sellers had to advertise only in the terminal market and could more easily rely on repeat customers. Finally, as Fred Johnson also

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41 Strawn, oral history.
argued in his speech, “it is the only method of sale of perishables in terminal markets by which all buyers can see each load, bid on every load, and buy from every load or car in which they are interested. It creates competition among buyers and it is always better for the producer to have competition among buyers than it is to have the same competition among sellers.”

But at the same time, Johnson recognized the limited future of auctions.

The prices obtained at auction are more or less a barometer of prices for the f.o.b. market throughout all producing sections of the United States. The results of an auction sale is soon flashed by wire, telephone, teletype, newspaper, and government bulletins throughout the country and the producer in the producing section knows within hours and sometimes minutes just what his commodity brought, which enables him to determine his f.o.b. prices for sale in other sections of the country where auctions do not exist.

This, as Johnson’s first point suggested, had not always been a good thing. A decade earlier, just before the war, f.o.b. sales to chain stores and supermarkets in terminal cities had undercut the auctions, depriving them of a major bidder (the stores) which resulted in less income for growers. And, the problem had been solely Florida’s; the

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44 Johnson, “Disposal of Fruit” 146.
45 Ibid., 147.
consolidated power of California growers under the Sunkist cooperative had enabled them to negotiate the transition to f.o.b. on much better terms.46

Despite Johnson’s optimism, however, the auctions by the mid-1950s had dwindled in importance. In a telephone conversation, Harold Livesay discussed his brief exploratory foray into auction selling in the late 1950s. He envisioned getting a truck, buying his own fruit and reselling it in the Northeast, and essentially recreating the 1930s experience of many independent truckers. He had heard of people doing this, but found success in the auction market vastly overrated. Supermarkets, he said, bought the overwhelming majority of their fruit f.o.b. and had their own or contracted truckers hauling it, and therefore did not deal with either auctions or independent truckers. And as for the auctions themselves, they had declined to such an extent that they had become a “closed shop, if you will.” Buyers and sellers were all well known to one another, might even be related to one another, and all the bidding and outbidding and general animosity on the auction floor was merely a “charade.”47

Livesay’s conclusions reflected growers’ realities too. Even in Indian River, as Rip Graves said, growers had “started selling a large part of their fruit directly to the big chains. It was easier and cheaper to get it to them in trucks.”48 The auction continued to exist: in 1962, auctions accounted for 50 percent of all Indian River citrus sales.49 That was nevertheless a steep decline from 100 percent a decade earlier.

47 Harold Livesay, conversation with author, telephone, 20 September 2012.
48 Graves, oral history.
And, as Indian River grower J. J. Parrish similarly noted in 1977, "today we sell to
the same chains that the interior sells to. ... We still sell some fruit at auction market,
and we sustain the auction markets. But the big bulk of fruit on the River, as it is in
the Interior, is going to the chains on an f.o.b. basis."50

Although supermarkets, trucks, and f.o.b. sales were initially seen as a boon to
Florida growers, they were actually very nearly the death-knell. Folks like Graves and
Parrish speak more jocularly about them because they survived, due in no small
measure to the development of frozen concentrated orange juice discussed in the next
chapter. But in fact, over the course of the middle third of the century, supermarkets,
trucks, and f.o.b. sales acted to accelerate the growth of the California orange industry
at the expense of the Florida industry. For some fifty years, Florida growers had
competed against the growers of California but competition was not especially fierce
because logistical realities kept California citrus primarily west of the Mississippi
River and Florida citrus primarily east. Growers from each state sold in the other’s de
facto marketplace on occasion, particularly those in California selling to major
railroad cities in the Northeast.51 But generating sales beyond the easy reach of the
cities was a tough nut to crack. Most Americans by the 1920s had access to California

of the Requirements for the Certificate of Membership in the American Society of Traffic and

50 Transcript, J. J. Parrish, Oral History Interview with Paul Weaver, 10 June 1977, Samuel Proctor

51 Pierre Laszlo, *Citrus: A History* (Chicago: The University of Chicago Press, 2007), 34. As early as
1877, Joseph Wolfskill, one of the founders of California’s citrus industry, experimentally and
successfully sent a rail car of navel oranges to St. Louis. He followed that up with cars to the East
Coast and, in 1886, with a trainload to New York. Laszlo, *Citrus*, 64-65. See also Steven Stoll, *The
Fruits of Natural Advantage: Making the Industrial Countryside in California* (Berkeley: University of
California Press, 1998), 66-67. The size and influence of the California Fruit Growers Exchange, both
as potential business and as a demanding customer, was the impetus for much of the improvement of
rail transit.
oranges but they did not get them cheaply or regularly. Consequently, outside of major urban centers, marketing districts were more or less geographically distinct for the two states' growers. Supermarkets' use of trucking and f.o.b. sales proved the hammer that cracked the nut. For the first time on a truly national scale, California fruit competed directly with Florida fruit.

Statistical or explicit data on the increased reach of California's postwar orange industry are nonexistent. No records for non-auction sales or for post-auction retailing in, say, Dubuque, Iowa in 1930 are available. Nevertheless, there are a couple of reasons to believe supermarkets favored California fruit. First, under the centralized distribution and marketing system that was Sunkist, California growers produced ever more oranges but generally avoided creating a market glut, and they thus competed more efficiently and cost effectively than Florida growers. In New York during the 1932-1933 season, for example, California oranges on average brought 40 cents more per 90-pound box than Florida oranges when the two were auctioned off side-by-side. And in the 1946-1947 season, California growers received an average of 26 cents for every retail dollar while their Florida counterparts brought in just 17 cents. Sunkist's coordination was every bit as effective after supermarkets took over the supply node of the orange chain and Florida's lack of it

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was just as debilitating. In 1959, John T. Lesley, general manager of the cooperative
Florida Citrus Exchange, spoke at length to the board of directors calling for
increased efficiency in this regard.55

But the second and more significant reason was eye appeal. As Lesley wrote
to members in 1955, “Eye appeal is the housewife’s measuring stick for buying her
citrus fruits. External appearance must be of the best in order to compete for bin or
display space in modern markets.”56 That is, supermarkets would only buy it if
consumers would buy it, and consumers would only buy it if they thought they were
getting good fruit. And that decision was made largely based on appearance.

It was in this respect that California proved such a competitor. By any
measure, Californian oranges were beautiful pieces of fruit. The state owed its beauty
primarily to two environmental conditions, each of which presented problems of its
own, but created a far more appealing orange for the supermarket. The first was that
California had a Mediterranean environment; that is to say, its growing regions
received between nine and 15 inches of rain per year, with the Red Bluff region near
Sacramento receiving a disproportionate 24 inches. Thus, growers dealt with far
fewer microbial or insect pests tarnishing the outward appearance of the fruit.
Consequently, the fruit was smooth and shiny. By comparison, Florida’s sub-tropical
environment received between 50 and 60 inches of rainfall per year, and Indian River
received about 52.57 That kind of climate facilitated the growth of such pests, and

55 John T. Lesley to the Board of Directors, 4 June 1959, in Hopkins, Fifty Years of Citrus, 258-63.
56 John T. Lesley to the Board of Directors, 1955, in Hopkins, Fifty Years of Citrus, 244.
57 Herbert John Webber, “The Commercial Citrus Regions of the World: Their Physiographic,
Climatic, and Economic Characters,” in History, Botany, and Breeding, vol. 1 of The Citrus Industry,
oranges therefore were pockmarked and rough. But California also had lower night temperatures in its orange groves. The cold affected the color of the orange; oranges turned orange not when ripe but after periodic exposure to temperatures of forty degrees Fahrenheit. If the temperature never dropped that low, oranges remained at least partly green even when fully mature. And, that temperature drop was much more likely to happen in California than in Florida.58

Unfortunately for Florida growers, American shoppers associated color with maturity, understandably assuming that the rule that applied to most fruits also applied to citrus.59 Consumers were not to blame, given the advice that abounded. Carlotta C. Greer, one of the most prolific authors of home economics textbooks who wrote during the height of the home economics movement, advised students that “good citrus fruit is usually deep yellow or orange. If these fruits ripen as they should, their color deepens. With the exception of a certain kind of orange known as the Valencia, an orange whose skin has green spots is not ripe.”60 And, of course, Sunkist spent millions and millions of dollars over the years to fill consumers heads with rhetoric and images of beautiful California citrus. Indian River growers, by virtue of their long-standing connection to northeastern consumers and their strong

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cooperative foundation, did not worry about this issue. Interior growers, however, had a long track record of non-cooperation and therefore had never had anything like Sunkist's advertising campaigns. As a result, consumers came to associate an orange with certain aesthetic characteristics and rejected oranges lacking them.

That is not to say Florida growers had never done anything about their fruit, however. In fact, they decided early in the century that the solution to their predicament was to add color to their fruit. Regarded as chicanery by many within the industry, the practice nevertheless became the norm in short order. This process, which changed little over the years aside from mechanization, occurred in the packing houses. Before midcentury, packing houses contracted with growers to pick and pack their fruit and arrange for shipment to northern auction houses. After midcentury, they often purchased it outright from growers, picked it and packed it, and resold it to supermarkets. In either case, they had a particularly vested interest in beautifying citrus. Citriculturalist Fred Lawrence said, "originally we used methane gas which was generated with old kerosene burners and such things. ... Now we use refined methane gas and regulated temperatures."

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61 Randall Chase, "History of the Florida Citrus Industry," speech at the 25th Annual Citrus Growers Institute, 13 August 1958, Chase Collection, Record Group 1, Series 3, Subject Files 1903-1960, Box 75, Bulletins and other typed material provided by Chas. Garrett to SOC Jr., 51-52, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.

62 On California’s Edenic qualities, see Sackman, Orange Empire.

63 The practice constituted one of the key “problems” in: Problems of the Citrus-Fruit Industry, Hearings Before a Subcommittee of the Committee on Agriculture and Forestry, United States Senate, 80th Cong., Second Session, (20-24 September 1948). Despite the efforts of many, most packing houses still add color to citrus.

64 See the University of Florida interviews conducted by Paul Weaver in 1977.

65 Lawrence, oral history. Packing house operators also used ethylene. George Hamner, Jr. of Indian River Exchange Packers said, “it’s a real natural process, ... you can do the same thing if you go buy bananas, which give off huge amounts of ethylene, and put a green grapefruit or orange in a covered
But the exterior of the fruit was further improved upon. Once colored, the fruit was dumped into a water bath to remove any microbes, dirt, or other such imperfections. Depending on the destination of the fruit as well as on the packing house, citrus often underwent a process called color-adding. Color-adding was the soaking of citrus in an exceedingly hot solution of water and dye. The dye penetrated the peel and colored the fruit inside, giving the color of Californian oranges. Finally the fruit was waxed. At this point, Florida oranges had an orange color, were orange inside, and had a nice and light-reflecting shine. Summing it up, current Indian River packing house operator Chris Reynolds said, “it’s just like a carwash. Soap’s put on it, it’s washed, it’s rinsed, it’s blown dry, it’s waxed, it’s dried, and then it’s packaged. A label’s put on the fruit, it’s packaged in a carton, and we ship it.”

To E. B. White, essayist and author of Stuart Little and Charlotte’s Web, it was an abomination. “The dyeing of an orange,” he wrote in 1941 while staying in southern Florida, “to make it orange, is Man’s most impudent gesture to date. It is really an appalling piece of effrontery, carrying the clear implication that Nature dish and just let it sit there. It’ll turn the orange or grapefruit from green into its proper color.” Hamner, Jr., conversation with author.

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Chris Reynolds, conversation with author, Ft. Pierce, Fl., 1 August 2007. John McPhee in Oranges writes that Indian River packing houses “are, almost without exception, too proud to dye their oranges” (113); however, based on personal conversations with George Hamner, Sr. and Jr. of Indian River Exchange Packers and with Chris Reynolds of Packers of Indian River, this does not appear to have been the case. Hamner, Jr. said: We do “try and make it look like a brighter orange like CA navels would look because our early (oranges) are fairly pale. ... Used to be that if you were packing early oranges you had to color add. Now it’s kind of 50-50.” He later noted, “I’m surprised we haven’t heard about it through the years because, I mean, it’s a process where you actually heat the fruit up and put it kind of like an Easter egg, a dye that’s absorbed under the skin. It’s edible, I guess, but it’s not, you know the process is, if I were a simon-pure environmentalist I wouldn’t consider it being the best of the best. I don’t know the dangers if any, ... but when you heat the fruit up it’s not good.” Hamner, Jr., conversation with author.
doesn't know what she is up to. I think an orange, dyed orange, is as repulsive as a pine cone painted green. I think it is about as ugly a thing as I have ever seen, and it seems hard to believe that here, within ten miles, probably, of the trees which bore the fruit, I can't buy an orange which somebody hasn't smeared with paint.... There are probably millions of children today who have never seen a natural orange—only an artificially colored one. If they should see a natural orange they might think something had gone wrong with it."  

White had support even within the industry. Rubin Childers in 1948 joined a significant minority of his peers condemning the practice of using steam and ethylene gas to color oranges and thereby make them more aesthetically appealing. Referring to the coloring room as a "gas chamber," a provocative allusion given that World War Two was only three years past, he said informants "tell me in the packing houses they have seen fruit that was worn out running through the gas chamber and machinery. They would carry it in, run it through the machinery, take out the best color(ed oranges), put it in boxes, and run it back through the machinery, do that two or three times until they got down to a point where they were just rotten." Oranges were subjected to this process for anywhere from 24 to 120 hours. Even growers who disagreed with Childers' rejection of the coloring process nevertheless believed that its implementation was wanting. Commented Howard Phillips, "the practice of keeping fruit under this heat and gas for 72 hours or thereabouts can break down the

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68 *Problems of the Citrus-Fruit Industry* (statement by Rubin Childers), 64.
interior of the fruit and subject it to a gradual decay that results in an unwholesome fruit.”

According to a major study conducted in the early 1960s, they were probably right. Shoppers in Philadelphia and Cleveland were presented with just color-added Florida oranges, just non-color-added Florida oranges, and both types of oranges at the same time. The study found that in the city of brotherly love “sales remained about the same” regardless of which type of orange was available. But that was not the case in Cleveland. There, “Sales of Florida oranges decreased significantly... when consumers were offered Florida oranges in natural color only.” Moreover, “Cleveland shoppers who were aware that both types of oranges were on display, but purchased the color-added fruit, said that they ‘looked better, juicier, and sweeter.’” And, the results in Cleveland were “perhaps typical of the Midwest,” where most color-added fruit went by 1962. Although the results of the study are significant, it is important to note that the study took place well after frozen concentrated orange juice hit the market, and that concentrate was most popular in the Northeast and least

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69 Problems of the Citrus-Fruit Industry (statement by Howard Phillips), 248.
71 Ibid., 9.
72 Ibid., iii, 1.
popular—though still popular—in the Midwest.\textsuperscript{73} And, by this point, merely two-thirds of Florida’s fresh fruit was colored rather than the overwhelming majority.\textsuperscript{74}

As a rule, however, Florida growers’s efforts to make the orange as aesthetically pleasing as one from California failed. For one thing, Californians applied a similar kind of deception, though they did not add color by boiling their oranges. But the bigger factor was simply that California’s environment produced better-looking oranges. And, as it turned out, California’s primary orange, the Washington navel, colored artificially better than Florida’s hamlin, pineapple, navel, or Valencia oranges. As one growers said resignedly, California oranges developed “a beautiful deep orange red” while Florida oranges merely became more orange than they had been. “That advantage of eye appeal,” he said, of “the California navel” meant that Sunkist “was slowly strangling the Florida citrus industry.”\textsuperscript{75}

A second major study of shopping behavior from 1962, this time in and around Grand Rapids, Michigan, bears this assertion out. The study found that California oranges outsold both interior Florida oranges and Indian River oranges. These findings were consistent throughout a series of price increases and decreases relative to the actual market value. Furthermore, in nearly every scenario the California oranges were priced higher than those from Florida and almost as high as

\textsuperscript{73} Chris Gargano, telephone conversation with author, 28 March 2012. Gargano, now retired, was a long-time employee of Tropicana, culminating in a status as senior vice-president of operations, prior to its 1998 sale to PepsiCo.

\textsuperscript{74} In the 1960-61 season, 21 million 90-pound boxes were sold in the fresh market, comprising merely 23 percent of the state’s total orange production. Havas, Van Dress, Linstrom, and Kartalos. \textit{Consumer Acceptance of Florida Oranges With and Without Color Added}, 1.

\textsuperscript{75} \textit{Problems of the Citrus-Fruit Industry} (statement of Frank R. Schell), 201-502. Schell and others also pointed out that longer gassing time did not improve the color but did damage the flavor, a point conceded by those in favor of the process.
Indian River. Finally, the researchers concluded that for purchasers of California oranges, "the California product is considered superior to the Florida product (and to the Indian River) and to such an extent that a wide range of price differences is not sufficient to cause substitution."\(^{76}\) Buyers of Indian River and Interior oranges, however, "shifted back and forth quite readily...in response to changing relative price conditions."\(^{77}\) Given these results, and the results of several other studies with respect to the appearance of food, to say nothing of 50 years of Sunkist advertisements and in-store displays, it is safe to conclude that consumers preferred California oranges over Florida oranges because they looked like better pieces of fruit.\(^{78}\) And, given supermarkets' emphasis on aesthetics, it is safe to conclude that they preferred California fruit as well.

The irony of this was that Florida fruit by any measure other than aesthetics was so much better, or at least should have been so much better, than California fruit. The very same environmental conditions that enabled the Californians to take over the fresh fruit market actually made Florida oranges by nearly any measure much higher quality. Because of its subtropical climate, Florida oranges were much juicier than California oranges. The explanation was biological. All citrus fruits relied on their peel to maintain hydration. That maintenance was critical to the survival of the

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\(^{77}\) Ibid., 27.

fruit, and consequently, a citrus tree devoted as much of its resources as necessary to ensure sufficient water content. Due to high levels of rainfall and humidity in Florida, the urgency of retaining water was much less than in California, and peels were thus correspondingly thinner in Florida. This in turn meant that citrus trees could devote more of their energy and resources to developing the fruit’s interior and less on defense. California oranges growing in a semi-arid zone had thick peels, less juice, and less flavor.\footnote{In a conversation with packing house operator George Hamner Sr., he told a joke that a pick-up truck could run over a California orange and the pavement would be dry, but with a Florida orange the truck will look like it just went through a puddle. George Hamner, Sr., conversation with author, Vero Beach, FL, July 31, 2007. Journalist John McPhee mentions a similar joke, and further writes “Californians say that if you want to eat a Florida orange you have to get into a bathtub first.” McPhee, *Oranges*, 9.}

The importance of growing environment was thus just as great in the 1950s as it had been in Indian River in the 1890s. The difference was the meaning. “Indian River” meant quality eating. “California” or “Sunkist” meant quality appearance. “Florida” meant neither. To supermarkets, “California” was far more important, and to 1950s consumers, it was scarcely less so. For Indian River growers the decline in brand value was abrupt. For all Florida growers, the ubiquity of California fruit, let alone consumers’ positive association of the place of “California” to the quality of the fruit, was frightening. In fact, Florida arguably remained in the fresh fruit business only because “Florida” was such a presence in the American imagination. Scores of Hollywood blockbusters in the 1940s and 1950s were set there, including *Key Largo*, *The Yearling*, and *Some Like it Hot*, and many more were filmed there. Authors like Ernest Hemmingway, Zora Neale Hurston, Marjorie Kinnan Rawlings, and John D. 79
MacDonald wrote about Florida. Additionally, thousands of soldiers had been stationed in Florida during the Second World War. And most significantly, Florida, long a destination for America’s elite, in the 1950s became accessible to the middle class. Numerous articles and advertisements appeared in magazines like *Better Homes and Gardens*, *Holiday, Life,* and *Cosmopolitan* touting the Sunshine State as a land of fun and sun. Airlines and others began offering vacation packages. Those on a tighter budget took advantage of motels, highways, and air conditioning to road trip. By the middle of the decade, some 5 million tourists journeyed there each year, a figure almost equal to the number of snowbirds.  

For all of these reasons, consumers bought Florida oranges with much the same prompting as they received for California oranges. Only, they did not buy into them in the same way. Sunkist’s advertising was strong, the pull of California on the imagination was at least as strong as Florida’s, and Florida growers’ were inept at manipulating the market. In fact, the only thing Florida citrumen had going for them in the fresh fruit market was California’s population boom. As Los Angeles expanded, buildings went up and orchards came down. That meant a smaller supply of California oranges on the market. And that in turn kept the door open for Florida growers.

Supermarkets transformed the distribution of food in the 1950s. Heavily capitalized and consolidated, they used their purchasing power to seize command of a

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81 Sackman, *Orange Empire*, 296.
disparate, chaotic system to deliver fruit cheaper and more consistently to much more of the country. Their conquest of the distribution nodes gave them far greater ability to select certain producers over others than any force in the history of retail. And supermarkets thrived as places where beautiful produce was on display, selling not just the produce but the store and the experience of the store. This was a situation ready-made for California orange producers. Five decades of advertising, horticultural research, and particular packing house practices generated both a spotless orange and consumer demand for spotless oranges. And, supermarkets conveyed California oranges everywhere. But for Florida growers it was a situation of disaster. They were not prepared to compete with Sunkist outside Chicago, Pittsburgh, and the urban centers of the Northeast. By 1960, only a conjunction of unexpected factors, particularly urban expansion in California and the development of concentrated orange juice, discussed in the following chapters, kept them economically viable. As the preceding chapter demonstrates, Florida growers were always at the mercy of the market in ways that Sunkist growers were not. Supermarkets, however, nearly brought them to their knees.

This transformation in the meaning of place set Florida orange growers, those in Indian River included, on a path towards an uncertain future. That this did not occur was due solely to the development of frozen concentrated orange juice. At the same time supermarkets and consumers combined forces against Florida growers, the concentrate industry began to boom. This boom saved Florida growers because the same environmental characteristics hampering Florida oranges and propelling
California oranges in the supermarket applied, but in reverse. Concentrate could only be made from Florida oranges. Not only that, Indian River oranges were ideal. Though too few in number to supply the entire concentrate industry, they were used to offset lesser oranges from the Interior. Paradoxically, though very fortunately for Interior and Indian River growers, place was just as important. Its meaning had merely changed as the market changed.\textsuperscript{82}

As this process occurred, the Florida orange industry finally attained the order and stability it had sought for so long. The managerial revolution that arrived fifty years earlier in California in the form of Sunkist took shape in Florida in the form of juice processors. Few in number, backed by extensive capital, and operating with a long-term perspective Florida growers never had, they transformed orange growing in Florida from a chaotic hit-or-miss business into an enviro-industrial machine with consistent profitability. Concentrate and processors were, as one grower said and hundreds more implied, "the salvation of the industry."\textsuperscript{83}

\textsuperscript{82} Indian River growers also shifted some of their focus to grapefruit. The environmental conditions resulting in superior oranges also resulted in superior grapefruit, and, at least anecdotally, the difference was even greater. Thus, among baby boomers, "Indian River" meant grapefruit, not oranges.\textsuperscript{83} Lawrence, oral history.
CHAPTER THREE

Transforming Nature:
The Creation of Frozen Concentrated Orange Juice

Within my shining armor I safeguard the sun-filled fruits of Florida’s golden groves...health and flavor-rich foods garnered and packed when laden with Nature’s nectars.

I banish the seasons and the cycles of the earth’s bounty. I make every day a time of harvest—because millions have only to reach for me on grocery or pantry shelf to prepare the feast that I and my legion of kindred offer in every land and clime.

I follow the men to wars, and accompany travelers by land, sea and air to the hinterlands of the earth. I preserve the food of babies, the viands of the gourmet, the subsistence of the toiler. I bring to the homemaker an endless variety of products of the grove, orchard, farm, ranch, and sea, prepared under the watchful eye of the food scientist.

I am the daily bread of a great industry—yet so infinitesimal is my hire as a servant of man that when I yield my treasures I quickly pass into oblivion.

I AM THE CAN—E. E. Garrison, 1956

E. E. Garrison’s ode to the can illustrates the increasing centrality of industrial technology in the food sector over the course of the twentieth century.1 His specific mention of orange juice, however, with an entire stanza devoted to the food, spoke volumes about the rapid changes in the Florida orange industry in the decade since World War Two. On the eve of the war, Florida growers, in stark contrast to Sunkist growers in California and Arizona, lacked almost any organization, and unscrupulous and deceptive activities were longstanding practices. Consequently, even those growers longing for more sophisticated production and marketing practices found it

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1 The full citation is: E. E. Garrison, “I am the Can,” The Canner and Freezer, 1 October 1956, 30.
impossible to shift focus from the short term to the long term and remain in business. Following the war, however, it became possible. A new canned food, frozen concentrated orange juice, promised to resolve virtually every production and marketing problem growers faced, and it delivered.

It delivered because northern capital in the form of juice processing plants recognized in concentrate the technological ability to profit from nature in a way perhaps unparalleled in agricultural history. For them, concentrate was an innovation intellectually transforming the Florida orange from a commodity into a raw material, and technologically transforming that raw material into a finished good. These were important transformations. Processors harnessed the power of nature to produce outstanding juice oranges while minimizing the power of nature to destroy groves or aesthetically mar fruit. They re-valued the orange, emphasizing internal characteristics over external, and ushered in an era of scientific analysis and ushered out the quantity-based method of quality assessment in use since the birth of commercial orange production. Finally, they created a thriving by-products industry to rid themselves of what remained of the orange after juicing. Doing this required substantial capital outlay, far more than growers themselves could provide. Growers, therefore, largely saw people with no previous involvement in oranges dramatically change their industry. Yet, on the whole, they welcomed that change. Grower J. B. Prevatt declared that without concentrate “the citrus industry would have been dead,” Fred Lawrence called concentrate “the salvation of the industry,” and Ben Hill Griffin regarded it as “a fantastic invention.” Processors’ increasingly oligarchic influence
over the industry established a stability it had never known, a stability like Sunkist provided Californian growers. Thus, as processors transformed the orange into concentrate, they also transformed a disreputable and unorganized bunch of growers into cogs of an enviro-industrial machine.

Concentrate's intellectual origins were humble. Juice processing on a commercial scale began in 1915 when a Florida grower named C. E. Street rigged together a few boards and a modified clothes drier to produce grapefruit juice. Scarcely more than a hobby, Street's tinkering was a minor effort to see if he could utilize surplus grapefruit. When the season ended, he turned his efforts towards guava jelly.²

Street's grapefruit juice was a moderate success but few people took the attempt seriously for about half a decade. Then, in the late 1910s and early 1920s, two distinct phenomena enhanced the prospects of a commercial juice industry.³ The first of these was the flu pandemic after World War I. Over the course of a few years, nearly 700,000 Americans died of the disease and the medical establishment, generally unable to stem the tide of death, urged patients to consume the requisite vitamins for good health. One of their specific pieces of advice was to drink more

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orange juice.\textsuperscript{4} That was also the advice of Sunkist, which in 1916 had hired advertising expert Alfred D. Lasker to boost consumption of California oranges. Lasker encouraged Americans to "Drink an Orange," and they did. Consumption of oranges in the United States doubled within a decade.\textsuperscript{5}

The second phenomenon was Prohibition. According to one observer, Prohibition "greatly increased the consumption of juicy fruits and fruit juices."\textsuperscript{6} C. E. Stewart, Jr., business manager of the Florida Citrus Exchange similarly declared, "Prohibition has caused an enormous interest in fruit drinks, and particularly those made of citrus fruits." He stated his belief that this stemmed from a national conversion from alcoholic to non-alcoholic beverages.\textsuperscript{7} Perhaps this was true, but more likely the increase, as a beverage historian suggested, was due to the "demand for mixers to cover the unpleasant taste of the illegal alcoholic drinks."\textsuperscript{8}

Whatever the case, though, the spike in juice consumption was a boon for growers. Not only did it increase the popularity of oranges, it required more oranges


\textsuperscript{8} Richard J. Hooker, \textit{Food and Drink in America: A History} (New York: The Bobbs-Merrill Company, 1981), 305. No doubt there was some merit to this point, though it is worth noting that the two best-known mixed drinks using orange juice, the screwdriver and the tequila sunrise, were first concocted only in 1949 and the 1970s, respectively.
to make. The amount of juice in an orange was equal to about one-fourth of a cup, and as an advertising agency working on behalf of Sunkist discovered, “the average person ate only half an orange when he consumed it as a fruit, but that if he could be induced to drink it he would require two or three oranges to fill his six-ounce glass” (italics in original). Sunkist launched a second national campaign emphasizing the health virtues of orange juice, and supplied juicers at cost to cafeterias, juice joints, and other food establishments. Indeed, a Canadian reporter wrote that when he visited New York in 1900, consumption of orange juice had been very light, but that when he returned in 1927, “juice bars had sprung up like mushrooms and one would be observed at every hundred yards.”

For about two decades, orange juice had to be fresh squeezed because the acid in citrus juice ate through the tin cans then available and glass bottles were usually too expensive. This naturally dampened at-home consumption. Canning technology finally caught up to demand in the early 1930s, whereupon the Florida Citrus Canners’ Cooperative began selling canned juice. The cooperative’s product was just plain, ordinary juice—what the industry called single-strength. Walt Disney cartoon star Donald Duck “endorsed” the product, appearing on the can. He even pitched the

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9 Wallace Roy, “Effect of Scions and Rootstock on Fruit as Applies to the Concentrate Industry” (lecture, Indian River Citrus School, Vero Beach, Fl., 1951), in “Summary of Lectures Covering PRODUCTION & MARKETING METHODS” (pamphlet, Indian River Citrus League, 1951), 72.


juice in advertising spots, complete with Clarence “Ducky” Nash’s squawky voiceover, and the product quickly became one of the most recognizable of the few citrus commodities on the market. But the new product had a significant flaw: its very short shelf life. The juice’s essential oils, which gave it flavor, began oxidizing promptly after the juice was squeezed and continued to do so after it was canned. By the time the juice arrived at its destination, it was a “bitter, discolored orange glop.” Nearly as critical was the necessity of pasteurizing the juice, which meant it had to be cooked. This further upset the delicate balance of oils and rendered the juice almost undrinkable except as a mixer. Sales were not impressive. Although sales of canned orange juice of all types had climbed significantly from 128,250 gallons in 1929-1930 to 813,375 gallons in 1934-35, for comparison’s sake, that was practically nothing next to the 30,758,000 gallons of frozen concentrated orange juice sold in just its third season.

Sunkist’s solution to this problem was simply to focus on selling oranges to the service institutions that had bought juicers. In Florida, the response was similar, though a handful of operators tried to resolve the perishability issue. The most

15 Kirchner, “Oils in Peels, Juice Sac, and Seed,” 292-93.  
successful approach was merely freezing fresh-squeezed juice, though such success was relative and utility limited. As author and orange grower Marjorie Kinnan Rawlings wrote to an inquiring friend, the problem with this juice was that it went “flat in a few hours.” Since few people had home freezers in the 1930s, this meant the juice was only good for immediate or near-immediate consumption.\textsuperscript{18} And, it required a good 14 to 15 hours necessary to defrost.\textsuperscript{19} For these reasons, as Rawlings continued to write, it was “kept frozen and sold at drink stands, melted just before using, or delivered by dairy companies with the morning milk.”\textsuperscript{20} In other words, the product only really found demand among business establishments, and even there demand was limited because Sunkist had successfully pitched orange juicers to so many of them.\textsuperscript{21}

A less successful effort created a concentrated orange juice that required no refrigeration during storage and took up far less space than either canned or frozen single-strength juice. This, as grower Joe Davis said, was a juice “where you put massive amounts of temperature in there and you cooked it real good.”\textsuperscript{22} In other words, citrusmen concentrated the juice by boiling off the water. This evaporation process turned fresh squeezed single-strength juice into multi-strength juice by reducing it to a kind of stew, and all one had to do to make juice was add the requisite

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\textsuperscript{18} Marjorie Kinnan Rawlings to Ethel Fairmont, 6 January 1931, Marjorie Kinnan Rawlings Papers, Group 1, Correspondence, Box 3, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
\textsuperscript{20} Rawlings to Fairmont.
\textsuperscript{22} Joe Davis, Jr., interview by William Mansfield, June 29, 2005, transcript Citrus Oral History Project of the University of South Florida.
\end{flushleft}
amount of water and stir the mixture up. During World War II, in the interests of staving off scurvy among Allied soldiers, the federal government purchased one million gallons of heat concentrate in 1942 through Lend-Lease, two thirds of which came from Florida. In 1943, the government purchased 7.5 million gallons both for Lend-Lease and for its own soldiers.

The advantages of heat concentrate were obvious, but, just like pasteurized single-strength juice, the heat adversely affected the juice’s flavor and made it a pretty tough sell in a civilian economy. In fact, the federal government was just about the only market for this juice. As one executive wryly noted in 1950, heat concentrate, “while acceptable for wartime European feeding, was not the type of product the housewife would buy.” According to one grower, it was barely acceptable even for wartime: when reconstituted, this juice “looked bad, tasted bad,” and soldiers during World War II took “it almost like a dose of medicine.” Perhaps as a consequence, the government included juice research and development among the many projects it funded during the war. As such, scientists from the United

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27 The federal government spent about $1 billion on research and development in a wide variety of fields and industries during the war, including the California orange industry. Ruth Schwartz Cohan, A Social History of American Technology (New York: Oxford University Press, 1997), 260.
States Department of Agriculture collaborated with federally and state funded scientists at the University of Florida’s Agricultural Extension Service to develop serviceable products. One that came out of this research was orange juice powder—juice that had been evaporated down to powder form. This discovery was predicated significantly on earlier discoveries made by the National Research Corporation of Boston, including the dehydration of penicillin, blood plasma, and streptomycin.

And, in 1945, the federal government contracted with NRC to produce this powder. Unfortunately for the company, the war ended before production even began.

Executives at the company thought there might be civilian demand for such a product, but recognized that, as one observer put it, there was “an important psychological disadvantage to the product. The housewife was inclined to be a little suspicious and it would be quite difficult to convince her that a yellow powder added to water would produce real orange juice with full nutritional qualities.”

National Research Corporation—the parent company of what became Minute Maid—might nevertheless have tried to market the product were it not for the almost concurrent development of another product in federally financed laboratories: frozen concentrated orange juice. The technology behind concentrate was fairly

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31 Hopkins, Fifty Years of Citrus, 196.
32 Rector, “Frozen Concentrated Orange Juice,” 352.
33 Veldhuis, “Investigation on Citrus Fruit Products (1),” 51-52. Jack Fox, president of NRC’s small juice subsidiary, Vacuum Foods, in Florida, is widely credited with convincing NRC to consider
straightforward. Like C. E. Street had done thirty years earlier, it began with a centrifuge. The centrifuge rapidly spun the orange juice so that its components separated. The less dense components shifted to the center, while the denser particles, primarily the essential oils and sugars, shifted to the edge of the centrifuge and were removed. The denser components were then saved and eventually mixed back in with the juice after evaporation. The next step reflected the truly innovative aspect of the process. The juice was sent to a vacuum chamber for evaporation. The vacuum chamber settled two long standing issues. First, it prevented oxygen from mixing with the juice, thereby resolving the issue of premature oxidation. Second, it allowed the evaporation of juice to occur at a lower temperature. The boiling temperature of any liquid varied based on the air pressure around it. Water, for example, boiled at a lower temperature in the Rockies than in Death Valley. A vacuum processor simply allowed one to set the pressure level, and therefore the boiling point, at whatever he or she desired. For most processors, that level was about 10 millimeters, or between 60 and 80 degrees Fahrenheit.

production for domestic peacetime consumption. The firm did so and Vacuum Foods—eventually renamed Minute Maid—became the first producer of concentrate and remained the most significant and influential processor in the industry until Coca-Cola minimized the brand in the 1990s in favor of its "not from concentrate" juice.


The technological and market success of concentrate became a source of pride for processors. A Minute Maid training manual proudly declared that using a vacuum was like boiling the juice “30 miles above the earth.” The manual went on to remark, “It is usually a source of astonishment to visitors to the Minute Maid plants to feel the tail-pipe of the concentrators in which orange juice is being evaporated, as the temperature is so low that it actually chills the hand.” And the process was fast. In minutes, the vacuum eliminated 75 to 90 percent of the water content, depending on which company did the processing, and the juice was a mere orange sludge.

At that point, in theory all the product needed to become juice was to have its oils put back in and be mixed with the requisite amount of water. “Unfortunately,” said J. J. Parrish, a lifelong grower and citrus booster, “the product which came from that was not palatable—it was far from palatable.” The newly re-constituted “juice” tasted nothing at all like fresh juice. As journalist John McPhee, in his sojourn through Florida’s citrus industry in the mid-1960s explained it, “when the evaporators are finished with the juice, it has a nice orange color and seems promising, but if reconstituted into ‘orange juice’ it tastes like a glass of water with two teaspoons of sugar and one aspirin dissolved in it.”

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40 McPhee, Oranges, 125. McCracken writes, “The chemistry of orange juice is so subtle and complicated that most identifications are tentative, and no one can guess which components form its taste, let alone in what proportion” (131). Exactly why the juice had so little flavor was a mystery, the answer to which is still not well understood. To compensate for the lack of knowledge, scientists have constructed more elaborate machinery in somewhat blind attempts to get around the problem. This is
The breakthrough came later in the year. Recalled Parrish,

"One of our scientists had some of it in the refrigerator one morning when he particularly needed something cold to drink from activities in which he had engaged the previous day. He was vainly searching for something cold to drink, and he thought of this concentrate. He reached out the window, pulled a fresh orange, and squeezed juice in the concentrate for a little flavor. That was the origin of addback, which makes the concentrate such a delicious, normal, and fresh product. He was so excited over his discovery and the taste of it that he immediately forgot his current problems, experimented with the addback, and found that a very slight addback would actually give concentrate the flavor, the character, and aroma that we seek in a very high quality juice."  

"And that was that," said Dr. Louis Gardner MacDowell, the scientist to whom Parrish referred. "Very simple. No earthshaking research at all."  

Capping his synopsis of the product’s glorious beginning, Parrish said, "That was the morning that put concentrate in business."

particularly evident in recent years as the popularity of Not-From-Concentrate juice has dramatically increased. See Chet Townsend’s Ultimate Citrus page (www.ultimatecitrus.com) for a lengthier discussion.

Parrish, oral history.

McPhee, Oranges, 125. McPhee also writes that addback is “mainly fresh orange juice, but it contains additional flavor essences, peel oil, and pulp” (131).

Parrish, oral history. Louis G. MacDowell, Edwin L. Moore, and Cedric D. Atkins, Method of Preparing Full-Flavored Fruit Juice Concentrates, U. S. Patent 2,456,109, filed 7 August 1945, and issued 9 November 1948. As the authors were federal employees of the United States Department of Agriculture, the secretary of agriculture actually holds the patent.
Parrish’s story accurately captured the sentiments of a good many people in the industry, for whom concentrate was a godsend. Its rapid growth meant that within a few years, for the first time in the history of Florida’s orange industry, an influential organizational body developed. That body, of course, was composed of juice processors. The scale of their influence was tied directly to concentrate’s soaring sales and the fact that it was a capital-intensive product and therefore few growers, cooperatives, or organizations could produce it. This marked a power shift within the juice industry. “Compared to most food processing operations,” wrote one financial analyst, “small amounts of capital are required for packing single-strength juice.” As a result, a number of small canning companies had started up during the interwar period. Their individual production and thus their influence over the juice industry, let alone the orange industry, was small. Not so with concentrate. The four largest such firms accounted for 90 percent of production in 1949-1950, and their plants and equipment were each worth about $3.5 million. Moreover, they were funded largely by northern capital: Minute Maid was owned by the National Research Corporation in Boston, Snow Crop had its base in Manhattan, and Birds Eye’s parent company, General Foods, was based in Michigan but publically traded on Wall Street. In other words, recognizing an opportunity, Minute Maid, Snow Crop, and

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Birds Eye quickly set up shop and with their executives, their salesmen, and their scientists, they launched their version of the managerial revolution and brought order to the Florida orange industry.47

They brought that order in large part by taking control of the orange from nature. Although oranges by the mid-twentieth century were a cultivated commodity rather than a natural one, nevertheless they were subject to natural forces with resulting effects on quality. Key among these forces was the fact that growing environments in Florida varied considerably. Everything else being equal, the quality and flavor of oranges varied considerably as well. And when everything else was not equal, like the amount or type of fertilizer used, the extent of irrigation, the age of the trees, the effects of insect or microbial pests, sunburn, freezes, or any of a number of other factors, the variance in quality and flavor was enormous. Processors brought all of these factors to heel.48

Exerting their control over nature was something processors talked openly about. Indeed, in a Minute Maid training manual’s discussion of addback, “control” was the operative word. “We can control very accurately our finished product,” it read. “We can likewise control the peel oil content, which affects the flavor, since the addition of fresh-cut juice with higher oil content compensates for the removal of oil in the concentrators,” and “we can also, if we wish, control the amount of pulp in the

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48 Chapter one discusses these issues in more detail.
finished product by varying the pulp content of the addback. Addback constituted a mere 10 percent of the final product, yet enabled processors to manipulate nature to create almost any product they desired.

But addback was just the beginning of processors’ mastery over nature. Because concentrate was a frozen product, they also controlled the natural processes of decomposition and seasonal variability. Concentrate could remain in the freezer for as many as 20 years before decomposition began, and most juice did remain there for at least a year. Because early maturing oranges, particularly Hamlins, Parson Browns, and Pineapples, tended to have a tarter flavor, they were concentrated and stored in the freezer until the sweeter Valencias ripened in the spring. As the Valencias arrived at the plant, the frozen juice from early in the season was mixed with the newly concentrated Valencia juice and the resulting juice was then canned and sent to markets. This, as the Minute Maid manual claimed, enabled consumers “to have, all year round, a consistently good-flavored orange juice which is never too sour, never too sweet.”

By a similar token, processors gained control over the color of their juice. As Wallace Roy, chief chemist at Minute Maid, noted in a speech to Texas growers, “the consuming public desires concentrate having a deep orange color.” Valencias again proved ideal; their dark orange balanced out the paler color of the early fruit. In short,

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49 Minute Maid Corporation, “Know Your Business.”
50 Wenzel, Atkins, Moore, “Frozen Concentrated Orange Juice.”
argued processors, concentrate was a juice vastly superior to anything the consumer could make because “even if the consumer wanted to take the time and trouble to blend his own juice, a sufficient variety of fruit would not be available.”

The importance of these various juices and the extent to which they were sour or sweet brought a new word to the grower’s lexicon: Brix. In the nineteenth century, a scientist by the name of Adolph Brix laid out a rubric for measuring the sweetness of juice. As a base, he decided that a sugar-water solution of 10 percent sugar and 90 percent water was 10 degrees Brix. However, his comparison to fruit juice was based on density, not sugar content. Orange juice was a composite of water, sugar, essential oils, and other compounds. Because of these last two, the density of 10 degrees Brix orange juice was equal to the density of a 10 percent sugar-solution, but it was not actually 10 percent sugar. It was around 8 percent sugar, with the remainder being the oils and other compounds. An orange that was higher in Brix, say 17 degrees, contributed more flavor and sugar—and had more pounds-solids—than an orange only 9 degrees Brix. Minute Maid apparently anticipated some difficulty among their employees and growers in adjusting to or even comprehending this measure of valuation. “For the uninitiated,” its company training manual said, “one word of warning—it is ‘BRIX’, not ‘BRICKS’. We even hear some of our old-timers, occasionally, say that the fresh juice ‘went up 1 brick.’ Don’t say that—say ‘went up 1 degree Brix.’” By the middle of the 1950s, Brix had entered the consciousness of

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53 Minute Maid Corporation, “Know Your Business.”
54 Roy, “Effect of Scions and Rootstock on Fruit as Applies to the Concentrate Industry,” 75.
every orange grower and had, despite Minute Maid’s efforts at grammatical correctness, lost in the vernacular its explanatory counterpart “degree.”

Processors’ control over nature in effect gave them control over the market. They built enormous warehouse freezers not only to keep the early juice on ice but in fact all juices on ice so that if a freeze or hurricane disrupted supply, the company did not have a shortage of product. Thus, when an article in *Quick Frozen Foods* discussed Evans Packing Company’s new 28-foot tall, 120-foot by 100-foot warehouse, requiring 280,000 board feet of Styrofoam, eight inches thick, and which would keep the equivalent in concentrate of one million boxes of oranges at a year-round temperature of -14F, the emphasis was on the type of sales Evans Packing planned to do (bulk) rather than on the enormity of the building.

Processors thereby had an influence over their industry unprecedented in the annals of commercial fruit production. They not only effectively flattened price fluctuation, they had the ability to expand or contract supply as they wished. In 1958 they ran afoul of Congress as a result. Following a 1957 freeze that purportedly reduced the supply of concentrate, some congressmen, particularly Charles A. Vanik of Ohio and Victor Anfuso of New York, charged that the industry had exploited consumer knowledge of the freeze to sell juice at high prices, prices the industry claimed were based on the high costs of oranges but in fact reflected mere price gouging because the juice had been concentrated and frozen well before the freeze.

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55 Minute Maid Corporation, “Know Your Business.”
Speaking for himself and for Vanik, Anfuso claimed, “we have had many other complaints from housewives throughout the country complaining that the retail price of frozen orange concentrates has almost doubled to what it was a year ago.”

Publically, industry executives denounced the charges, but privately they all but admitted them. In a speech to growers and other citrusmen, Marvin H. Walker, the general manager of the Florida Citrus Commission, noted that after the freeze, “Prices went up, but in the case of processed citrus products, we sold more too!” Sales of concentrate specifically increased three percent at a time when prices increased 46 percent. This fact, argued Walker, was all the more astounding because “People had less to spend for foods too, with the increase in unemployment.” Freezes, it seemed, not only no longer were a threat to the orange industry as they had been in years past, but were a boon. Despite internal admissions to this effect, though, processors ultimately suffered no Congressional consequences. It was also the only time their control over the market was investigated.

All of this increasingly gave processors control over basic operations in the production of Florida oranges. One manifestation of this was that almost all oranges had some value to processors. The myriad surface defects plaguing Florida growers since the inception of their industry, particularly vis-à-vis California growers, ceased

Such concerns about diseases, microbial pests, fertilizer spray burns, and sunburns were irrelevant. So was size and shape. External color no longer mattered either, as a ripe and juicy orange that was green, or had a mottled peel due to rust mites or some other factor, was as useful as an orange with no external discoloration at all. All that mattered was the inside. Oranges that formerly would have been a financial loss could be sold to processors.

Yet processors were still particular when it came to taking fresh fruit rejects. Minute Maid’s chief chemist Wallace Roy regularly criticized the practice of artificially coloring fruit. Such fruit was subjected to heat and dyes in order to generate a shiner orange. In a representative statement in 1949, he remarked that, “Fruit fresh picked and hauled directly from the grove to the plant is our first priority from a freshness standpoint. We have found that fruit which has remained in the packing house for several days, particularly when allowed to stay in the coloring rooms too long at elevated temperatures, often develops stale flavors which are transmitted to the finished product. On occasion, it has been necessary to destroy products made from such fruit because of stale off-flavors in the product.” To put it

60 There were some exceptions, however. Scale, for example, was particularly bad because it was not removed when the oranges were washed and thus got into the juice; Roy, “The Frozen Citrus Concentrate Industry in Florida and What the Industry Wants in the Way of Quality in Citrus Fruits,” 141-2.
64 Harris H. Mullen, “Citrus Growers Gaze Into the Crystal Ball,” Florida Grower, November 1949, 6.
differently, fruit that had gone through stages of aesthetic preparation for the fresh fruit market were not as useful to processors as fruit that had not.

All the same, this was a welcome shift for growers. In a representative quotation, J. J. Parrish remarked of processors in 1977, “They’ve been a lifesaver, … Back in the old days, I can well recall when we had cull piles—which the ecologists would not let you do today—as high as the packing house by the end of season. They were really a stinko deal.”65 Sydney O. Chase, Jr., a grower and executive in a grove management business, noted in a 1965 letter to his subordinates that, “Unless fruit in a grove, or a block of grove, will pack out 50% or better, it is more economical to send the fruit direct to a processing plant.” This applied both to Chase’s own groves and to those he managed, and he suggested for the latter that if the owner objects, “we should exert a little diplomacy.”66

Another manifestation of processors’ increasing control was the radical revision in the way oranges were bought and sold. Ever since the 1870s, the standard unit of measurement was the “box.” A box of Florida oranges was equal to two bushels, or ninety pounds, or about 200 oranges depending on the specific type of orange. It was strictly a quantity based form of valuation. That worked in a fresh fruit marketplace. Processors, however, were not interested in quantity, per se; they were interested in quality, which they measured in terms of the amount of juice they could get from an orange. That amount varied considerably depending on a number of...

65 Parrish, oral history.
66 Sidney O. Chase, Jr., to Bob Reely and John Malloy, memorandum, 14 September 1965, Chase Collection, Record Group 1, Series 4, Subject Files 1961-1984, Box 91, Citrus Department 1965, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
factors, including the growing region, agricultural practices, and the type of orange. As a result, they pushed growers to sell their oranges according to the amount of something called pounds-solids. Abbreviated in the vernacular to solids, this referred to the weight, in pounds, of what remained from orange juice after the water had been removed. The juice of most oranges was about 85 to 90 percent water, about 8.5 percent sugars, and the remainder a mixture of citrus acid, vitamin C, vitamin A, and various essential oils. Initially, growers resisted the shift and processors acceded to their demands. In 1951 an executive for Minute Maid, the most prominent processor, argued for the shift to a group of growers, processors, and others:

"[A]s the concentrate industry becomes more and more dependent upon as a segment of Florida citrus, as we go out and try to get the choice fruit from the solids standpoint, I am sure eventually we will buy fruit on a solids basis. We have to get away from buying fruit by the box. The concentrate industry is reluctant to make too much of a break. If we want to pay premiums on high solids fruit, we will of course ask discounts on low solids fruit. Dairymen sell milk according to the amount of butter fat, and not by the gallon."  

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67 Wallace Roy, "Effect of Scions and Rootstock on Fruit as Applies to the Concentrate Industry," 74.
68 McPhee, Oranges, 127-29.
70 Roy, "Effect of Scions and Rootstock on Fruit as Applies to the Concentrate Industry." 74.
Not all growers reacted favorably to statements like this. Charles Koechling, an executive at the Florida Citrus Exchange, the largest citrus cooperative in the state, was one of them. In 1953, he gave a speech to a number of growers cautioning them against processors’ increasing influence. “I’m certain everyone here,” he remarked, “would prefer to avoid a situation in which fresh fruits would play an insignificant part in our great industry.” Maintenance of the fresh fruit outlets, he argued, was essential to maximizing returns to growers because it kept alive the competition between processors and fresh fruit buyers for Florida oranges, thereby preventing growers’ subordination to processors.

As convincing as Koechling’s speech might have been, though, it increasingly reflected the minority position. Selling fruit according to pounds-solids to one of a small number of processors was much less complicated and fraught with peril than shipping fruit by rail to urban centers and selling the fruit in auction markets to wholesalers and jobbers. Most growers naturally preferred to minimize their risk. Indeed, by 1958, a Florida agricultural extension publication declared, “Today, the grower who sends oranges to the concentrate plant is no longer producing merely boxes but rather juice and pounds of solids per acre.”

As methods of quality valuation changed, so did the relationship between growers and their growing environment. This change occurred everywhere but most dramatically in the Indian River citrus district. Located along the eastern coast, its

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72 Soule, Jr., Lawrence, Testing Oranges for Processing, 2.
soils and rainfall produced oranges that were much sweeter, juicier, and more flavorful than those grown anywhere else in Florida. Yet, the very environmental factors yielding such high quality oranges also severely limited the quantity growers could produce. Growers therefore were extremely dependent upon a loyal consumer base to pay a premium for their oranges, and this required collective action on the part of growers and constant marketing of the “Indian River” brand.\textsuperscript{73}

The shift in valuation therefore uniquely benefited Indian River growers. It altered their reputation for quality fruit, yet their oranges were just as sought after. Processors knew Indian River oranges were qualitatively better than other oranges because every day during the season they juiced thousands of them and measured the pounds-solids. Indian River oranges consistently had more pounds-solids. This made them a critical ingredient in frozen concentrate because they balanced out lower solids oranges from the Interior. Most of the year, the juice from Interior oranges lacked sufficient body and sugar to attract consumers. Processors, therefore, depended upon Indian River oranges to make a juice good enough to sell. Thus, even while the industry’s perception of the orange changed, “Indian River” as a marker of quality remained as relevant as ever.

The rapidly increasing significance of concentrate in the orange industry created a land boom in the Indian River region. This was manifested in two ways. The first was a spike in real estate values. Hugh Welchel, the St. Lucie county agent in 1963, wrote that “almost overnight” the price of land leapt from an average of $65

\textsuperscript{73} The Indian River citrus district is the subject of chapter one.
an acre to $450.\textsuperscript{74} The jump was no smaller to the north in Indian River County. In
the early 1960s, the Pasco Packing Company, a major processor headquartered in the
Interior, purchased 817 acres near the town of Vero Beach for $2.3 million, or about
$2,815 an acre.\textsuperscript{75} Although this development no doubt made some growers nervous,
many were thrilled. The well-landed and influential Joseph Hale gleefully proclaimed
"the future of the state’s industry lies in a three county stretch on the east coast," that
being, of course, the Indian River region.\textsuperscript{76} The \textit{Vero Beach Press Journal}, no
opponent of growth either, issued its own proclamation in a May 1963 front-page
article entitled “Indian River Citrus Fruit Value to Hit $100 Million: Future of Area
Industry Citrus Very Bright."\textsuperscript{77}

But rising land prices was but one reflection of Indian River’s value. Grove
development was the other. Given the environmental circumstances of the Indian
River growing region, the significance of this cannot be overstated. Most of the land
in Indian River was not suitable for growing large quantities of oranges, and a lot of it
was not suitable for growing any. Much of it was swamp most of the year.
Overcoming that basic environmental fact required a lot of capital, and until around
1950 there was no incentive for such investment. Concentrate changed that.

\textsuperscript{74} H. C. Whelchel, Jr, “Indian River Citrus Comes of Age,” \textit{Florida State Horticultural Society
\textsuperscript{75} Anonymous, “IR County’s Largest Grove Sale Recorded,” \textit{Vero Beach (Florida) Press Journal},
March 21, 1963.
\textsuperscript{76} Anonymous, “Citrus Industry Vital to Indian River County Economy,” \textit{Vero Beach (Florida) Press
\textsuperscript{77} Anonymous, “Indian River Citrus Fruit Value to Hit $100 Million: Future of Area Industry Citrus
Very Bright,” \textit{Vero Beach (Florida) Press Journal}, May 2, 1963. By 1992, the Indian River region was
the leading producer of Florida oranges, almost all of which went into orange juice. Michael Gannon, \textit{Florida: A Short History} (Gainesville: University Presses of Florida, 1993), 144.
In a representative example, Minute Maid launched an environmentally audacious reclamation project in 1960. The company purchased 6,000 acres of almost entirely low-lying, swampy savannas, land that was six feet underwater half the year, and in a five million dollar project, drained the land and cleared it of all swamp life. Gone were the alligators, otters, wildcats, deer, and the various birds that formerly populated the area. Gone, too, were the mangroves and the subaqueous ecology they supported. In their place, Minute Maid planted 4,500 acres of orange trees intermixed with 1,500 acres of drainage canals and other mechanisms for removing excess water and reservoirs for storing that water for irrigation during the dry season. The company also put down housing for the 80 families expected to live there at least part of the year. Finally, the company put an 18-mile dike around the perimeter. All of this meant the removal and upheaval of three million cubic yards of dirt, the creation of about 410 ditches for irrigation in the winter and drainage in the summer, and the use of around $500,000 of heavy machinery. The regularity imposed upon the formerly irregular swamp was remarkable. The trees essentially grew on islands, surrounded on all sides by drainage canals. These islands stretched straight into the distance for as many as five miles. When completed, the Holman R. Cloud

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81 Nagle, “Swamps Yielding to New Minute Maid Grove.”
grove, named for a Minute Maid executive, yielded about 1.5 million boxes of oranges per year for use in the company’s processing plants.83

Minute Maid was the leader among processors in this type of endeavor, but the company was far from the only developer. Throughout the Indian River area from the mid-1950s to 1963, grove acreage jumped from 63,000 to 140,000.84 The number of Indian River oranges produced each year went up in consequence. According to the United States Department of Agriculture, orange production estimates in 1950 for the Indian River region’s primary counties, Indian River County and St. Lucie County, were 539,000 and 581,000 boxes, respectively. By 1970, they were 2,961,000 and 5,667,000 boxes, respectively. Most of Florida’s orange counties saw an increase in production; none of them, however, had anything like five- or ten-fold spikes.85 And almost all of those oranges went to processors.

The seismic shift taking place in the Indian River region was merely an outsized version of the shift taking place across the state’s orange growing regions in the 1950s. A USDA study of technological change in the orange industry celebrated it. Wrote the anonymous author, “products created by additional processing and

83 Nagle, “Swamps Yielding to New Minute Maid Grove.”
84 Whelchel, Jr, “Indian River Citrus Comes of Age,” 51.
85 United States Department of Agriculture, Census of Agriculture (Washington, D. C.: United States Government Printing Office, 1950), and USDA, Census of Agriculture (Washington, D. C.: United States Government Printing Office, 1970). Although these statistics clearly demonstrate the development of groves in St. Lucie and Indian River counties, nevertheless a straight line comparison cannot be drawn because they do not take into account increasing yields. Accounting for that factor is impossible. The 1950 census recorded the number of fruit-bearing trees, while the 1970 census recorded acreage. Moreover, the actual size of a tree and thus the amount of fruit it bore declined in the postwar period as growers realized smaller trees were more manageable and profitable. The number of trees, however, increased. Tree age was another factor in production rates: they were highest when the tree was between the ages of 20 and 33 (50 in the Interior). The development spurt of the 1950s probably meant a far greater proportion of trees were younger and less productive in 1970 than 1950.
having higher processing margins, can have offsetting savings that benefit both the grower and the consumer. … This is because of lower transportation charges for the processed products,… and because of lower retail margins due to reduced perishability and increased standardization in the processed product. In addition, economies of scale were made possible by the increased volume marketed."  
Moreover, advertising was more practical and effective for value-added processed products than for fresh produce, the success of Sunkist notwithstanding. The review concluded with the assessment, “Florida oranges offer an example in which the demand for the processed product increased at a faster rate than the supply of oranges. Under these circumstances, increased processing has contributed to higher prices and greater returns for growers.”  
As the statements from J. J. Parrish above and many similar statements from other citrusmen attest, growers indeed received concentrate warmly. 

Interestingly, concentrate’s transformation of the industry created economic space for a by-products industry. Firms in this new sector specialized in making products out of the seeds, peel, and flesh of the fruit—out of anything that was not used in juice. This industry was not particularly vibrant in the pre-concentrate days partly because most of the state’s fruit was sold fresh and thus the ingredients to any potential by-products were scattered about the country’s landfills, and partly because production rates of oranges simply were not as high. Two of the effects of

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87 Ibid., 30.
88 Ibid., 31.
concentrate, however, were the consolidation of the residual in Florida and significantly increased production. Since each orange was about 55 to 60 percent by-product, and processors went through billions of oranges, there was a lot of material for by-product firms to use. As it had with the development of concentrate, the federal government—through USDA scientists and the financing of various state research stations—provided critical research for the by-products industry. Scores of reports published in the 1940s and 1950s in Washington, D. C. and Gainesville, Florida examined the by-products field. Analyzing interviews with customers, and performing numerous tests, virtually all of the reports suggested ways by-products firms could create a better product and also how by-products consumers used and felt about by-products.  

The most significant of the commodities produced from concentrate’s waste was cattle feed. As early as the 1920s, ranchers became aware that cattle liked citrus when the latter would disappear into the woods while grazing and the former would find them eating disposed cull fruit.  

By the mid-1950s some 25 to 30 feed plants took citrus waste and dried it with lime into pellets and bricks, cranking out about 200,000 tons of stock feed a year. Minute Maid even got in on the act, initially selling its wet pulp to a drier but in 1949 buying a plant and by 1960 producing around 55,000 pounds of feed in 100-pound bags. This was about a sixth of the

90 Anonymous, “Concentrate Processing,” 44.
industry’s total production, and the company’s public relations manager declared it "an important part of the company’s activities." The stuff was evidently as good to the ranchers as it was for the cattle: it fattened beef cattle to the tune of 2.17 pounds daily, assuming the rancher provided eight to nine pounds of feed per cow, and it boosted milk production. Moreover, it did this more efficiently than any other supplement, did it for less money, and increased the overall health of the cow.

The drying of stock feed resulted in another by-product favorable to ranchers: citrus molasses. This molasses was about 10 percent solids of which six percent were sugars and was like beet or sugarcane molasses but much more bitter. Even though this was a smaller industry with around 50,000 tons produced in 1955, most grazing lands in Florida had feed troughs that filled automatically with molasses. Cows drank as they saw fit, and usually had about a half gallon a day though they did occasionally drink as much as six gallons in a day.

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92 Considering the centrality of concentrate to Minute Maid and the scale of operations on that front compared to cattle feed, the declaration is probably a case of corporate overstatement. E. E. Hinton, “News About Minute Maid Corporation,” circa 1960, Howard C. Sweatt Papers, Box 5, Minute Maid: Info Kit 7878-7g3, Florida Citrus Archives, Florida Southern College, Lakeland.
94 MacDowell, “Citrus Processing in Florida,” 222.
95 Anonymous, “Concentrate Processing,” 44.
97 Ibid., 7-8
98 MacDowell, “Citrus Processing in Florida,” 222-23.
100 Ibid. A number of other lesser by-products came indirectly from processing plants as well. Citrus oils, generated from the peel, were used in baking, candy making, and occasionally in perfumes. This industry, though, was both highly competitive and small. Pectin derived from the peel often went into jams, jellies, and similar products, though the market here was often saturated as well. The last notable by-product was seed oil, as some 700,000 gallons of it were produced during the 1948-1949 season for use in leather and textile factories. Von Loesecke, *Citrus Cannery Waste*. 
Although not technically a by-product, the processing industry also found a way to make use of lower grade concentrate. In 1946, Canada Dry asked the Engineering and Industrial Experiment Station at the University of Florida about “producing a high quality carbonated beverage from Florida fruit.” In particular, the company wanted to know if a popular soda called Nesbitt’s Orange Drink could be replicated or improved upon using concentrate. Conventional wisdom had been that it was “possible to produce high quality carbonated orange beverages only from California fruit,” based on an understanding of the orange industries in each state, but that was an understanding that Canada Dry was among the earliest to recognize as outdated. The answer to the query was, yes. The research station concluded in its final report in 1949, “It has been found possible to produce a very satisfactory carbonated beverage using Florida orange concentrate” so long as one adds more orange oil, or add-back, than ordinarily used in producing FCOJ.\textsuperscript{101} In fact, without being asked to, the station actually developed a recipe for a product equivalent to Nesbitt’s Orange Drink: mix together eight gallons of this concentrate base with 580 pounds of granulated sugar and 45 gallons of water, and then add carbonation or any other flavoring desired.\textsuperscript{102} Most significant of all, though, was the research station’s conclusion about cost. At just three dollars a gallon “at today’s prices,” the

\textsuperscript{101} Engineering and Industrial Experiment Station, \textit{Final Report on Carbonated Orange Beverage from Florida Citrus Fruit Submitted to Canada Dry Bottling Company of Florida, Inc.} (Gainesville: University of Florida, 1949), Subseries 26G, College of Engineering, Engineering and Industrial Station, Project files: Records Relating to Florida’s Citrus Industry 1945-1949, Box 1, 40/6 Station #4711 – Carbonated Orange Beverage From Florida Citrus Fruit 1947-1949, University Archives, University of Florida.

researchers wrote, the "concentrate base can be produced in Florida for slightly more than one half the cost of Nesbitt’s Orange Drink."\(^{103}\)

While the by-products industry made use of much of what otherwise would have been waste, a processing plant still produced an enormous amount of unusable waste. By far the most significant were liquid effluents. Plants used water to wash the fruit when it came in, as well as for cooling purposes, and a lot of water was used to keep the plants themselves clean and microbe free. Juice and bits of orange also dripped onto the floor, adding to the liquid mess.\(^{104}\) Essentially waste water, this was of little value to manufacturers and its disposal was problematic. Initially, there were basically four ways to get rid of it. The first was to dump it into nearby lakes. As a USDA researcher on the subject noted in 1950, this resulted in "pollution and destruction of fish life."\(^{105}\) The second was to flood waste lands. "This method," wrote the researcher, "has been satisfactory where sufficient areas are available, there is a low water table, and the areas are far from human habitation." The third was to dump into coastal rivers and lagoons. This was not "entirely satisfactory because of sludge formation at the outfall, and danger of polluting shell fish beds." The fourth was to flush it into city sewage systems, which worked when the systems could handle it.\(^{106}\)

\(^{103}\) Engineering and Industrial Experiment Station, Final Report on Carbonated Orange Beverage from Florida Citrus Fruit Submitted to Canada Dry Bottling Company of Florida, Inc., 1949.

\(^{104}\) Von Loesecke, Citrus Cannery Waste, 1.

\(^{105}\) Ibid., 17.

Within a few years however, these options dwindled down to just the fourth. As the industry grew, and as the state became more populated, the other methods simply were not practical, or, in time, legal. In 1965 in fact, Pasco Packing paid a fine of $17,500 for polluting 16 miles of the Withlacoochee River and killing thousands upon thousands of fish. This was the first time a processing plant had admitted or paid for pollution, and Pasco president Bill Edwards made the most of it. “Realizing the tremendous value of fishing, outdoor recreation and clean waters to the people of Florida,” he said, “we are not only willing to finance the restocking of the fish but we are also taking measures to prevent future pollution…to completely redesign the waste disposal system of Pasco Packing Co.” The drainage system cost about $50,000, and restocking the river required about 150,000 fingerlings, 35,000 to 40,000 bass and 10,000 channel catfish.107

By 1964, processors’ transformation of Florida’s fresh fruit orange production into an enviro-industrial concentrate machine was complete. Growers no longer grew oranges. They grew inputs. Environmentally, this meant they overcame some of the most basic impediments nature had long thrust in their way. Whereas individual oranges varied according to type, season, rootstock, soil, and myriad other factors, concentrate was a homogenized product. Whereas a freeze might destroy oranges, or pests might degrade the exterior of oranges, or in a given year oranges might be too small or too large, concentrate—the product of those oranges—was largely unaffected. Whereas oranges were seasonal, concentrate was not. Whereas oranges

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107 Red Marston, “Pasco Packing Pays $17,500 in Fish Kill,” St. Petersburg Press, 6 March 1965.
had a shelf life, concentrate did not. In short, processors were able to overcome the vagaries of nature by turning an existing product, the orange, into an entirely new product, not just one that had never been sold before but one that had never even existed. That was how they transformed the industry. And they understood their oranges differently. Thoughts shifted from aesthetics, auction prices, rail rates and other aspects of the fresh industry to things like Brix and pounds-solids. Although initially growers undoubtedly played processors off fresh fruit operators to obtain the best price, selling to processors had significantly fewer variables to consider. Thus, in the early 1950s growers increasingly chose to sell to processors and by the mid-1960s overwhelmingly did so.

From the perspective both of processors and the growers who supplied them, frozen concentrated orange juice was undeniably a success story for the industry. As the next chapter demonstrates, though, transforming the orange industry was not a painless process. While the concentrate industry had a structure the fresh fruit industry never had, it was nevertheless reliant upon fresh fruit for its own stability. Processors experienced this most sharply whenever they tried to acquire oranges. Throughout the forties, fifties, and early sixties, getting enough good fruit to meet the demand for concentrate, and, according to the logic of efficiency, to produce enough so as to diminish the cost of production per-six-ounce can, was a struggle. Getting concentrate to supermarkets while keeping it frozen the entire time was another challenge, as was convincing supermarket managers to keep it frozen once it was on display. Overcoming these obstacles was nearly as difficult as overcoming the basic
obstacle of producing a good juice in the first place. The central paradox of the
transformation of the orange industry into a concentrate industry was that while it had
resolved the problems of the pre-war era, it had created problems of its own that were
potentially as damaging as those of the earlier period. Yet for processors and, as
chapter four will show, consumers across the country, these were growing pains
worth suffering.
CHAPTER FOUR

From Field to Market: Pitfalls in Innovation

Capitalism ... is by nature a form or method of economic change and not only never is but never can be stationary. ... The opening up of new markets, foreign or domestic, and the organizational development from the craft shop and factory to such concerns as U.S. Steel illustrate the same process of industrial mutation ... that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism.—Joseph A. Schumpeter, 1942

Joseph Schumpeter’s observation reflects one of the central paradoxes of the capitalist economy.¹ Capitalism drives innovation, but that innovation relies upon the destruction of existing modes of operation in order to facilitate it. New products, in other words, require new production methods. What this means in practical terms is that innovation in one arena will not succeed unless innovation in other, supporting arenas proceeds apace. A new product, then, must not only appeal to consumers but also promise that appeal to other capitalists at other nexuses in the supply chain, whose enthusiasm or reluctance for the new product determines whether it gets to consumers in the first place. At every step of the way, these other capitalists in these other nodes assess whether the new product’s potential profitability merits the costs of changing, however slightly, their business practices. Creating the innovation, therefore, is actually only the first stage of getting a new product to market.

This problem is particularly acute for innovators of food products. Unlike the producers of other finished goods, all of their inputs are perishable and their final

product is perishable. Even processed food with a long shelf life spoils, rots, or otherwise goes bad eventually. And, it can do so very quickly if proper measures are not taken to delay the natural process of decay. Thus, food processors are crucially dependent upon suppliers to ensure that they receive the raw materials to produce the product they want to produce, and crucially dependent upon shippers, wholesalers, and retailers to ensure that the product gets to consumers in a marketable condition.

This was the crux of the problem for frozen concentrated orange juice processors. Taking three examples—the need for a stable supply of usable oranges at a stable price, transportation from processing plant to grocery store, and storage and display at retail outlets—this chapter moves across space to show the extent to which the innovation of concentrate was dependent upon subsequent innovations in other commercial industries, and therefore concentrate’s success was dependent upon those industries’ ability and willingness to accommodate it. While concentrate reflected a victory of sorts over natural forces like decay and seasonal variation, it nevertheless depended upon a far-flung life support system to maintain that victory, and processors had little leverage over anyone else in the system. In short, making concentrate turn a profit turned out to be a more protracted battle than processors had originally thought.

The most significant problem processors faced at the outset and for the next fifteen years was getting enough high quality oranges at a stable price throughout the season. There were several parts to this problem. To begin with, ownership and management of groves was rather peculiar. When viewed from an airplane, most of the 15,000 or so acres of Florida grove land resembled stereotypical industrial
agriculture with row upon row upon row of neatly planted trees, and, at first glance, the view did not change much from the ground. But in fact, most of these groves had many owners, each of whom owned a parcel of the grove land. What seemed to an outsider to be one grove was actually a number of independently-owned groves, all of which were cared for by a management company. Around 30 percent of “growers” did not even live in Florida, and an unknown but probably significant additional percentage did not live especially close to their groves. Thus, the relationship between many growers and the orange industry was like that between an investor and a company in which he or she owned stock. In other words, depending on a given grower’s relationship with his or her management company, a processor might have had to negotiate growers via grove managers, who of course had their own business agendas. Additionally, the market price for oranges on the fresh fruit market fluctuated almost daily, thereby further inhibiting the development of any kind of long-term relationship between processors and growers or managers.

A second factor was that virtually no one in the industry at any given point had a very good idea how many oranges there were and therefore what the price for them should be. Like most goods in a capitalist system, the cost of oranges was determined by both supply and demand. The problem was that early in the season, supply was hypothetical. For that reason, anyone with any economic interest in

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3 Sidney O. Chase, Jr., to Bob Reely and John Malloy, memorandum, 14 September 1965, Chase Collection, Record Group 1, Series 4, Subject Files 1961-1984, Box 91, Citrus Department 1965, University of Florida Library.
oranges relied upon annual estimates of orange production. Such estimates abounded; the United States Department of Agriculture published its assessment of probable production, and most cooperatives and processing plants, as well as independent industry analysts, conducted their own analyses. Because these estimates affected the price of oranges, a significant amount of contention and anxiety existed over their use. The leading trade magazine *Quick Frozen Foods* vigorously defended its own estimates, as did guest writers for the magazine and the analysts the magazine wrote about. The tension was further demonstrated by the various reactions to revised estimates and estimates relative to post-season counts.4

The difficulty was that everybody involved in any part of the orange industry bought and sold according to estimates. This was especially problematic early in the season when the estimates' accuracy was less assured. For example, if processors thought the estimate for that year was low, they might buy fewer oranges early in the season because they believed the price to be inflated, and then buy more later in the season when, if the estimates had been low, prices had fallen. Such a plan of action came at the expense of growers, but of course if processors miscalculated, growers reaped the returns. At the same time, though, processors blended early maturing oranges, which generally were rather tart but also contained more flavoring essences, with late maturing, sweeter but less flavorful oranges, the issue of buying and selling according to estimates was particularly acute. Processors therefore had to purchase some early oranges that were priced according to hypothetical supply figures. A final

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compromising issue, of course, was that prices were never fully stable, even from day to day. Their fluctuation consequently encouraged some growers “to ‘get while the getting’s good’—to pick and sell before the market shrinks,” which not surprisingly often resulted in an inferior product, whether it was a fresh orange or a can of concentrate. For the latter, this issue was somewhat counterbalanced by the standards the Florida Citrus Commission set, but still individual companies did have sufficient lateral mobility to produce an inferior product if they deemed it in their interest.

A third factor was many small growers’ fear of processors’ power. A USDA report from 1962 offered a glimpse of the underside of the concentrate revolution. “The fact that processors are becoming fewer and larger,” it determined, “coupled with the trend toward more processed products means that farmers will have” less bargaining leverage. Similarly, “processors need large supplies of raw product; therefore they may tend to favor the large producer.” Moreover, the increase in processing weakened the demand for the fresh product, meaning that growers who marketed fresh oranges were marginalized. This circumstance affected all growers, of course, but small growers already less competitive within the internal market of concentrate sometimes believed they were especially hurt.

Evidence of this kind of tension between growers and processors abounded. In a representative telegram to U.S. Senator Spessard L. Holland in 1952, several

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8 Ibid.
growers charged, “The large distributors and manufacturers of concentrate have arbitrarily reduced the price 34 cents per dozen cans, which will not only reduce the return to the grower, … but will very materially affect the price of fresh fruit and single strength canned juice. … We have given careful thought and exhaustive inquiring can find no reason for this reduction, except that the Bird’s Eye, Snider Division of General Foods is dissatisfied with the volume of business that they are getting, and have started this price cutting in an effort to wrest business from their competitors. Minute Maid and Snowcrop have done likewise. … [W]e do feel that they are taking an unfair advantage of this industry…”9 The Federal Trade Commission had itself already received communication of this sort and had begun an investigation. “The study,” wrote FTC Chairman to Holland in response to the latter’s forward of the telegram, “makes it easy…for the Commission to understand the point of view of the growers.” Still, the FTC had tentatively determined that no law had been broken, and encouraged the growers, through Holland, to submit evidence supporting their claim.10

Minute Maid’s president, John Fox, welcomed further investigation. In a scathing press release, he declared that the growers’ charge was outrageous. “Minute Maid’s pricing has been above the industry average for six years. Its price was nearly always the highest in the industry, and it was with great reluctance that it was forced to cut its price to present levels to meet the threat of unadvertised brands put out by

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10 James M. Mead to Spessard L. Holland, 2 May 1952, Spessard L. Holland Papers, Box 268, 5 Citrus Concentrates (Violation of Law – Justice + FTC Matter (1952)), University of Florida Library.
cooperatives (owned by growers) who pay no corporate taxes, have no marketing, merchandizing or other sales organizations but serve only to weaken the market and bring prices to new lows at the first token sales resistance.” Moreover, “Minute Maid, the number one brand in the stores, has spent millions and millions of dollars for advertising, has created an extensive and expensive sales organization with the best executive talents it can obtain to achieve its leadership. With its position being threatened by those who have done nothing to build the market, it had no recourse but to fight back.” Concentrators “do not want broke growers, or erratic prices. The interest of the grower and the concentrator is parallel. Charges that concentrators seek only to profit at the expense of growers is absurd.”

Fiery rhetoric aside, there were grains of truth to both positions. As the USDA study noted, the biggest losers in a price war among concentrators were the growers. Concentrate companies had the capital to withstand even an extended period of below-cost retail prices, whereas all but a few growers did not, especially when their fresh fruit buyers fled the produce section of the supermarket for the freezers to take advantage of concentrate’s low prices. At the same time, however, “price” branded juice—that is, juice sold under store labels rather than corporate labels—comprised over half of all concentrate sales in 1952, up from 35 percent in 1951. This occurred at least partly because these juices were unadvertised and therefore were two or three

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12 B. Brock Steel, “Quality at a Saving: ‘Unadvertised’ Juice is Gaining New Markets After the Pattern of the Canning Industry,” Frozen Food Age, February 1953, 26. Pasco Packing Co. probably processed most of this juice, as it was far and away the largest non-brand concentrate producer.
cents cheaper, equivalent to a discount of between 10 and 20 percent off the brand name price. According to Brock B. Steel, the sales manager at a major cooperative, these juices “have been marketed on the theory that a demand created by satisfied customers’ word of mouth advertising is a more satisfactory selling method than costly nationwide promotion.” John Fox clearly thought Steel’s claim was ridiculous; store-branded products simply rode the coattails of Minute Maid, Bird’s Eye, and Snow Crop, benefiting from their advertising efforts while underselling them. The producers of this juice, all of whom were grower-owned cooperatives like Steel’s employer and none of whom were for-profit corporations, similarly benefited. They, too, could deal from the bottom of the deck.

The result of all of these issues, argued O. V. Wells, administrator of the Agricultural Marketing Service, at a 1958 Congressional hearing was “that the orange concentrating industry has not been a highly profitable one in recent years.” Competition among concentrate companies and the costs of advertising, storing too-tart or too-sweet juice for months or a year for blending purposes, acquiring fruit, and so forth had been very costly. Moreover, buying oranges over the course of the season at market prices ultimately meant variation in the price of concentrate. The fact that processors stored juice mitigated the effects of this fluctuation, particularly compared to the high highs and low lows of fresh fruit sales. All the same, the price of concentrate at the beginning of the orange season might be much higher or lower than the price of concentrate at the end of that season, depending on what the fresh fruit

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market was like. Consumers therefore often had a general idea what concentrate might cost but never a definite idea as they do now. This ultimately diminished overall sales in the long term because consumers got out of the habit of buying concentrate, and in the short term increased the cost of doing business.\textsuperscript{14}

This was one of the key problems processors faced. Price fluctuation had been a manageable situation in the 1940s because few processors then existed and because most consumers then buying concentrate did not do so based on its price. By 1950, it was a different story. Noted one observer, “The competition between the frozen concentrate plants and the fresh fruit packers is seesawing the Valencia market up to the highest levels in 20 years.”\textsuperscript{15} As such, “Florida citrus growers reaped one of the richest harvests in the history of the industry during the 1949-50 season. Following a slow and dismal beginning, with pre-holiday prices at relatively low levels, growers were soon in the enviable position of having the fresh, canned, and frozen fruit buyers actively bidding against each other for raw fruit. Prices at all levels (on tree, auction, and f.o.b.) skyrocketed far above the most optimistic pre-season predictions.”\textsuperscript{16} Processors tried to pass the increased cost on to consumers, but once the price hit about 30 cents for a six-ounce can, consumers backed off and sales dropped precipitously. In order to sell concentrate at all, necessary for their bottom line but

\textsuperscript{14} Frozen Food Price Spreads (Orange Juice Concentrates), Hearing Before the Subcomm. on Consumers Study of the Committee on Agriculture, House of Representatives 85\textsuperscript{th} Cong., Second Session, (23 July 1958) (statement of O. V. Wells, Administrator, Agricultural Marketing Service), 17.


\textsuperscript{16} Florida Agricultural Extension Service, 1950 Annual Report, 43.
also to keep their place in supermarket freezers and to keep their consumers, the companies sold at losses.\textsuperscript{17}

In an effort to overcome all of these problems, processors turned to contracts and vertical integration.\textsuperscript{18} In 1951, Minute Maid attempted to even out the price highs and lows (but especially the highs) of the fresh orange market, and thus by extension those of the concentrate market, through what it called the “Minute Maid-Grower Participation Plan.” This plan, the company argued, would create “a stable, prosperous citrus industry,” which was “the goal of grower and concentrate processor alike.” It would do so by guaranteeing “to the efficient Participating Grower his cost of production, \textit{plus} a profit, \textit{plus} a participation in the net revenue of Minute Maid Corporation.” In other words, these growers would always make money, regardless of the market for oranges in a given year, and more importantly, they would, in effect, become limited partners in Minute Maid.\textsuperscript{19}

The operation of the plan itself reflected the company’s effort to regularize the market. Participating growers could sell to Minute Maid whatever percentage of their crop they liked, and could arrange picking and hauling however they wished. Once the oranges arrived at one of the company’s plants, a Florida State Department of Agriculture inspector identified the solids content of the shipment, and immediately thereafter, the company made “an initial cash payment of 11\textcent per pound of orange

\textsuperscript{17} E. W. Williams, “The Minute Maid Story: 10\textsuperscript{th} Anniversary,” \textit{Quick Frozen Foods}, March 1955, 17.
\textsuperscript{19} John M. Fox to Spessard L. Holland, 8 November 1951, Spessard L. Holland Papers, Box 245, 9 Citrus Problems 1951, University of Florida Library.
solids delivered, plus 40¢ per box for pick and haul,” both of which were calculated—and would be calculated—based on the previous year’s costs. The company ultimately bought the oranges at 90 percent of the current market price, but also when necessary made another payment to growers to bring their selling price up to the average for the season. Additionally, the company promised to split profits with the growers on a fifty-fifty basis, and, in the event that Minute Maid’s profits exceeded 10 percent of its sales, would split 25-75 in favor of the growers. For growers, as it was for the company, the plan was “an opportunity to hedge”—a chance to trade in potential but risky short term gains for assured and less risky long term profits.

The plan worked. In its first year, the company’s program generated more than 1.5 million boxes of oranges before the season was half over, and expected to get another 1.5 million boxes by the end of the season. This accounted for about a quarter of the oranges the company needed; the rest the company acquired through the market. Growers that first year received $623,500 in addition to the initial cash payments, and the following year $857,508. This was apparently satisfactory, because by 1955, virtually all concentrate companies purchased at least some of their oranges by this kind of contract. Throughout the mid-1950s, contracted oranges accounted for about 55 to 60 percent of all oranges bought for juice, and by 1958 it

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20 Ibid.
23 Fox to Holland, 8 November 1951.
was estimated that the figure had climbed to 80 percent. Another sign that the plan worked for growers was the formation of Florida Orange Marketers, Inc., in 1957, an orange growing cooperative completely unaffiliated with Minute Maid that nevertheless sold exclusively to the company. The first year it sold Minute Maid between five and six million boxes of oranges, and planned to increase its membership such that the following year it could sell closer to 15 million boxes. If successful, it could then be the sole supplier to Minute Maid, aside from the company’s own groves.

The other way concentrate companies circumvented the vagaries of the fresh orange market was by acquiring orange groves. Noted one farm analyst, “Some big juicing outfits are purchasing groves ‘to assure themselves a sure source of supply of juice.’” The Citrus Industry, a Florida trade journal given to hyperbole, proudly announced in 1950 that Minute Maid had bought “the Carney Grove” along Lake Weir in north central Florida, all 630 acres, which had “long been known as one of the outstanding grove properties in the state.” The anonymous author went on to argue that this “purchase by Minute Maid is additional proof that ‘Big Money’ considers Florida citrus grove property a safe, sane and profitable investment.” He or she was right in a way, as concentrate in the late 1940s had provided order and

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greater profits, but the author did not acknowledge the fact that the industry was becoming unsafe and a good deal less sane as the cost of oranges increased exponentially, forcing processors to choose between selling concentrate at a loss or not selling it at all. Resolving this was what prompted Minute Maid to buy the groves. By 1955, the company owned 16,000 acres of orange groves, making it the largest grower in the world.  

Minute Maid’s actual holdings continually went up and down. In fact, they had decreased from 16,000 acres in 1955 to 14,000 acres in 1960 though by all appearances they increased significantly again in 1964 due to a project in south Florida similar to the one discussed above. Thus, a precise figure for the number of oranges Minute Maid grew for its own processing is difficult to come by, but a safe estimate based on a stated figure from 1958 is about 25 percent.

Throughout the 1950s and 1960s, the company also leased and managed groves. In a letter addressed to “Wayne” and sent to J. Wayne Reitz, the provost at the University of Florida’s College of Agriculture in 1954, Minute Maid vice president Holman Cloud asked for help convincing “northern capital in making investments” in particular grove land and then “leasing them to us.” Wayne, in his

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37 H. R. Cloud to J. Wayne Reitz, 8 October 1954, Public Records Collection, Series 100b, Institute of Food and Agricultural Sciences, Office of the Vice President for Agricultural Affairs, Administrative
subsequent letter to the New York investment firm in question, was only too happy to help.\textsuperscript{38} The value of this to Minute Maid, as Cloud stated in an offhand way, was that leasing "has certain income tax advantages as you will perceive."\textsuperscript{39} In a letter to his brothers in 1956, citrus baron Randall Chase pointed out that Minute Maid’s leases often ran for 20 years, that they assumed "all costs of repairs, real estate taxes and all other normal ownership cost," and that, "They further state that growers who want relief from the worries and hazards of citrus production can use this lease method and get a fixed income at a satisfactory high level, and at the same time it permits Minute Maid to secure added fruit without the necessary capital to buy groves."\textsuperscript{40} Although the amount of land the company leased in a given year varied, based on a figure president Jack Fox gave in 1960, it was more than likely about 5,000 acres.\textsuperscript{41}

Through all of these arrangements, Minute Maid and other corporations succeeded in gaining control of the orange market. By 1960, the company acquired 85 percent of the oranges it needed through contracts, leases, and its own groves and thus was significantly less dependent upon the orange market and its vagaries.\textsuperscript{42}

Across the concentrate industry the figures were more or less the same, though

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\textsuperscript{38} J. Wayne Reitz to Edward S. Litchfield, 18 October 1954, Public Records Collection, Series 100b, Institute of Food and Agricultural Sciences, Office of the Vice President for Agricultural Affairs, Administrative Policy Records 1949-1962, Box 3, Citrus Information – Miscellaneous 1952-1961, University Archives, University of Florida Library.
\textsuperscript{39} Cloud to Reitz, 8 October 1954.
\textsuperscript{41} Nagle, “Swamps Yielding to New Minute Maid Grove.”
\textsuperscript{42} Ibid.
\end{flushright}
Minute Maid generally was the industry leader in innovation and certainly was in size. According to a Bureau of Economics study from 1964, about 10 percent of the oranges that went into concentrate came from processor-owned groves, a percentage that the report’s author expected to increase, and found more generally that about 70 percent of the total acreage of oranges for processing involved some type “of vertical integration between growers and processors.”

The situation changed significantly in 1966 with the adoption of a futures market. The subject was first broached in 1957, when the USDA in conjunction with the Florida Agricultural Experiment Station determined based on data from the 1954-1955 season that conditions were not favorable for a futures market. There were basically four reasons for this. First, vertical integration was high; “Consequently, the numbers of buyers and sellers” was “low, and the volume of trading in these commodities” would be “relatively small.” Second, concentrate was branded immediately upon processing, and the brand was literally a part of the can, as distinct from regular canned goods which had a paper label. The brand also was significant throughout the life of the commodity. Thus, “Because of the significance of brands in this respect it appears impossible, under present conditions, to establish a futures contract that is in line with trade interests.” Third, the relative non-distribution of market information on concentrate suggested a lack of interest in a futures market.

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And fourth, the fact that so much of the industry was vertically integrated meant the use of futures for financing purposes was probably non-consequential to most firms.44

Despite this initial assessment, the challenges of obtaining raw oranges for processing remained sufficiently severe that the issue was re-examined in 1962. In a report for the industry, Harvard business professor Ray A. Goldberg argued that both growers and processors would benefit from a futures market because it would even out price fluctuations for raw oranges. This would then even out price fluctuations for concentrated juice as well, and the market would stabilize. There would be no "windfall profits during ‘bullish’ market periods," but neither would there be dramatic losses.45 For this reason, in 1966 the industry applied to the New York Cotton Exchange, a near-defunct agency once very active when cotton was a major commodity but long in decline due to a perpetual global cotton glut that eliminated the futures market. The exchange had continued on the strength of its wool futures and was willing to take a chance on a somewhat doubtful commodity like concentrate. While concentrate’s foray into the futures market was far less glorious that its foray into the retail market in the late 1940s, still it was a success. Bought and sold in units of 15,000 pounds of orange solids, the first calendar year of trading resulted in $140 million of activity, and the 1967 calendar year saw 23,338 contracts. In the first five months of 1968, there were 52,246 contracts with an estimated value

of $400 million.\textsuperscript{46} Thus, as a report to the House of Representatives on commodities trading stated, “There is every indication that the orange juice futures market is growing in economic use and is making itself felt as a marketing tool in the distribution of citrus products.”\textsuperscript{47}

In addition to contract grower plans, vertical integration, and a futures market, processors tried to make a saleable product using lower quality oranges or by processing them multiple times to extract every last ounce of juice. Not surprisingly, this led to charges within the industry that some members produced and marketed inferior juice that damaged every processor’s reputation. As a rule, the concentrate industry in its first two decades was a heavily and successfully self-regulated affair. The relatively low number of processing companies allowed this, and the Florida Department of Citrus, which regulated the industry among other responsibilities, was generally viewed positively by those in the industry.\textsuperscript{48} But attempts to use inferior oranges threatened this. “One of the most dangerous rumors presently ‘making the rounds,’” wrote one citriculturalist in 1949, “holds that the concentrate field opens up a huge ‘dumping ground’ for growers with inferior grade fruit on their hands. Nothing

\textsuperscript{48} Chris Gargano, telephone conversation with author, 28 March 2012. Gargano is retired senior vice-president of operations at Tropicana. The FDA also helped regulate and standardize the industry, though more in terms of how processors presented concentrate to consumers in advertising and packaging than in how juice was actually made. The FDA did set minimum standards for the sweetness and acidity of concentrate, though these were not as stringent as those set by the Florida Department of Citrus. See Alyssa Hamilton, \textit{Squeezed: What You Don’t Know About Orange Juice} (New Haven: Yale University Press, 2009), 31-103.
could be further from the truth!\footnote{G. D. Sloan, “The Frozen Concentrate Industry as Seen Through the Growers’ Eyes,” \textit{Citrus Magazine}, July 1949, 17.} This was a relevant point, as citrusmen in the pre-World War II days had viewed canned juice as a by-product, an opportunity to recoup some of the loss created from growing oranges unmarketable as fresh fruit. But, just a year later, J. L. Heid, one of the foremost experts on the subject, wrote amidst a lull in concentrate sales that “the industry has failed to maintain uniform top quality to the degree essential for continued rapid expansion of consumer acceptance.”\footnote{J. L. Heid, “What is the Outlook for Frozen Concentrated Orange Juice,” \textit{Quick Frozen Foods}, November 1950, 48.} Stressing that frozen concentrated orange juice “cannot be better than the quality of the fruit from which it is processed,” Heid encouraged the use of only the best oranges.\footnote{Ibid., 49.}

This turned out to be a long-standing problem for the concentrate industry. Concentrators boasted in 1945 that their juice was equal to the homemade, fresh-squeezed variety, and similarly, the authors of the occasionally updated \textit{Citrus Industry of Florida} claimed that, “only the finest oranges are used in frozen concentrate.”\footnote{A. F. Camp, Robert C. Evans, and L. G. MacDowell, Citrus Industry of Florida (Tallahassee: Department of Agriculture, 1955), 215.} By the mid-1960s, however, citrusmen of all walks attacked the concentrate industry for the declining quality of their juice. According to the editors of the journal \textit{Citrus Industry}, the decline was due primarily to two freezes that had devastated the orange crop. The 1957-1958 and 1962-1963 freezes killed trees, froze oranges, and generally wreaked havoc in the industry.\footnote{Anonymous, “Squeeze Play Please,” Citrus Industry, November 1965, 12.} Concentrators responded by buying up for almost nothing frozen oranges, whose juice had spoiled, and using
them to make concentrated juice anyway.\textsuperscript{54} The magazine’s editors decried this practice, blaming it for falling sales and profits, and applauded recent industry efforts to regulate concentrators more effectively.\textsuperscript{55} And they seemed to have good reason: housewives participating in a consumer panel conducted for the \textit{New York Times} in 1962 believed that “all brands tended to be somewhat inconsistent, with one batch being particularly good and another mediocre.”\textsuperscript{56}

As the foregoing paragraph suggests, the temptation to use oranges which any objective observer would consider not “best” was strongest after a freeze. Extreme cold spells often wreaked havoc on the industry, as frozen oranges had limited utility for processors. During a bad freeze, the protective sacs holding the juice would burst as the orange froze; as the orange thawed, the juice ran freely within the orange and quickly spoiled.\textsuperscript{57} The circumstance was somewhat less dire following a relatively minor freeze. “Many buyers,” stated a Florida Citrus Canners Cooperative bulletin, “have the idea that fruit that was only partially frozen will be just that much more fruit to the canner. There is some justification to this statement. However, fruit that has been partially frozen will dry out to the extent that it will take two boxes of fruit to make a case of juice instead of a normal one box.”\textsuperscript{58} This was because much of the

\textsuperscript{55} Anonymous, “Squeeze Play Please,” 12.
\textsuperscript{56} Ernest Dichter Reports, 1961, Box 62, Research Reports, Accession 2407, Folder 1370P.5-7, Hagley Museum and Library.
\textsuperscript{57} Allen Cushman, Jr., conversation with author, West Palm Beach, Fl., 29 July 2007.
\textsuperscript{58} Florida Citrus Canners Cooperative, Bulletin to All Brokers, 22 February 1947, Chase Collection, Record Group 1, Series 3, Subject Files 1903-1960, Box 79, Freeze February 1947, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
juice from these oranges was sucked back up into the tree. Not only did this fruit yield less juice, though, it required special care during processing, as the freeze affected the various components of the juice and in turn affected the stability of the concentrated product. Prior to 1957, most juice from frozen oranges had limited value to processors. For this reason, Minute Maid conducted research on turning frozen oranges into marketable concentrate, discovering that the use of inert gas to prevent oxidation during production and the use of a fine screen to extract even the smallest bits of pulp had promise. Before the company had a chance to run a trial test, however, the December 1957 freeze hit. In a fairly magnanimous gesture, Minute Maid released their results to the industry. Without any test run, concentrate made from freeze-damaged oranges hit the marketplace for the first time and, as it turned out, without consumer complaint.

The decision to do this, however, was not received well across the orange industry. Many growers felt a certain amount of animosity towards processors, as the latter bought up oranges for almost nothing. For those involved in concentrate, there was considerable concern that selling a potentially bad product was worse than not selling any product at all. Indeed, although consumer complaints were few and

60 Anonymous, “Minute Maid Offers Two Methods of Processing Concentrate From Freeze-Damaged Fruit,” *Quick Frozen Foods*, January 1958, 113. No doubt other companies were also studying how to use frozen oranges.  
61 That is, without apparent complaint about quality. Price, however, was presumably another matter, as Congressmen Charles A. Vanik of Ohio and Victor Anfuso of New York conducted an investigation into post-freeze prices for concentrate, claiming they had received letters from irate housewives on the subject. Nothing came of the investigation, however. *Frozen Food Price Spreads*, House of Representatives 85th Cong., Second Session, (23 July 1958).  
largely connected to price rather than quality, the juice had a shorter shelf life. Following the 1962 freeze, one of the more influential individuals in the citrus industry, Sidney O. Chase, Jr., wrote to a subordinate that, "It was considered wiser to sell the concentrate made from the frozen fruit of this season and hold the concentrate put up last year to sell later. This seems like a wise move to me because some concentrate put up in the 1957-58 season did not hold up in storage as well as juice that had not been frozen." Still, Chase also seems to imply the general acceptability of using frozen oranges to make concentrate, even if that opinion was not universally shared.

Although the use of frozen oranges was hotly debated, the most contentious quality control issue concerned the practice of pulp washing. Pulp washing referred to the re-extraction of juice from pulp that had already been squeezed through the use of pressurized water. It was a method, in other words, of getting every last drop of juice from an orange. Used with increasing regularity following the 1957 freeze due to a sudden decline in raw product, the issue of pulp washing was highly controversial. Robert W. Mairs, the general manager of Winter Garden Citrus Cooperative, declared, "The consumer from time immemorial, has regarded orange juice as the product squeezed from the flesh of oranges. Pulp washing is thus completely alien to

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65 Sydney O. Chase, Jr. to John E. Higgins, 5 April 1963, Chase Collection, Record Group 1, Series 3, Subject Files 1903-1960, Box 103, Chase Groves Inc.: Correspondence: 1962-69, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
that established belief." Bill Edwards of Pasco Packing concurred: “It is our firm belief that by overextraction and over-finishing we obtain fluids that differ somewhat from the basic juice within the fruit. It is our further belief that the addition of these liquids adds nothing whatever to the quality of the product. Yet, R. W. Kilburn, the director for research at Florida Citrus Canners Cooperative, the makers of what today is Florida’s Natural, disagreed. “There is no objection,” he wrote, “to other uses of water in the processing of citrus concentrate; there are no materials obtained by pulp washing that are not normally present in juice. No exotic or unusual material is incorporated into the product by the process.”

The debate over pulp washing reached a fever pitch in early 1960 when the Food and Drug Administration, in an on-going effort to standardize processed food production and thereby make the food supply safer, issued a labeling order to the effect that any juice made even partly with pulp washed oranges had to be so labeled. Whatever the merits of pulp washing, the more immediate problem for processors was that the law was scheduled to go into effect before they could change procedure to obey it. A “memorandum for the file” among U. S. Senator Spessard L. Holland’s papers stated that “the largest buyers of these products (A&P, et al) have advised the Florida processors that they cannot pack anything more for them by use of the wash pulp process. 90% of citrus concentrate is made by this method. The packers use lithographed tin or aluminum cans and a big stock of these is already on hand. There is no practical way of changing the cans this late in the season…There is now

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67 Ibid., 301.
68 Ibid., 302.
9,000,000 gallons in storage of high acid concentrate which is being held for blending with low acid juice of the late orange crop (Valencias). It is physically impossible to process this late crop with any other than the pulp wash process and to change the labels on the containers. 

In short, not breaking the law scheduled to go into effect on March 1, 1961 required processors to dispose of much of their warehoused product and wait for a shipment of new cans, both of which were prohibitively expensive and incurred serious financial loss. In an effort at least to hold the law off for a month, the Minute Maid Corporation responded by filing an objection, but the effort failed and the law went into effect.

This struggle with the federal government, at its core, was a disagreement over the basic character of concentrate, a disagreement that rippled out over the larger industry. Where the oranges that processors juiced came from, the circumstances through which they acquired them, how good they were, and ultimately the nature of the relationship between processors and growers—all these questions plagued

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69 Memorandum for the File, 8 April 1960, Spessard L. Holland Papers, Box 492, 12-Standards of Identity for Orange Juice 1960, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida. The suggestion that 90 percent of concentrate was pulp washed is probably high, though undoubtedly the majority of juice was pulp washed. In any event, processing companies employing many of those opposed to pulp washing nevertheless did it to remain competitive with other companies.

70 Attachment to the Memorandum for the File, 8 April 1960, Spessard L. Holland Papers, Box 492, 12-Standards of Identity for Orange Juice 1960, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.


processors in the first decade and a half of production as they struggled to realize the financial promise of their new product.

Although attaining a reliable supply of oranges at a reliable price in order to make a reliable juice was processors' most significant problem in the age of concentrate, the transport of the product from plant to retail outlet was nearly as frustrating. In the sort of situation that infuriated people like Ayn Rand in the late 1940s, federal transportation regulations were extremely specific as to which firms using which method of transport could carry which goods. In the case of concentrate, consumer demand was so sudden and so extraordinary that processors, eager to meet that demand, increased production before the Interstate Commerce Commission had revised some of its regulations. In the late 1940s and early 1950s, panicked processors found not only that they could not get their product to market but that the ICC did not seem to care, and they raised a hue and cry about it.

At the heart of the issue was a conflict, "a sharp competitive battle" as a federal economist put it, between an old transport system—rail cars—and a new one—trucks.\(^{73}\) And, as Shane Hamilton has argued, at the heart of that was the soul of the American economy. Independent trucking sprouted in the 1920s and 1930s as the product of two phenomena: the development of trucks that could reliably carry goods over substantial distances, and mechanized agriculture that, in effect, created a pool of willing drivers out of former farmers. Over the course of the next five decades,

agribusiness allied itself with these independent truckers in eventual successful opposition to both the Teamsters and the then-strong federal government (which sheltered the railroad industry) in pursuit of lower transport costs and greater access to the countryside. It was a battle, in other words, between postwar Keynesians and those who became neoliberals.74

In the context of concentrate in the late 1940s, trucks not only offered greater access to non-urban centers, they were more flexible, faster, and often cheaper than railroads. Most importantly in the initial period, though, railroads were ill-prepared for concentrate’s rapid consumer success and lacked sufficient refrigerator cars to carry the product, and moreover apparently lacked the ability to adapt readily, while a number of trucking companies quickly acquired refrigerated trailers and were available for business. If, of course, they and processors could convince the ICC to give them permission.

The regulations on the books in 1949 stated only the railroad could haul frozen foods to storage facilities. According to a docket before the Interstate Commerce Commission, this had not been much of an issue since, “In the past only large cities had cold storage facilities adequate” for frozen foods. But, “In the period since World War II cold storage facilities have been erected in practically every city, village, and hamlet with a population of 2,000 or more.” More consequentially for processors, as a trucking firm argued, “There never has been a time when the demand for a new product has increased so rapidly.” While railroads might conceivably have

done the job as far as city consumption was concerned, “The motor vehicle is the only one that can be used so as to supply the flexibility in meeting the demands” of these smaller cities. Requiring the product to go first via train to the cities made it “necessary to handle the product on two or more occasions” to get it to more rural storage facilities, and this was not economically efficient.75

A letter from J. A. Podmore, the general warehouse foreman at Vacuum Foods (later renamed Minute Maid) to the Bureau of Motor Carriers of the ICC, accompanying an application for an exception, reiterated the problem while stating that the problem was with the kind of service the railroad companies had the ability to offer. “We do not feel,” he wrote, “that the approval of this application will adversely affect the interests of existing carriers, who have the proper equipment, since we are already making fullest possible use of their equipment and for some indefinite period of time will continue to do so….Our big problem for the present,” he continued, “is to get enough equipment of the proper kind to serve our expanding needs.” This was a critical issue, not just for the present but for the future. “Since our requirements for next year will be at least double what they are this season, we consider it imperative that other trucking companies be encouraged to supply the proper type of transport equipment for this purpose.”76

76 J. A. Podmore to Bureau of Motor Carriers, 26 April 1949, Spessard L. Holland Papers, Box 220, ICC-Frozen Citrus Concentrates (Transportation Permit), Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
Two weeks later Podmore sent another letter to the Bureau, demonstrating how critical the matter was for his company. “We have limited storage space at our plants here in Florida,” he wrote, “thus making it necessary that product be removed from our production points at about the same rate at which we process. This means that 10,000 to 12,000 cases must be taken away from our plant storage warehouses each day. If we were unable to obtain adequate transport equipment in accordance with this schedule we would shortly have to close down both of our processing plants. This would result in serious financial loss to us and would also result in loss to the growers who have sold their fruit to our Company for processing....” Given the rapid growth of the concentrate industry, he pointed out, his company “had to store” its “product wherever adequate freezer storage space could be found, including such points as Atlanta and Savannah, Georgia; Richmond, Virginia; Nashville, Tennessee; Baltimore, Maryland; etc.” In short, any place where space existed was a candidate for concentrate.77

In a letter to one of Florida’s U. S. senators, Spessard L. Holland, calling him to action, another processor further explained the extent of the problems with the railroads. “[O]ur experience in using the wet ice type of refrigeration offered by the railroads has not been entirely satisfactory. We have learned that the carriers cannot hold the low temperatures necessary to the protection of the commodity. With few exceptions we have found that refrigerated trucks can hold the temperature to a

77 Podmore to Bureau of Motor Carriers, 5 May 1949, Spessard L. Holland Papers, Box 220, ICC-Frozen Citrus Concentrates (Transportation Permit), Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
degree that will protect the lading.” During the 1949-1950 season, he continued, “we would have been seriously handicapped without the services offered us and furnished us by these refrigerated truck lines. It would have been practically impossible to have handled the volume by rail and in the satisfactory manner that the truck lines have accomplished. I do not mean by that that we have not used the rail service because we have used it in instances where trucking services were not available.... I sincerely believe that there is ample room in the industry for both” trucks and railroads to operate but “it is quite obvious that the rail lines with their present mode of refrigeration will never be able to meet the demands of the industry.” At the same time, however, the grower was careful to point out some of the advantages trucks had over trains: “they can effect deliveries at one third to half the time under ordinary circumstances that the rail lines can.”

But as one citrus grower complained to U. S. Senator Spessard L. Holland, the railroad companies refused to admit this. “Propaganda,” he charged, “released by the refrigerator car lines and the railroads indicates that they are transporting the concentrate satisfactorily, and further imply that if they could be given exclusive right to transport it they might make provisions for suitable equipment.” Noting that the railroads refused to use dry ice or any method of refrigeration other than salt and ice,

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he thundered that not only did the railroads' efforts "violate free enterprise," they were "patently false."

In early 1950 the ICC gave some ground, but in such a way that did not especially benefit the industry. In a letter to the chairman of the ICC, Senator Holland wrote, "On March 9 your Commission granted certain temporary permits allowing certain motor truck carriers to haul" concentrate "but the Order contained a restriction which practically cripples the industry. I am referring to that restriction which prohibits service by motor trucks operating under this temporary authority to any consignee, warehouse, or storage facility located on a rail siding and having capacity for handling 36,000 pounds or more of Frozen Citrus Concentrate. This restriction practically nullifies any good gained by the industry in the granting of temporary authority permits..." As Gordon Stedman, executive secretary of the Growers and Shippers League said in a telephone conversation with Holland, the result of that order is that "it limited deliveries by truck to about 5% of our outlet. All we could do is use trucks for our drop-off deliveries."

But William E. Lee, commissioner of the ICC, was not so easily affected by these arguments. As he said in a telephone conversation with Holland, "Last year the railroads hauled 85% of this juice." Holland replied, "But the amount of concentrate was completely small compared to this year." To which Lee answered, "You are

79 Randall Chase to Spessard L. Holland, 4 March 1950, Spessard L. Holland Papers, Box 220, ICC-Frozen Citrus Concentrates (Transportation Permit), Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
80 Smith, Sr. to Holland, 15 March 1950.
right, it is a lot greater, but I just wanted to call to your attention the fact that the railroads did haul 85% last year. It is a movement that the railroads can ill afford to lose.” Holland restated the concentrate industry’s argument that the industry was growing by leaps and bounds, noting that Snow Crop and Minute Maid both had begun buying up groves, and concluded the call by telling Lee that concentrate, “will become the dog instead of the tail.”

Unstated in the conversation was the effect that a booming concentrate industry was having on railroads and, if Holland’s concluding statement proved accurate, would continue to have on railroads. The railroads had long been the carrier of most of Florida’s citrus products, most prominent of which were fresh oranges. One train car of concentrate equaled ten train cars of fresh oranges, and shipped for one-sixth the cost. Thus, from the perspective of railroad executives, the concentrate industry was itself an indirect threat to a key client in the fresh orange industry. The advantages that trucks offered, moreover, of faster service to non-major metropolitan destinations and far more sophisticated cooling systems, threatened the rail industry’s ability to recoup some of its lost fresh business by carrying concentrate. Thus, its operators made ethically dubious and “far-reaching” claims about their own ability to carry concentrate as compared to that of truck drivers.

83 Fred Johnson, “Disposal of Fruit” (lecture, Indian River Citrus School, Vero Beach, Fl., 1951), in “Summary of Lectures Covering PRODUCTION & MARKETING METHODS” (pamphlet, Indian River Citrus League, 1951), Florida Citrus Archives, Florida Southern College, Lakeland, FL.
85 Purcell, Transportation of Florida Frozen Orange Juice, 58-9.
Over the course of the early 1950s, the ICC examined these claims against the rail industry, gradually amending its regulations to allow trucks to compete with railroads. In 1956, nine trucking companies operated with 700 trailer-tractors, each of which had six inches of fiberglass insulation and thermostatic controlled temperature, and could carry on average 28,500 pounds of concentrate. They transported about 46 percent of the total concentrate production, primarily to the Midwest. Railroads continued to haul about 54 percent of the frozen concentrate produced, and in 1956, there were about 1,023 cars in service and another 900 or so on order, each of which carried some 75,000 to 125,000 pounds. They went primarily up the coast to the Northeast, a run they could complete more quickly than the trucks. Because they could haul more product at one time, they were cheaper as well.

Railroads had long been both the lifeline and the bane of the industry. They enabled citrus production in non-coastal areas, and they conveyed fruit to auction houses in the Northeast. But, they also charged rates growers deemed unfair and service was sometimes subpar. Thus, when the train companies appeared incapable of delivering concentrate, and were allowed to do so only because federal regulation had been written with other products in mind, growers and processors alike had little

86 Ibid., 13-65.
88 Ibid., 5.
sympathy and much anger. The move to trucks was ultimately about economics more than emotion, yet perceived inequity in the former inflamed the latter. Thus, when the inequities worked themselves out and railroads acquired the technology to transport concentrate, processors used them to the extent that they were profitable.

The battle between railroads and trucks reflected the evolution of the postwar economy from its prewar version. The railroads, representing the old guard, had a stranglehold over the transport industry and they naturally wished to maintain it. But they were up against a force they could not beat: the decentralization of the economy as industry shifted from urban centers to suburban and non-urban locales, and as consumers similarly shifted to those same locations. Concentrate might be produced in a central location, but it was not consumed centrally, and thus the railroads were not well equipped to get concentrate to its consumers. The death knell for the railroads, at least in terms of their stranglehold over the transport industry, came with the 1956 Interstate Highway Act. As thousands of miles of well-built and maintained roads subsequently traversed the country, with nary a stoplight in sight, trucking supplanted the railroads in the new, postwar economy.\(^93\)

The third significant problem processors in the new concentrate industry faced occurred at the retail end of the commodity chain. Just as railroads were caught flat-footed by the sudden growth of concentrate, so too were supermarkets. Grocery stores lacked sufficient space in freezers—or lacked the freezers outright—to meet

consumer demand. This was because consumers previously had not generally embraced frozen foods. Ambrose Stevens, a vice president at Minute Maid, pointed out in 1952 that, “The burden of pioneering frozen foods to the public was largely carried by independent retail grocers and their supporters, wholesale distributors.” Chain grocery stores evidently “lagged far behind,” due to management’s attitude that “frozen foods were something of an oddity, such a low volume group that they were hardly more than a necessary evil that had to be tolerated.”

Pioneered in 1925 by Clarence Birdseye, who subsequently founded Birds Eye Foods, frozen foods began its commercial life as a luxury for members of the upper class. It was priced well out of the reach of most of America, especially considering its storage requirements at home. This began to change in the late 1940s as smaller competitors to Birds Eye Foods started freezing lower quality, B-grade produce and selling it to the lower classes. The larger companies responded by introducing their own lines of B-grade frozen food and selling them at extremely low prices with the hopes of driving the smaller firms out of business. All the while, the value of frozen foods was somewhat lost on consumers, leaving supermarkets with little incentive to carry them and, by extension, to install the freezer cabinets required to carry them. The success of concentrate was thus unprecedented in the frozen foods industry, and it forced

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97 Ibid., 44-45.
98 Ibid., 33-60.
processors into what amounted to a two-theater war. On the one hand, they had to fight with one another for space in grocery stores’ freezer cabinets, and at the same time, they had to fight supermarket executives eager to cash in on concentrate’s popularity but less eager to bet the bank on frozen foods and install expensive freezer cabinets.

Stevens, in the same article mentioned above, declared that concentrate’s enormous popularity with consumers, particularly since the product sold other frozen foods as well, caused “chains to sit up and take notice.”99 This assessment confirmed one analyst’s statement in 1947 that concentrate boosters “predict that their offspring will eventually outsell any frozen food item. ‘Why not,’ they argue. ‘Don’t people drink orange juice more often than they eat strawberries, or even peas? Millions of families ought to be drinking orange juice every morning for breakfast, but don’t because nobody squeezes out all the juice. Now that’s all unnecessary because they can buy the concentrate and it’s cheap.’”100 The analyst referred to strawberries and peas because in the 1940s, the frozen version of those foods were far and away the best sellers among frozen products. And, by 1949, two years later, there was evidence boosters were right. Frozen food wholesalers reported that concentrate sales were double that of peas and strawberries combined.101 Some industry insiders declared frozen concentrate a boon to distributors in the summer months, typically a slower period for frozen foods. “We had many retailers tell us that many consumers during

100 E. W. Williams, “Orange Concentrate...Is It at Last the Answer to the Frozen Orange Juice Problem?” Quick Frozen Foods, November 1947, 53.
the summer went to the frozen foods cabinet to buy orange juice, but purchased other frozen items at the same time which they would not normally do during the peak of the fresh fruit and vegetable season."102 It was a good seller in the winter too: a commission agent wrote that “One frozen food distributor told me that frozen orange juice put him in the black figures this January whereas other years January was a losing proposition.”103

Nevertheless, attitudes like those expressed by Stevens and others were in the minority with respect to the subject of supermarkets and the installation of freezers. In 1948, 41 percent of stores had such cabinets,104 but it is unlikely that most of the stores had very many cabinets. Report after report from the Florida Citrus Commission field agents indicated this to be true. “The struggle is on for cabinet space in retail stores,” wrote one from San Francisco.105 “Most stores could double and triple their capacity of storage and yet not be able to handle half of the different frozen products offered to them.”106 “There is little hope of getting much more” concentrate on the sales floor “at any one time as the cabinet storage space is limited,” wrote another in Baltimore.107 A third wrote in 1951 of Chicago-area

103 Florida Citrus Commission, Regional Managers’ and Merchandizing Representatives’ Reports, 15 February 1951 (Lakeland, FL). These reports are available at the National Agricultural Library in Beltsville, Maryland. I received them from an archivist aware of my interest in Florida citrus. They were unbound, not in a box or folder, and to my knowledge are unprocessed.
105 Alfred LaRocque, Florida Citrus Commission, Regional Managers’ and Merchandizing Representatives’ Reports, 21 September 1950 (Lakeland, FL).
106 Alfred LaRocque, Florida Citrus Commission, Regional Managers’ and Merchandizing Representatives’ Reports, 2 November 1950 (Lakeland, FL).
107 Ben L. Berryman, Florida Citrus Commission, Regional Managers’ and Merchandizing Representatives’ Reports, 19 October 1950 (Lakeland, FL).
distributors and retailers, “All agreed that lack of freezer space was the big bottleneck to expanding sales.”\textsuperscript{108}

To overcome this issue and still cash in on the concentrate boom, retailers and distributors took shortcuts in displaying concentrate, to the horror of the concentrate industry. One Commission agent groused that in five years a person might think “they would have learned to handle it properly,” but that in “the mad scramble for space,” “concentrate is often found stacked two and three cans above the freezing line.”\textsuperscript{109} In New York, they “overstocked without thought of storage space resulting in the placing of juice in regular milk cabinets with temperatures of 32 to 38.” The juice then thawed out, only to be refrozen when placed in its proper cabinet, a process which the commission agent believed had “resulted in the loss of many customers.”\textsuperscript{110}

In another effort to resolve the problem, retailers kept variety to a minimum. “The retailer has had to restrict his stock to the fast selling items and limit himself to one or two brands,” noted one Commission agent, though he did say concentrate was an “exception.”\textsuperscript{111} That may have been, but there were many national concentrate brands on the market, in addition to various local brands or store brands, and the stores the agent visited most likely did not carry all of them. Another agent noted that “Retailers are urged to throw out so-called ‘duds’ and slow moving merchandise and

\textsuperscript{108} Paul A. Dillard, Florida Citrus Commission, Regional Managers’ and Merchandizing Representatives’ Reports, 8 November 1951 (Lakeland, FL).
\textsuperscript{109} Robert H. Newman, Florida Citrus Commission, Regional Managers’ and Merchandizing Representatives’ Reports, 16 November 1950 (Lakeland, FL).
\textsuperscript{110} A. A. Raymond, Florida Citrus Commission, Regional Managers’ and Merchandizing Representatives’ Reports, 21 September 1950 (Lakeland, FL).
\textsuperscript{111} Alfred LaRoque, Florida Citrus Commission, Regional Managers’ and Merchandizing Representatives’ Reports, 21 September 1950 (Lakeland, FL).
use case space for fast moving items only," a practice which would have made it very hard for a new brand to crack the market and necessitated constant advertising by an existing brand.\footnote{Paul A. Dillard, Florida Citrus Commission, Regional Managers’ and Merchandizing Representatives’ Reports, 8 November 1951 (Lakeland, FL).}

In the face of the space problem and retailers and distributors responses to it, concentrators took action of their own. In 1950 that action amounted to efforts to undercut one another. One Florida Citrus Commission agent wrote with humor, “The Korean War is of secondary importance since they have a little private war (a price war that is) on their hands at the moment.”\footnote{Alfred LaRoque, Florida Citrus Commission, Regional Managers’ and Merchandizing Representatives’ Reports, 21 September 1950 (Lakeland, FL).} Prices dropped from around 25 or 30 cents a can in the early part of the year to almost half that in November.\footnote{This assessment was confirmed in 1964, in Bureau of Economics, Economic Report on the Frozen Concentrated Orange Juice Industry. It also is in contrast to the argument that frozen food companies advertised much more to stores than to consumers. The lack of cabinet space did encourage them to advertise in grocery journals, but a brand had to maintain sales in order to stay in a store’s cabinet, and that required advertising to consumers (Hamilton, “The Economies and Conveniences of Modern-Day Living,” 33-60).} Sales shot up, but this only exacerbated the difficulties discussed above and processors came out losing money.\footnote{Williams, “The Minute Maid Story,” 17.} Further frustrating their efforts, many stores responded to the falling prices by selling existing stocks at cost or even lower so as to be able to purchase more when the price hit bottom.\footnote{Donald E. Hovarter, Florida Citrus Commission, Regional Managers’ and Merchandizing Representatives’ Reports, 2 November 1950 (Lakeland, FL).}

For a good ten years after concentrate first hit the market, processors struggled to sell it at a consistent price. Throughout the first half of the 1950s, processors...
simply dropped prices if they wanted to pump sales, but they also dropped or raised
them depending on market factors like the supply of fresh oranges. This created
significant fluctuation in the price and, perhaps not surprisingly, made converting
non-drinkers into drinkers and drinkers into heavy drinkers nearly impossible. Yet,
apparently in 1956 the editor of *Quick Frozen Foods* felt confident in declaring that
"Many concentrators are coming around to the thinking that a *stable price* through
thick and thin is to be preferred to unsettling fluctuations" (italics in original). That
may have been, but arguably these concentrators felt this way because the threat of
not getting their product in stores’ freezer cabinets in 1956 was much less than it was
in 1950. At the same time, *Quick Frozen Foods*’ editor noted in 1956 that “increased
c consumer advertising” will be even more necessary than before because the number
of store brands, produced primarily by cooperatives, was increasing and threatened to
take freezer space from the national brands.\(^\text{118}\) Moreover, concentrators proved
willing to increase the price significantly following a major freeze in 1957. When
sales stayed even, processors congratulated themselves on being smart
businessmen.\(^\text{119}\) Throughout the decade, concentrators paid little more than lip service
to pricing stability, instead seeing price as the vehicle through which they could
undermine their peers.

\(^{118}\) E. W. Williams, “Firm Concentrate Price Seen With Fresh Fruit High,” *Quick Frozen Foods*,
January 1956, 50-54.

Collection, Series 100b, Institute of Food and Agricultural Sciences, Office of the Vice President for
Agricultural Affairs, Administrative Policy Records, 1949-1962, Box 9, Freeze Damage Task Force
1958, University Archives, University of Florida Library. See also Shane Hamilton, “Cold Capitalism:
None of these problems went away entering the 1960s. In the middle of the 1950s, cabinet space was still a problem, though somewhat less so than it had been. In February of 1954, one could find concentrate in 58 percent of the stores in the country, up from 53 percent the year before and 48 percent the year before that. A grocery store that did more than $300,000 in sales each year was almost certain to have the product, but most stores with sales under $50,000 did not. Over 90 percent of national or regional chain stores carried the juice, but just 56 percent of independent groceries did. Most stores with a nearby population of 10,000 did not sell concentrate, but two-thirds to three-fourths of those stores with more than 10,000 people living in the general vicinity did. Ninety percent of stores on the west coast had freezers, the highest figure in the country. Only in the early 1960s, some fifteen years after concentrate hit the market, was any given supermarket nearly certain to carry concentrate.

Yet, grocery realities mitigated the impact of even that trend in the mid-sixties. Concentrate had about 20 percent of the freezer space in 1962; in 1965 it had just 10 percent. The reversal was alarming enough that Benjamin Oehlert, president of Minute Maid, gave a speech in which he said, “The Race for Space describes very concisely one of the major problems in our industry...the problem of beating competition into the freezer cabinets of America’s supermarkets....There most

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121 Ibid., 14.
definitely is a race for this freezer space...a race between our frozen citrus products and the dozens, perhaps even hundreds, of frozen pizzas, TV dinners, chop sueys, chow meins and chicken potpies jammed into those cabinets. The next time you go shopping...take a quick measurement of the precious few inches allotted to frozen citrus products....It is not an encouraging situation.”

The situation perhaps was not as dire as might seem at first glance, particularly since, on the whole, supermarkets had put in more freezer cabinets, creating more space, and therefore most products’ percentage of usage went down, and because pizza and so on were not competitive with concentrate. Still, the relative decline in space was remarkable and of legitimate concern.

Distributors and retailers also continued taking shortcuts that impinged upon the quality of concentrate. Homer Hooks, general manager of the Florida Citrus Commission put the blame in 1956 on the “old-fashioned and inadequate freezer cabinet facilities,” saying “Probably 95% of retail managers now know the necessity for keeping frozen foods frozen.” At the same time, the Commission, the USDA, and the Citrus Experiment Station had all determined that concentrate kept at or below 0°F had “an almost unlimited shelf life,” but a recent survey of 900 retail stores found “that the housewife buys three-fourths of her concentrate at a

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125 Benjamin H. Oehlert to Annual Stockholders’ Meeting, “Remarks,” speech, 4 March 1964, Howard C. Sweatt Papers, Box 5, Minute Maid Co. 7878-7g2, Florida Citrus Archives, Florida Southern College, Lakeland.
126 Anonymous, “Orange Concentrate Registers 14% of Total Frozen Food Sales in 5.8% Cabinet Space,” 155.
128 Homer E. Hooks, “Orange Concentrate Quality at Peak; Campaign Aims to Keep it There,” Quick Frozen Foods, October 1957, 81.
temperature above zero degrees." Thus, the following year Hooks took a more critical position. "The Florida Citrus Commission," he thundered from the pages of a trade journal, "is waging open war on temperature abuses of frozen orange concentrate."\textsuperscript{129} Shipping companies did share some of the blame for quality deterioration. While the trucks and cars were fine, the drivers often lacked training on the importance of maintaining a zero-degree temperature, layovers en route provided ample opportunity for poor maintenance to allow concentrate to warm, loading and unloading often took place in a warehouse with no cooling of any kind, and throughout that process the truck and car doors were left wide open.\textsuperscript{130} Still, however, the bulk of the ire was directed at the grocery industry.

On the basis of information like this, the Florida Canners' Association produced a commercial advertisement to educate retailers and distributors. Starring "the Hubert Humpers," the film opened with a family gathering around the breakfast table. The voiceover said, "Like all good wives...Honey Humper begins her day in the kitchen. There is coffee to make, eggs to fry...the table to set and the orange juice to prepare. And...Then...There is Hubert Humper himself. He is the captain of the family ship...the provider...the decision maker...." The ad went on in this vein as the lion of the family sat down for breakfast and drank some orange juice, following which he jumped up from the table roaring at his wife and gesticulating wildly. With a startled tone, the voiceover said "There must be something wrong with his orange

\textsuperscript{129} Ibid., 81, 90
juice. What could have happened...Who could be responsible for this outrage...Whose fault is it?” Then the voice asked the viewer, “Did you let this happen?” The ad went on to say that the Humpers’ concentrate melted and refroze several times before Mrs. Humper put it in her cart, thereby resulting in the foul juice that had so angered Mr. Humper. Decidedly humorous but also in earnest, the film sought to terminate the degradation of concentrate from lax management.¹³¹

How well the grocer trade accepted this kind of advertisement is not known, but an investigative report by the most significant journal in the field, *Quick Frozen Foods*, in 1966 suggests it was not a complete success. John Tenor, a writer for the magazine, went undercover and visited six supermarkets in Brooklyn, New York. In five of them, he told his readers, there were “out-of-stock conditions, stocking above freezing line, unsanitary frozen food display cabinets, faulty cabinet thermometers, high temperatures, crushed containers, and cases of frozen foods left standing in the aisles waiting for somebody to do something about them.” The sixth store, no doubt to the relief of everyone in the orange industry, was flawless.¹³² Still, a 17 percent success rate over two decades after concentrate first hit the market was not the goal processors had aimed at.

The problem of limited freezer space reflected a great irony in capitalistic notions of progress. Frozen food was itself an example of progress; for the first time in history, middle class Americans could eat a wide variety of fruits and vegetables

virtually any time of the year without considerable loss in flavor or nutrition.

Moreover, the refrigeration required to produce, distribute, sell, and store frozen food required technology in the field and at home on an unprecedented scale. The basic agricultural problem of spoilage had been mitigated. But, space had not. The lack of freezing technology in many grocery stores limited concentrate’s distribution and financial growth. Ironically, the very technological advance that made concentrate and all frozen foods revolutionary to the American diet hindered, through its absence, sales on the store floor.

The immediate success of concentrate and, what was more, its promise of still greater success, gave processors considerable influence over the citrus industry, yet, to their aggravation as well as that of many others in the industry, concentrate created problems even as it resolved others. The central problem was it required an environmental life support system of high quality fresh oranges and constant refrigeration. The instability of the market for fresh oranges was a painful learning curve for processors in their effort to acquire enough of the raw material to meet demand at a price both they and consumers could swallow. Minute Maid rapidly adapted by developing a contract program in which they bought oranges from independent growers at pre-determined prices while also sharing profits with growers, an approach subsequently adopted by all their competitors. Minute Maid also pioneered the use of vertical integration in the orange industry, buying up existing groves and developing new groves, as a further precaution against a shortage of fresh oranges. Again, the company’s competitors followed suit. And, processors began
over-squeezing oranges, as well as using inferior or damaged oranges, with variable results. The lack of transport was nearly as problematic for processors. Railroads lacked the technology to keep concentrate frozen as it went from warehouse to wholesaler or retailer, and trucks, which were quicker to develop the technology, lacked the legal right under the regulations established by the Interstate Commerce Commission to ship it. The third major issue for processors was retailers. Supermarket operators were reluctant to put in additional freezers because of the great cost and sought shortcuts in storing and retailing with adverse effects on the juice. In short, market instability, acts of God like freezes, a body of growers with diverse opinions, transport regulations, and supermarkets more concerned with their short-term bottom line than the stability of a new product—all these combined to make producing a marketable juice almost, but not quite, as difficult as discovering the process to begin with. And the success of concentrate product was predicated upon processors’ successful management of these issues and of external industries’ inclination to adapt.

Ultimately, what made the difference for concentrate was that consumers loved it. As the next chapter shows, consumers quickly acquired a taste for it in the late 1940s and drank it with abandon by 1950. Over the course of the 1950s, that consumer body changed, ceasing to be solely upper class northeasterners and eventually encompassing middle class and even to some degree lower class America. The success of concentrate came at the expense of other industries, most notably the fresh orange industry. Many people continued to buy fruit, but they bought less than
they did previously. To put in a somewhat different light, consumers eschewed a "natural" product in favor of one obviously processed. Understanding why they did so, particularly in this current age of elite opposition to packaged, processed foods, enables a fuller understanding of Cold War social, cultural, and economic realities.
CHAPTER FIVE

The Demands of Domesticity:
Why Americans Drank Frozen Concentrated Orange Juice in the 1950s

It is remarkable how the food industry has succeeded in reducing kitchen tasks—through built-in maid service. The American homemaker no longer has much time or inclination to pluck chickens, clean fish, squeeze oranges, or even peel potatoes. She likes prepared foods that are stable on the shelves and convenient to use. ... Frozen orange juice concentrate is a striking example.—Ezra Taft Benson, 1958

Part of a larger speech Secretary of Agriculture Ezra Taft Benson made to representatives of the food industry, these words speak volumes about the way food producers and industry experts viewed the American food system in the 1950s.¹ For them, it was, to begin with, uniquely and pointedly American. In an audience to American food producers, Benson’s specificity regarding “the American homemaker” ought to have been unnecessary. It was not, however, because he was contrasting her directly with Soviet women, a point implied in this passage but explicit elsewhere in the speech. Even more significant was the contrast between what that American homemaker had in her pantry and what the Soviet woman had in hers. Additionally, Benson’s assumption that the homemaker was a “she” reflected the industry’s gendered understanding of domestic labor, and his presumption that he knew what she had “much time or inclination” for reflected the chauvinistic belief that men knew what women wanted. And finally, Benson, like so many others in the food industry,

¹ Ezra Taft Benson, Address to the Washington Food Group, 11 June 1958, transcript. Available through the National Agricultural Library.
placed significant emphasis on food’s ease of preparation, as if this were a woman’s paramount concern.

As frustrating as Benson’s political and social beliefs are to many twenty-first century Americans, he was right about one thing. Americans by 1958 were well on their way to becoming habitual consumers of prepared foods. The explanations he gave are problematic, but the phenomenon itself was abundantly clear.

The processed food to which Americans responded most dramatically in the early Cold War era was, without question, frozen concentrated orange juice. In a celebratory story often repeated among those in the industry, Minute Maid president John Fox drove around his hometown in suburban Boston in 1947, knocking on doors and giving away cans of concentrate, and telling everyone where to get more. As the legend went, grocery stores in and near his hometown sold out of the product almost immediately.2 Similar if less dramatic stories of concentrate’s popularity abounded.

The United States Department of Agriculture published a brief report in 1950 with the headline, “New Orange Product Rapidly Wins Place on Breakfast Menu.”3 The article discussed early sales efforts and stated that “consumer response was so favorable that in 1947-48, considerable quantities were distributed through retail stores to household consumers.” The study cited a national survey conducted in 1949: in April, 17 percent of stores retailed concentrate; by August the figure was at 31 percent.4 The near doubling of stores carrying the product in half a year was remarkable by itself, but

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was all the more so considering that available retail freezer space, not consumer demand, was the limiting factor. According to another USDA study, in 1950, just one year after concentrate had become nationally available—and well before it was available in most grocery stores—around 30 percent of Americans under age 50 purchased concentrate. Summing the situation up, one commodities analyst stated of consumers that they “have been, to put it mildly, enthusiastic in their acceptance of frozen orange concentrate.” And in the words of industry expert Bill Grierson, “the concentrate boom was the boomiest boom since the Brazilian rubber boom.”

This chapter argues that concentrate became so popular so quickly because it tapped into American values and expectations of the early Cold War period. Social, political, and cultural in nature, these values and expectations fostered a kind of identity, a kind of Americanness, and purchasing certain types of food indicated that Americanness to others as well as to one’s self. This line of thinking is broadly consistent with the historical literature on consumerism, but most of that literature focuses on durable goods rather than foods. Consumer historians have seemingly

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9 The approach of this chapter is not to suggest that everyone across all socioeconomic strata drank concentrate or did so at the same rate. Differences along these lines are discussed more fully in chapter six.
viewed food as insignificant among the many newly available consumer goods, most of which were more expensive and a good deal larger. Concentrate’s purchase was not the culmination of long and weighty analyses like that of a stove or a refrigerator. But the story of concentrate demonstrates that food has a place in this conversation. As Benson partly alluded to in his speech, few products spoke to the hopes and dreams—or reflected the innermost fears—of 1950s Americans in more ways than concentrate. It fostered their good health and that of their children. It provided their taste buds with sensory satisfaction. It was easy to make. It was affordable. It was distinctly American, made by Americans for Americans. It was, in short, the good life and capitalism and the American dream all in one. This chapter explores each of these facets in turn, putting them into historical context as well as demonstrating their relevance to early Cold War Americans.

In order for a single product to catch on with so many people so quickly, though, a spirit of egalitarianism, on the one hand, and conformity, on the other, must pervade society. Precisely such a spirit, albeit in some respects a superficial one, existed in American society in the first two decades of the Cold War. This spirit stemmed almost entirely from the vastly enhanced economic circumstances inherent to war-time production. On the whole, Americans were much better clothed, fed, housed, and so forth during the war and afterwards than they had been before.\textsuperscript{11} A great many of them owned their own homes, homes in places like Levittown where

the houses, streets, and neighborhoods were identical. Significant by itself, it also
created entire suburbs of like-minded people and thus established a kind of cultural
homogeneity while limiting any diversity of people or ideas.\textsuperscript{12} By 1955, most
Americans believed they were part of the middle class.\textsuperscript{13} And according to the federal
government’s definition of middle class, they were: in 1929, 31 percent of Americans
fell into that category, and by 1955, 60 percent did. Indeed, in 1956, for the first time,
there were more white collar than blue collar workers in the United States.\textsuperscript{14} And
these workers labored in large corporate offices in which they all did more or less the
same work.\textsuperscript{15} Much of this, of course, was due to a vastly increased standard of
education. The GI Bill provided education to any veteran who wanted it, thereby
making it far more accessible to far more people than it had ever been.\textsuperscript{16} On top of
that, high school graduation climbed from 47 percent in 1946 to 63 percent in 1960,
and college graduation nearly doubled over the same period from 12.5 percent to 22
percent.\textsuperscript{17} Finally, in the postwar consumer economy, the growing middle class was
able to approximate the lifestyle of the upper class. They owned houses and cars,

\textsuperscript{12} Alan Brinkley, “The Illusion of Unity in Cold War Culture,” in Peter J. Kuznik and James Gilbert,
notes that family television shows facilitated this: they invariably featured basically the same
characters living in the same houses with the same possessions and eating the same food, and all of
them lived in nuclear families where the women did not work (or if they did they were unmarried and
were secretaries or teachers) and all of them were white. Such shows included “The Adventures of
Ozzie and Harriet,” “Father Knows Best,” “Leave it to Beaver,” and “Dennis the Menace.” Even
shows with characters in seemingly different circumstances, like “The Honeymooners” and “The Life
of Reilly,” were “domesticated” so that they too adhered to the same middle class values.

\textsuperscript{13} John Dumbrell, “Cold War America, 1945-1960,” in Morgan and Wynn, eds., \textit{America’s Century},
149. Without a doubt, what Americans believed and what was really the case are not and were not the
same thing; nevertheless, the assumption of middle class status is significant.

\textsuperscript{14} Brinkley, “The Illusion of Unity in Cold War Culture,” 66.


\textsuperscript{17} Brinkley, “The Illusion of Unity in Cold War Culture,” 66.
went on vacations, and generally owned and did the things their wealthier counterparts did, even if those things were not quite as nice or as lavish. In this kind of sociopolitical environment, concentrate was a new and wonderful product that seemingly everyone could drink, and so, it seemed, they did.

But still there were specific reasons concentrate became so popular so quickly. One of them was its status as a veritable elixir of health. In the cultural milieu of the 1950s, good health was prized above almost anything else. This was not entirely a new phenomenon, of course. The eugenics movement, immigration reform, and urban sanitation efforts at the turn of the century suggest that health had been a concern for many Americans for a number of decades. The dynamics of the Cold War merely brought the issue to a fever pitch. Americans, like the Soviets, became obsessed with physical prowess. Just as the Soviet Union trumpeted The Stakhanovite Worker, readers of American comic books followed the exploits of Superman and other inordinately strong superheroes. For their part, Americans knew they might fall to the

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Soviets in a nuclear war, but they also believed they might fall because their country rotted from within on account of their inferior health.\textsuperscript{20} This resulted in such phenomena as the cross-country walking craze, in which Americans, including the very old and the very young, set out on walks of up to 50 miles.\textsuperscript{21} But it also resulted in an increased emphasis on eating right. The specter of prewar malnutrition and Depression-era dietary limitations loomed large over postwar Americans and fanned their paranoia.\textsuperscript{22} Thus, while most Americans believed there was little they could do on a daily basis to defeat the Soviets and socialism abroad, there was everything they could do at home.

The trick, however, was knowing what, exactly, to do. Thus, Americans in the 1950s turned for direction like never before or since to people who claimed to know and had a certificate to prove it.\textsuperscript{23} For at least a half-century, professional advice-givers had plied their wares in offices, schools, and the columns of ladies’ magazines, and they did so successfully, but not nearly as successfully as they did following World War Two. Arguably the most significant body of such people was the medical establishment. Having earlier solved tuberculosis and syphilis, and in 1954 cracking polio to considerable fanfare and celebration, doctors were at the height of their


\textsuperscript{23} Elaine Tyler May, “Explosive Issues: Sex, women, and the Bomb,” in May, ed. \textit{Recasting America}, 156.
prestige. But home economists also held considerable sway, particularly in columns for widely-read magazines. The magazines themselves established their own legitimacy; Good Housekeeping, for example, accredited itself with its Good Housekeeping seal, which meant that all products advertised in the magazine had undergone and passed veracity testing in Good Housekeeping laboratories. This kind of leadership was critical in a society lacking its own direction and privileging, above all else, social conformity.

A regular feature in Good Housekeeping called “the Question Box” demonstrates both consumer worry about health and the influence of experts. “The Question Box” appeared in every issue and was a small forum in which housewives asked advice of Good Housekeeping experts on a wide range of domestic-related matters. One such matter making regular appearance in these years was vitamin C consumption, and the expert advice often suggested that orange juice was the answer. A “Mrs. E. R.” asked in early 1949 if there was “any way to increase the vitamin-C content of tomato juice.” The response from the experts was telling: “Canned tomato juice contains a little more than a third as much vitamin C as canned orange juice. To give home-canned tomato juice a vitamin-C value equal to that of orange juice, ascorbic acid tablets can be added during canning.” In other words, Mrs. E. R. should drink orange juice, but she could get by drinking canned tomato juice as long

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24 For a good overview of the medical establishment and its ascendency in popular opinion, see Ira Rutkow, Seeking the Cure: A History of Medicine (New York: Scribner, 2010), particularly pages 209-72.


26 “The Question Box,” Good Housekeeping, January 1949, 16.
as she doctored it with ascorbic acid. While few would blame Mrs. E. R. for preferring tomato over orange when it came to canned juices, the likely result—intended or otherwise—was that Mrs. E. R., and everyone who read "the Question Box," would become concentrated orange juice consumers.

Another housewife, noting a few months later that her family took three days to drink up a can of concentrated juice, asked "Are we sacrificing vitamin-C value on the second and third days?" In other words, does vitamin-C go bad? The experts' initial answer was a blunt, "No." The experts then went on to say that so many readers had asked this question that the *Good Housekeeping* Bureau laboratory conducted tests of "three widely distributed brands of frozen concentrate" and their own fresh-squeezed juice. The results confirmed the "no" response, but what was more, found that "all three brands of quick-frozen juice had higher initial vitamin-C values than the fresh orange juice contained." Then, in language that could have been taken from Minute Maid’s ad agency, they said, "This should not be too surprising, because the manufacturer of quick-frozen concentrate can pick the fruit at its peak and process it immediately."27

One should note, of course, the possibility of a selection bias in "the Question Box." The forum’s editors and experts undoubtedly were inundated with letters, and the process through which they winnowed the pool to those answered in print is unknown. Presumably they selected a given question because they had received many questions in that vein, as they seem to have done with the second one above. Still,

27 Ibid.
there was obvious room for them to select for and against certain subjects, based on anything from personal interest to what would most likely flag readers’ eyes.

Evidence suggests, however, that health really was an issue of interest to housewives, considering the advertising emphasis it had received in the contexts of oranges and orange juice over the previous half-century. Certainly this was the assessment of two concentrate researchers, who declared as early as 1949, when prices for the juice were still high, that “the ‘health value’ of orange juice has been the chief moving force in the growth of the consumption of this juice,” and it “remains, in our opinion, a dominating factor.”

Advertisements for concentrate were quick to play on all of these factors. Cultural historian T. J. Jackson Lears has argued that advertisements “collaborated with other institutions in promoting what became the dominant aspirations, anxieties, even notions of personal identity, in the Modern United States.” Although Lears overstates the capacity of advertisers and advertisements to shape culture, that was certainly what they were trying to do, and certainly what juice processors were trying

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29 My analysis focuses partly on advertisements because advertising for the product was so heavy and because the product sold so well—suggesting that the advertising worked on some level. E. W. Williams, “Orange Concentrate... Is It at Last the Answer to the Frozen Orange Juice Problem?” *Quick Frozen Foods*, November 1947, 52; and Robert M. Walsh, “Discussion: The Place of Merchandising and Promotion in Expanding the Demand for Food,” *Journal of Farm Economics* 37 (Dec. 1955): 1396. Most of the advertisements examined in this chapter are from *Good Housekeeping*. This particular magazine was chosen over other magazines in the interest of sampling; according to a 1954 study of magazine audiences, 13.7 percent of adult women in the United States were readers, putting it on par with other women’s magazines and establishing it as one of the nine most-read magazines in the country. Alfred Politz Research, Inc. *The Audiences of Nine Magazines: Their Size and Characteristics* (New York: Cowles Magazines, Inc., 1955), 13.
to do. Celebrity endorsements, doctors’ recommendations, and promises of a healthy, active life were staples of their ads. An ad appearing in 1953 and 1954 featuring Bing Crosby’s disembodied head and the statement, “BING CROSBY says: For Pep, for Vitality—Here’s the Drink That Helps Me Feel Young!” The ad then declared, “Today millions can FEEL HEALTHIER [and] FEEL YOUNGER with Minute Maid Fresh-Frozen Orange Juice.” In smaller text, it asked readers if they “Feel run-down? ... old before your time?” before advising that they “Do like Bing Crosby does—drink plenty of delicious MINUTE MAID! See if you don’t feel healthier and younger, too!”31 Another Minute Maid advertisement compared pitchers of juice, one being fresh-squeezed and the other being Minute Maid concentrate, and stated that Minute Maid orange juice had 25 percent more “healthful Vitamin C!” and “Body Building Minerals.”32

Other advertisements simply hammered home the vitamin C content of concentrate. One representative advertisement Birds Eye’s orange juice declared, “It’s pure, Vitamin-rich Juice.” This type of appeal was rather restrained compared to Minute Maid’s over-the-top exuberance: “It retains all the Vitamin C of the just-squeezed juice, as proved in actual tests by a famous independent laboratory!”33 The company justified its claims in another ad by appealing to medical authority. Touting a new study, the advertisement featured a respectable-looking doctor saying, “IT’S A

31 Minute Maid, Advertisement, Good Housekeeping, July 1953, 142. Six of these advertisements ran in the magazine between July 1953 and August 1954.
32 Minute Maid, Advertisement, Good Housekeeping, February 1955, 113. Eight of these advertisements ran in the magazine between February 1955 and June 1956.
FACT—MINUTE MAID GIVES YOU FAR MORE VITAMIN C FOR
HEALTHIER TEETH, BONES, MUSCLES, GLANDS, BETTER GROWTH,
MORE VITALITY!” Furthermore, the ad proclaimed that “Minute Maid gives you
far more precious Vitamin C than the same oranges squeezed at home.”34 All of the
advertisements published in Good Housekeeping also validated themselves by citing
the fact that Good Housekeeping, presenting itself as an expert and unbiased voice,
had given its Seal of Approval to the ad.

Not everyone accepted these claims uncritically, however. A report by
Consumers’ Research, for example, determined “that reconstituted frozen orange
concentrate generally contains very nearly as much vitamin C as an equivalent
amount of fresh squeezed juice.”35 “Very nearly” is not quite the same thing as “far
more.”36 But, while Consumers’ Research did not support Minute Maid’s argument,
The American Journal of Nursing, a professional journal, did. In an article that reads
suspiciously like someone at Minute Maid wrote it, the anonymous author claimed,
“Penny for penny, the lower-priced MINUTE MAID offers the housewife not only
more Vitamin C, but also more of seventeen different vitamins and minerals “than
does home-squeezed orange juice.” Concluded the author, “this should confirm the

34 Minute Maid, Advertisement, Good Housekeeping, October 1950, 224.
36 Interestingly, a 1950 Consumers’ Research Bulletin said that while Minute Maid and Birds Eye had
better flavor, “these two brands were somewhat lower than the other four tested in vitamin C content,”
these being Donald Duck, Snow Crop, Old South, and Vitality. “Frozen Orange Juice,” Consumers’
choice of physicians who recommend MINUTE MAID in place of home-squeezed orange juice.”

Although consumers were interested in things like vitamin C on general principle, post-war parents also had a specific concern: the health of the many babies they were having.38 Approximately 3.4 million babies were born in 1946, a 20 percent jump from 1945. The rate, moreover, increased every year until 1952 when more than 4 million babies were born, at which point the figure remained constant until 1964.39 Postwar mothers were well conditioned to fear for their kids’ health. Prevailing medical thought, dating from the 1910s and 1920s, was that mothers’ milk and formula did not contain sufficient vitamins to ensure the health of the baby. This view resulted from baby food company Gerber’s massive national campaign in the 1930s to convince medical professionals as well as housewives that Gerber products were crucial to children’s health. The company placed advertisements in publications like The Journal of the American Dietetic Association and Ladies’ Home Journal to that end, and they achieved it. Mothers by the postwar period were encouraged to begin feeding solid foods to their babies as early as possible, usually within a couple of weeks of birth.40

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This transformation took place because Gerber scared mothers about the health of their children. A 1935 article in *Science News Letter* helps explain why this transformation both occurred and endured: scurvy among small children, once "ancient history," had returned during the Great Depression as families cut back on produce consumption. The state of Michigan even launched "a special health drive" to fight the disease.\(^1\) The fear of scurvy carried over into the postwar period as well. A 1951 article in *Today's Health* noted "Vitamin C is necessary to prevent scurvy. And scurvy is one of the deficiency diseases that can attack people who are careless about their diet (especially bachelors and bottle-fed babies)."\(^2\) But the most influential postwar advice came from Dr. Benjamin Spock.\(^3\) In the first edition of his landmark bestseller, *The Common Sense Book of Baby and Child Care*, published in 1946, Spock wrote, "*All* babies who are living on a formula need extra vitamin C. Otherwise they will get a disease called scurvy. The gums swell and bleed, and there are painful hemorrhages around the bones. Orange juice is rich in vitamin C. This is the easiest and most natural way to give it to a baby. It is usually started before he is a month old" (italics in original).\(^4\)

\(^3\) Wrote historian Paula S. Fass: "Benjamin Spock dominated the raising of the first postwar generation of children like no other single individual—more than any president, more even than any rock 'n' roll star." His book "was on the shelves of more homes in America than any book other than the Bible, and it was far more likely to be read and followed." Fass, "Bringing it Home: Children, Technology, and Family in the Postwar World," in Mark C. Carnes, ed., *The Columbia History of Post-World War II America* (New York: Columbia University Press, 2007), 82.
\(^4\) Benjamin Spock, *The Pocket Book of Baby and Child Care* (1945, as *The Common Sense Book of Baby and Child Care*; New York: Pocket Books, Inc., 1946), 87. Spock gradually changed his attitude towards orange juice. In *Feeding Your Baby and Child* (New York: Duell, Sloan, and Pearce: 1955), with Miriam E. Lowenberg, his position had not altered. In the fourth edition of *Baby and Child Care*, published in 1968, he pushed back the introduction of orange juice to when baby was "a few months
Not surprisingly, in 1950 Minute Maid proudly proclaimed that its juice was "Wonderful for baby," and invited its customers to "Note the American Medical Association Seal of Acceptance on the label." Birds Eye advertisements did the same. After a recital of the vitamin content of its juice, one ad stated, "No wonder doctors approve Birds Eye Orange Juice for infant feeding." In the late 1940s one company even introduced an orange juice specially designed for babies, called Bib. This product supposedly was pasteurized juice that had extra high vitamin C content and came in pre-sterilized cans. Consumer Reports panned the product, however, pointing out that it had only marginally more vitamin C than other orange juices and that all canned products are pasteurized and packed in pre-sterilized cans. Nevertheless, the fact that this product came into existence suggests a market of mothers worried about their babies' health.

Moreover, while any type of orange juice might have benefits for babies, concentrate had an advantage in that it was easier for them to digest. According to a study published in The Journal of Pediatrics, small children and infants sometimes reacted strongly to peel oil (in earlier years, the resulting spit-up, bowel problems, and rashes were considered symptoms of an allergy to orange juice itself). And, as

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45 Minute Maid, Advertisement, Good Housekeeping, March 1950, 200.
46 Birds Eye, Advertisement, Good Housekeeping, December 1949, 24.
47 Anonymous, "Bib—A Luxury Orange Juice for Baby-Feeding" Consumer Reports, June 1949, 246. These advertisements were not unusual. Advertisements for all manner of consumer goods emphasized their products' positive affect on children's wellbeing.
two food scientists noted, "peel oil content is low and quite uniform in the concentrates, while varying widely for fresh juice, depending upon the method of squeezing the fruit."\(^{48}\) The problem, in other words, stemmed from the type of juicer these mothers used. Juicing oranges, whether mechanically or by hand, invariably crushed some of the peel and allowed oil into the juice. Housewives probably noticed that their children preferred concentrate, and furthermore, their doctors almost certainly discouraged them from giving home-squeezed juice to their babies. This likelihood is apparent in a series of Minute Maid advertisements. One claimed "187,000 DOCTORS Now Have These Facts" about Minute Maid juice and featured pictures of congenial-looking doctors.\(^{49}\) Another advertisement featured a mother, daughter on her lap, seated in front of a doctor’s desk with the doctor writing out a prescription.\(^{50}\) A third stated, "Three teams of top-ranking scientists compared Minute Maid’s health values against home-squeezed juice. Their report confirms previous scientific findings checked by a jury of famous doctors, and supplements U. S. Government data." It followed that up with a claim that "PEEL OIL content, sometimes cause of allergies and upset digestion in infants, averages far lower" than the content of home-squeezed juice.\(^{51}\) Thus, concentrate would have had still more appeal to housewives anxious about their children’s health.

Although processors astutely played on consumer anxiety vis-à-vis health, their astuteness should not be overstated. In fact, they probably relied less on their

\(^{49}\) Minute Maid, Advertisement, Good Housekeeping, February 1952, 170.
\(^{50}\) Minute Maid, Advertisement, Good Housekeeping, March 1952, 178.
\(^{51}\) Minute Maid, Advertisement, Good Housekeeping, January 1952, 35.
own observations about the world than on the long history of association between the consumption of oranges and notions of health. Since the turn of the century, Sunkist had been advertising its oranges as requirements for health and happiness; by 1950, when the USDA asked homemakers “whether citrus fruits were categorically different from other fruits,” 61 percent said yes “and usually these differences were described in terms of health and food values,” particularly as concerned “the vitamin characteristics.” Nevertheless, many postwar consumers did evidently privilege orange juice. During a flu epidemic in the early 1950s near Niagara Falls, one correspondent for the Florida Citrus Commission noted that the epidemic “stimulated consumption of frozen orange juice,” but not, interestingly, of fresh oranges.

This type of information encouraged Sunkist to launch an assault on the supposed health properties of concentrate. In the September 1952 issue of the *Journal of Home Economics*, a Sunkist advertisement stated, “Much is being written and said today about the protopectins,” a complex carbohydrate found in the “fibrous material” of the fruit. Protopectins, the ad took pains to make clear, were “contained generously in California oranges.” A health-conscious individual must eat these oranges “whole” because it was “the only practical way in which a worthwhile amount of protopectins can be obtained from the fruit.” Evidently, only “Relatively small amounts are present in the juice.”

52 Bayton and Meyers, *Consumers’ Use of and Opinions about Citrus Products*, 15.
53 Florida Citrus Commission, Regional Managers’ and Merchandizing Representatives’ Reports, February 22, 1951 (Lakeland, FL). These unprocessed reports are available at the National Agricultural Library in Beltsville, Maryland.
“Only the WHOLE Fruit can give you all its nutritional benefits...” Responding directly to the rapidly expanding orange juice market, the ad stated, “While orange juice is a popular and pleasant way to provide the daily quota of vitamin C, the fact is that the whole fruit is considerably richer in Vitamin C and other nutrients as well as in the protopectins.” The advertisement also included a table of all the various vitamins and nutrients and the quantities in which they existed in the average Sunkist orange. Finally, the ad concluded with the argument that Sunkist produces “the world’s finest eating oranges—no seeds, rich in flavor and vitamins. Easy to peel, slice and section.”

Sunkist advertisements in this vein also appeared in *Good Housekeeping* in 1954 and 1955, accompanied by cartoon images, one of a father and his young children tossing oranges around, and another of a mother in a Holmesian deerstalker holding a magnifying glass over a cup of orange juice and an orange. “Modern Mothers,” the latter add declared, “are learning there is health all through the orange...in the juice and in the delicious ‘meat.’” Unfortunately for Sunkist, though, a 1958 USDA study found that while “Most of the homemakers interviewed said they were aware of vitamin C, vitamin A, and energy food” as associated with oranges and

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56 Sunkist, Advertisement, *Good Housekeeping*, December 1954; Sunkist, Advertisement, *Good Housekeeping*, July 1955, 36. Not everyone bought such rhetoric, however. A doctor on staff at *Consumer Reports* argued that both Sunkist and Florida Citrus Commission advertisements overstated the claims of the products. In the case of the Sunkist ads, he noted that protopectins were available in all forms of produce, not just oranges; and for FCC adds not mentioned here, that claims that orange juice staved off hunger pains, thus helping one lose weight, and that it sped up recovery from surgery and illness were ludicrous conclusions based on misleading evidence. Harold Aaron, “Oranges and Your Health: The Advertising is Getting to be Both Fancy and Far-Fetched,” *Consumer Reports*, August 1952, 390-392.
orange juice, and in fact believed that such products led all fruits in these health categories, “relatively few had seen or heard anything about bioflavonoids or protopectins.”

As important as concentrate was to consumers for reasons of health, it was just as important for the fact that it was enjoyable to consume. Wealth creation during World War II and the economic boom of the 1950s meant that for the first time in the country’s history, Americans as a group could be, and were, concerned more about what they ate than simply that they ate. Over the course of the 1950s, the average family income jumped from $3,083 to $5,657, and per capita income increased some 48 percent. Even accounting for inflation during the Korean War, this latter figure was still 30 percent. Moreover, the percentage of household income spent on food increased even as income increased, defying Ernst Engel’s economic law. After ten years of the Great Depression, followed by wartime rationing, Americans wanted to eat.

The significance of this cannot be overstated. Food became an experience, eating an event; the goal was pleasure as much as physical restoration. Taste and flair counted for as much as substance. This manifested itself perhaps most apparently in

the proliferation of fast food chains like McDonald's and carhop restaurants where the waitresses glided out to one's car on roller skates. Eating this way seemed to be simply what Americans did. It was part and parcel of American culture, and a daily exhibition of the greatness of America, by Americans, for Americans. But this kind of experience was also expected at home, and here it was up to Mom to meet that expectation. Adhering to the domestic ideal of the 1950s meant that mothers had to buy or make these new and exciting foods for their charges, and companies introduced hundreds of new products to that end. One of these was frozen concentrated orange juice.62

At the same time, however, processors in the late 1940s and early 1950s were not really aware of this developing trend. They worried that the processing inherent to concentrate might not appeal to consumers. Concentrate was mass produced in factories; it was not an agricultural commodity in the customary sense of the phrase. By mid-century consumers no longer viewed processed food with the hostility they had at the turn of the century, but they were still suspicious about frozen foods.63 Eating cereal produced in a far-off factory from warehoused grain was one thing, but drinking year-old frozen juice made from a highly perishable commodity was quite another.64

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64 For more information on consumers' gradual acceptance of frozen foods, see Susanne Friedberg, *Fresh: A Perishable History* (Cambridge, MA: Belknap Press, 2009).
Processors and boosters addressed this issue directly. Wrote one enthusiast, “My father has been producing oranges for twenty years, and neither he nor any of the family can tell the difference between frozen concentrated orange juice and that juice which has been squeezed from freshly picked oranges.” Advertisements constantly emphasized the high quality of frozen concentrated orange juice. The tagline for a number of Birds Eye advertisements was something along the lines of “Even the fussiest folks say Birds Eye Orange Juice tastes better than just-squeezed!” These fussy folks, sometimes a respectable, elderly man, and always the husband and children, clearly expected the quality of fresh-squeezed orange juice. Below the tagline was a three-panel comic strip featuring a beleaguered housewife trying to keep up with her family’s demands. In the first panel of one ad, the housewife exclaimed in exasperation, “I wish Daddy wasn’t so fussy! Always wants his orange juice just-squeezed. And he means just!” A child-sized bird in a parka then introduced the woman to Birds Eye concentrate, and in the third panel “Daddy” proclaimed, “Don’t tell me this is frozen orange juice! It’s better than just-squeezed...or any frozen juice I ever tasted!” Another Birds Eye advertisement claimed that “Forty-Six Food Editors flew to Florida to taste Birds Eye Orange Juice, to compare it with fresh-squeezed juice. 33 out of the 46 preferred Birds Eye. And no

66 Birds Eye, Advertisement, Good Housekeeping, December 1949, 24. The taglines of Birds Eye advertisements changed, but they always included some variation on this theme and some variation of the word “fussy.”
67 The elderly man appears in Birds Eye, Advertisement, Good Housekeeping, February 1950, 151.
68 Birds Eye, Advertisement, Good Housekeeping, June 1950, 181.
wonder!" Birds Eye juice comes “from tree-ripened oranges, quick frozen within minutes of squeezing.”

One of those forty-six editors subsequently wrote an enthusiastic article about his trip, corroborating the advertisement’s claims. It is worth noting, however, that the governor greeted the editors upon arrival; that they ate, drank, and toured groves and factories with concentrate boosters; and that they generally received a rather one-sided presentation of the industry. The advertisement also glossed over the percentages—30 percent of the testers preferred fresh-squeezed, a sizeable figure—and was loose with its facts: citrus can only ripen on the tree, and minutes is an understatement, given that most oranges were not on trees right outside the juice plant, and further, took time to pick. The point, though, is that the advertisements insisted that concentrate tasted good, and people in a position to influence consumers supported those claims.

Minute Maid took a different approach in promoting its quality. Their advertisements often had three taglines, appearing in different places depending on the ads. In one, a girl or a young woman carrying a pitcher of orange juice says, “You can almost taste the Sunshine!” Below that, the second tagline appeared as a caption to the drawing: “Only Minute Maid can bring you orange juice this good!” At the bottom was the third: “Minute Maid...finest orange juice frozen!” The latter two slogans were obviously designed to elevate Minute Maid’s brand name in the

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consumer conscience. But the first slogan did something different. It equated the quality of the juice with sunshine. Douglas Sackman has argued that the linkage between oranges and the sun created an impression among urban dwellers that eating oranges was communing with nature. Like the orange, “the consumer would also be sun-kissed.”72 This argument could certainly hold true for the Minute Maid advertisement, but the overriding objective was to naturalize frozen concentrated orange juice, to make a processed commodity that looked almost nothing like its original form appear equally as natural. This would have obvious health connotations as well, but more important was the implication that a factory-made food was worth eating.

It is worth asking what consumers actually thought of such advertising rhetoric. When another Minute Maid advertisement claimed of its product, “It’s pure juice from fresher oranges than you can buy! Sun-ripened oranges, picked at the peak of flavor and Vitamin C content,” did consumers believe it?73 In other words, did they reject the hyphenated and italicized “sun-ripened” and claims of peak flavor and vitamins as mere hyperbole, or did they actually evoke emotions consistent with buying the product? Two consumer panels conducted by motivation researcher Ernest Dichter’s Institute for Motivational Research help to answer that question. In the first, participating housewives viewed an advertisement for Florigold grapefruit similar in design to that of the concentrate ad quoted above. Their response was favorable.

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72 Douglas C. Sackman, Orange Empire: California and the Fruits of Eden (Berkeley: University of California Press, 2007), 89. This is a theme throughout Part I of the book (pages 17-118).
73 Minute Maid, Advertisement, Good Housekeeping, June 1950, 213.
“While one woman said ‘vitamin-sun association is corny,’” the institute wrote in its report, “most women felt it was a healthy and appealing copy line.” Thus, the institute concluded that “There is no doubt that women respond most favorably to the concept of fresh Florida sunshine in the form of grapefruit.” In the second panel, the institute asked housewives about household consumption of soft drinks. While most women said they gave such beverages only “as a mid-afternoon drink where they are allowed at all,” more tellingly, they preferred “fruit flavored soft drinks or ginger ale” over colas. Apparently housewives perceived lighter colored soft drinks to be more healthful than darker ones. On the basis of this and related results, the institute concluded that “there would seem to be a trend among middle class suburbanites towards a greater naturalness in tastes of all kinds.” These findings corroborate those of a government study from 1950 in which about half of homemakers polled said that concentrate “had a ‘natural’ or ‘tree-ripened’ taste” while “others claimed it was ‘almost as good as fresh oranges.’”

Postwar prosperity also ramped up demand for convenience foods. This was due to a significant extent to a larger societal shift following World War II. Prior to the war, wealthier households employed individuals to do the various tasks associated

75 “General Findings of First Workshop Session for Publicity Release,” Ernest Dichter Reports, 1961, Box 62, Research Reports, Accession 2407, Folder 1370P-Publicity, Hagley Museum and Library.
76 Bayton and Meyers, Consumers’ Use of and Opinions about Citrus Products, 16.
77 It may appear that the following discussion presents class structure somewhat rigidly, as being comprised of an upper class and a non-upper class. This should not be taken to mean that class structure in the United States was not nuanced; rather, it is used to demonstrate with greater clarity the relevance of concentrated juice to Americans of different economic standing. That class structure was fluid, that there were exceptions within classes, that gray areas existed as one class merged into another, all go without saying.
with domestic upkeep. Though housewives were responsible for ensuring that this task was completed, their role was that of an overseer, not a worker. When World War II concluded, however, the economic boom that followed resulted in a considerable shortage of servants. The men who in earlier times would have been butlers and “men” were now employed in other capacities, and the women who would have been maids and cooks were similarly working elsewhere and, moreover, were married to the men. Furthermore, whereas once these men and women resided in their masters’ houses, they now lived in their own. The burden of household chores in postwar America continued to fall on housewives, though, but those of wealthier standing now found they had to carry out the labor themselves. After World War II, then, there was a kind of democratization of domestic labor as nearly all women, regardless of income level, were equally responsible for the upkeep of the home.

In the context of orange juice, this discussion of labor is complicated by society’s Cold War expectation that these housewives be able to prepare good meals for their wage-earning husbands. By 1959, the good life in the form of new homes, new cars, and new appliances were so common that United States Vice President Richard Nixon used their prevalence in defense of capitalism in the famous Kitchen Debate with Soviet Premier Nikita Khrushchev. In it he claimed, “what we want to do

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is make easier the life of our housewives." But Nixon misinterpreted consumerism and thus its implications. Most men did not actually earn enough to keep up with society’s expectations, and that meant housewives had to go to work themselves to make ends meet. Though one would never know it from the magazines and advertisements of the day, women were saddled with responsibilities in and out of the home. Paradoxically, women had to work outside the home in order to help buy the things that made working in the home easier. In 1956, 24 percent of married women worked, and women composed 32 percent of the total work force. Roughly half of women between the ages of 35 and 54 worked. In two-income households, the total income was some $1,300 higher on average than in single-income families, while of those families with an annual income exceeding $7,000, 27 percent of wives worked outside the home. But it was more complicated still. For housewives who had employed servants before the war, life at home was much harder because they previously had not been responsible for carrying out household duties. And, housewives belonging to lower-income households did not consider whether a given chore was easier; they appreciated how much more they were able to accomplish—and how much better they were able to eat—than their mothers and grandmothers had

81 Harvey Levenstein, Paradox of Plenty: A Social History of Eating in Modern America, rev. ed. (Berkeley: University of California, 2003), 103-06.
83 Ibid., 35.
84 Cowan, More Work for Mother, 192.
ever dreamed. In this kind of environment, the convenience factor of concentrate, while secondary to health and flavor, was very appealing.

Many in the citrus industry thought this was precisely the reason for the verticality of concentrate’s demand curve. In the words of long-time citrusman Rip Graves, “it made a convenience food” of the orange. Here a definition of convenience food is in order. According to Dik Warren Twedt, Oscar Mayer & Company’s Director of Marketing Research, provided in 1967, a convenience food was “a food which, because of processing and/or packaging, is quicker or easier to prepare than the basic standard form in which the product category is generally available to consumers.” The basic standard form of frozen concentrated orange juice was, of course, oranges, or more accurately, fresh-squeezed orange juice. Unlike squeezing oranges one’s self, a potentially messy, somewhat laborious, and relatively time consuming task, making concentrated juice required simply adding the requisite amount of water to the concentrate and aerating—“You can stir,” said one advertisement, “but shaking’s better.” And, it could be made in a “minute” by the “maid” of the home. For the hurried housewife, believed Graves and others like him, convenience was the selling point for the new product.

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87 The use of the semi-obscure word “aerate” has a remarkably strong presence in magazine articles, yet no presence at all in advertisements. A representative example is Anna May Wilson, “What’s Good About Frozen Orange Juice,” Today’s Health (Jun. 1951), 45; Quotation from Birds Eye, Advertisement, Good Housekeeping (Apr. 1950): 169.
But explaining concentrate’s success as due to its convenience omitted the existence of competitors of frozen concentrated orange juice, namely canned juice and fresh oranges. According to a 1959 *Consumer’s Report* study of orange juice, canned juice was “the ultimate in convenience.” It required no refrigeration and the only effort necessary for consumption was to punch a hole in the top of the can.\(^8\) As for the orange itself, notwithstanding the definition Twedt provided, peeling and segmenting one could hardly have been all that much less convenient than thawing frozen concentrate and shaking it with water. Processing companies themselves recognized this. One advertisement scarcely acknowledged the matter. Only in small print, near the bottom of the ad, albeit in bold and capitalized, did it add, “SO EASY!”\(^9\) Another ad dwelled at length on the myriad health and flavor benefits of juice and only at the very end suggested anything remotely resembling concentrate’s convenience: “So skip the bother of squeezing oranges. Get MINUTE MAID at your grocer’s frozen-food cabinet today.”\(^9\) Minute Maid clearly put convenience in the backseat and placed health and quality front and center. By all appearances, the entire notion of convenience was merely an extra benefit—a “value-add,” in the language of marketing—and not the driving force behind the consumption of concentrate.

Nevertheless, convenience was critical. A government study from 1950 found that half of homemakers who used concentrate did so in part because it was convenient, saying things like “It’s so easy to prepare,” or “it saves so much

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This finding was supported by a study the Institute for Motivational Research conducted on behalf of the *New York Times* in 1962. “Women,” it noted, “see the convenience of frozen foods as a boon and a great step forward in their emancipation from household drudgery.” This was because they had a “special feeling of appreciation for the fact that modern scientific knowledge has been brought into the field of food preparation and cooking in a fashion similar to that in which it has been applied to many other aspects of life.” Moreover, “the increase in the leisure time available to all members of the family, and the general raising of economic and sophistication levels throughout the country, have brought about a significant shift in basic attitudes with the result that these women now welcome everything which will make their kitchen tasks easier, less demanding.”

This is probably a more positive and simplistic assessment than the panelists’ themselves actually supplied evidence for, but nevertheless speaks to the convenience factor as an important characteristic of foods like concentrate.

While all these features made concentrate attractive to consumers, the cost of the product determined who actually was able to buy it and thus turned it into a kind of status symbol. When Clarence Birdseye launched the first industrial scale frozen foods company in 1925 with a new technique that adequately preserved flavor, quality, and color, he marketed his products as luxuries to the upper class. So did his

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91 Bayton and Meyers, *Consumers’ Use of and Opinions about Citrus Products*, 16. Users of canned juice said the same things about their juice in roughly the same percentages.

competitors.\footnote{Frank J. Charvat.  
\textit{Supermarketing} (New York: The MacMillan Company, 1961), 40; Shane Hamilton,  
"The Economies and Conveniences of Modern-Day Living: Frozen Foods and Mass Marketing," \textit{Business History Review} 77 (2003): 43.} While processed food in some form was commonplace across the classes, people of lower economic standing were consumers of the canned (and lower quality) variety.\footnote{Levenstein, \textit{Paradox of Plenty}, 116-17; Hamilton, "The Economies and Conveniences of Modern-Day Living," 43.} Price, then, was concentrate’s gatekeeper to health, enjoyment, and convenience. The economic boom of the 1950s raised the standard of living for most Americans, but that did not mean that everyone could afford to drink concentrate as often as he or she liked. Thus, concentrate—buying it, making it, and drinking it or serving it to others—became a marker of status. A housewife who made frozen concentrated orange juice could afford to buy it. Moreover, the implication was that she lived in a household that could afford a freezer (even though in point of fact this was not always the case), a status symbol itself and until the late-1940s a possession reserved almost exclusively for the rich.\footnote{Levenstein, \textit{Paradox of Plenty}, 107.} In these respects concentrate was similar to Jell-O, a product dependent upon cooling to “set.” Although other methods existed, mechanical refrigeration was ideal and the existence of a Jell-O salad at a church potluck or other social function implied its preparer had a refrigerator and therefore conveyed status.\footnote{Carolyn Wyman, \textit{Jell-O: A Biography} (Orlando: Harcourt Books, 2001), 44.}

The cost of concentrate and consumers’ ability to afford it was something sidelined in advertisements, though. In 1950, Minute Maid ran full-page color advertisements in \textit{Good Housekeeping} with two pitchers containing an unequal
quantity of orange juice side-by-side. The ad asked “Which Pitcher has the Minute Maid Orange Juice in it?” and explicitly pointed out that Minute Maid offered 25 percent more orange juice for the price than the juice a person could make at home. Still, the advertisements discounted the significance of price so as not to suggest that potential consumers were too hard up to buy what was still at that point regarded as a luxury good.97 Thus, the ad’s main selling point, as it proudly proclaimed, was to “Make Yourself the Pitcher of Better Health with Minute Maid.”98

But in fact, concentrate had very specific price points. As an anonymous author of Business Week wrote in 1954, “The demand curve for frozen orange juice should be a classical economist’s delight.” The author went on to write “lower the price and consumption spurts; raise and consumption drops. Put the price up to 29¢ or 30¢ a 6-oz. can at retail and consumption just about stops.”99 But, by 1954, twenty-nine cents was a pretty steep price. The price upon introduction in 1945 had hovered around sixty cents, but within two years had fallen to an average of twenty-nine cents.100 In 1950 it averaged twenty-six cents101 and because of a price war among processors, when this particular issue of Business Week hit retail shelves it was at

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97 This borrows from Roland Marchand’s argument that pre-war advertisers imbued advertisements with their own social and class assumptions, but that the point was to facilitate the movement of merchandise, and that meant appealing to consumers’ visions, not their realities. Advertisements, he argues, “dramatized the American dream.” Doing so, I am arguing, required an acknowledgement but also a dismissal of cost in advertisements. See Roland Marchand, Advertising the American Dream: Making Way for Modernity, 1920-1940 (Berkeley: University of California Press, 1985), xviii.
98 Minute Maid, Advertisement, Good Housekeeping, February 1955, 113.
100 Williams, “Orange Concentrate,” 51.
101 O'Regan, “The Economic Impact of Technology on Farm Commodities,” 1780.
about fourteen cents. The magazine’s hypothetical economist would have found cause for further rejoicing in the price statistics for concentrate’s competitors. According to one article about New York City markets, in 1950, concentrate was between a half and a third the cost of home-squeezed orange juice.

Thus, the status concentrate conveyed upon its consumers was inclusive rather than exclusive. It meant not that one had “made it” so much as that one had “also made it,” that the Joneses were being kept up with. And yet, keeping up with the Joneses was a goal that appealed to only some Americans, at least in the context of concentrate and food more broadly. There was a decided split among those who reveled (or at least pretended to revel) in the spirit of the modern age by buying concentrate and those who did not, and this split was most pronounced on generational and income lines. In a study conducted in the late 1950s by the Television Bureau of Advertising, nearly 75 percent of American homes had consumed a frozen food within the previous week. Perhaps more significantly, 36.6 percent of American families had freezers, and about 84 percent of these had eaten or drunk a frozen food in the previous week. But, housewives under the age of 50 owned 80 percent of the freezers. The figure was the same for those with at least one child. Interestingly, all of these figures overlapped significantly with television ownership, such that the president of the Bureau claimed, “Television’s most avid viewers are also the heaviest users of frozen foods.” As the president went on to argue, this suggests the marketing utility of one recent technological innovation—the

television—to sell another recent technological innovation—frozen foods—which itself utilized a third recent technological innovation—the home freezer.  

The splits were similar over the course of the 1950s for concentrate specifically. In 1950, the United States Department of Agriculture sought to uncover who the typical concentrate consumer was. Concentrate also seemed more popular with the younger crowd: 30 percent of the under-50 group drank it, while “only 18 percent of those over 50 years of age used it.” This latter group was also “less likely” to drink juice in the winter when fresh fruit was available, whereas younger “homemakers tended to use about the same quantity regardless of season.” Moreover, it found that 30 percent of all homemakers purchased concentrate compared to just 3 percent purchasing any other kind of frozen citrus product. When asked to rank the concentrate relative to other citrus products, all of these consumers collectively positioned it a close third behind fresh oranges and grapefruit and well above everything else. Thirty-four percent of these concentrate consumers drank it at least twice a week and another 15 percent once a week, and were most likely to live in an urban area outside of the south and particularly in the Northeast. It also found that consumption of concentrate “was more typical of homemakers who

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106 Ibid., 13.
107 Ibid., 6.
108 Interestingly, non-users ranked concentrate dead last, though all citrus products fared poorly compared to their fresh counterparts. Bayton and Meyers, *Consumers’ Use of and Opinions about Citrus Products*, 19.
109 Nineteen percent used it 1-3 times a month, 18% less than once a month. Bayton and Meyers, *Consumers’ Use of and Opinions about Citrus Products*, 7.
108 Ibid., 6.
had attended college than of those with less education,” and that consumers of canned orange juice typically had a “lower educational background.”\textsuperscript{111}

People within the industry often attributed this to the apparent fact that educated people knew what was healthy and so made sure they consumed it, but undoubtedly the expense of concentrate relative to canned juice and the connection between education and income was a factor.\textsuperscript{112} This was confirmed in a survey from 1952 which found that the percentage of “regular use” consumers—people who drank concentrate twice a week or more—went up with income from 28 percent of those in the “under $2,000” bracket to 62 percent of those in families earning $7,000 or more.”\textsuperscript{113} At the same time, though, the USDA study found that most upper-income consumers were interested in drinking more concentrate if either their incomes increased or the price of concentrate fell.\textsuperscript{114} Another study from 1954 examining food purchases and the (non)ownership of home refrigeration found that three-quarters of those Americans who owned a freezer of any kind bought concentrate, but more strikingly, that 39 percent of those who owned no refrigerator or freezer whatsoever also bought it on occasion.\textsuperscript{115}

A second USDA study, published in 1958, mostly confirmed the findings of the first study. While most people of all demographic distinction had by 1958 heard

\textsuperscript{111} Ibid., 9.

\textsuperscript{112} Weekly reports from agents around the country working for the Florida Citrus Commission noted that retailers often kept canned juice at a price lower than concentrate in order to move it, sometimes doing so at a loss. Florida Citrus Commission, Regional Managers’ and Merchandizing Representatives’ Reports, 1950-1952 (Lakeland, FL).


\textsuperscript{114} Bayton and Meyers, \textit{Consumers’ Use of and Opinions about Citrus Products}, 18.

of and even drunk processed citrus drinks, "lower income, less educated, and rural homemakers" still tended to prefer canned orange juice and wealthier, better educated, and urban homemakers responded more favorably to concentrate.\textsuperscript{116}

Reasons for usage remained about the same: 78 percent cited convenience, 40 percent cited taste, and 31 percent cited health,\textsuperscript{117} and "regular users" continued to compose about half of overall users.\textsuperscript{118} About the only significant distinction between the two studies is that in 1950 regional variance was high, whereas by 1958 "differences by section of the country are less clear-cut and do not form a definite pattern."\textsuperscript{119} The studies in 1962 essentially confirmed these earlier findings.

In the early 1960s, another of Ernest Dichter's panel studies expanded upon this information. He and his researchers discovered there was "a sharp differentiation in frozen food usage and attitude between two generations of cooks—the young married women who have grown up with frozen foods and older married women who, while they are now using frozen vegetables and other products frequently, either remember quite clearly what farm fresh vegetables were like—especially when they were purchased from fruit and vegetable stands in small towns in which they lived—or, who still maintain that they do make an effort to prepare certain fresh vegetables and fruit juices in preference to frozen types." Unlike their older counterparts,

\textsuperscript{116} Hochstim, \textit{Homemakers Appraise Citrus Products, Avocados, Dates, and Raisins}, 3, 15.
\textsuperscript{117} Ibid., 17.
\textsuperscript{118} Ibid., 12-13.
\textsuperscript{119} Ibid., 14.
younger housewives did “not have feelings of nostalgia nor of taste deprivation” because they did not remember the experience those emotions connoted.\textsuperscript{120}

Somewhat more to the point, though, younger housewives’ attitude towards food was “primarily couched in terms of familiarity, ease of shopping, storing, and preparation.” Partly this was due to the fact that cooking was “not challenging nor particularly well-liked,” and thus the younger housewives “see the convenience of frozen foods as a boon and a great step forward in their emancipation from household drudgery,” but just as important was the housewife’s responsibility for feeding her family members. When her children were young and required less attention, culinary and otherwise, she was more ambitious in the kitchen. As her progeny aged, though, and demanded ever more of her time, she embraced “the pure convenience factor of frozen foods.” Older housewives did not experience this same pressure, and in conjunction with positive memories of fresh produce and fresh-squeezed orange juice, demonstrated less interest in frozen substitutes.\textsuperscript{121}

These findings were the same as those expressed in a report written by a manager of the Waverly Growers Cooperative in central Florida. Announcing the

\textsuperscript{120} “A Memorandum Based on the Work of the \textit{New York Times} Grocery Workshop,” Ernest Dichter Papers, 1962, Box 63, Research Reports, Accession 2407, Folder 1370P.67-70, Hagley Museum and Library. The institute did not specify what age it considered a “younger” or “older” housewife to be.

\textsuperscript{121} Ibid. Ruth Schwartz Cowan and Glenna Matthews both make provocative arguments to the effect that products purporting to make life easier for housewives actually made it more difficult. Cowan points out that industrialization was labor-saving for men, but that it raised the standards of acceptability for women. Because women could do more, they were expected to do more, and the expectations increased labor to a greater degree than technology reduced it. Matthews contends that the absence of technology made housewifery a communal activity and cultural identity. As technological innovations became ever more prevalent and affordable, what used to be done together was done separately. Keeping house thus became a lonely pursuit, women left it for the paid work force, and housewifery lost its respectability. Cowan, \textit{More Work for Mother}; Glenna Matthews, \textit{Just a Housewife}: The Rise and Fall of Domesticity in America (New York: Oxford University Press, 1987).
construction of the cooperative’s first processing plant in 1962, he noted, “It is a response to the changing demand of modern America. For young Americans show a preference for citrus in cans, just as for many another food product. Surveys show that the demand for fresh fruit depends more upon the oldsters, who have learned through the years to appreciate the taste of the fresh fruit and who prefer it. The young people, in hurried self-service and self-delivery, go for the lesser bulk and greater convenience of cans. Taste? Well, they have been brought up mostly on juice, and it tastes natural to them.”

Youth, it seemed to this executive, was the future not only for concentrate but for the orange industry as a whole.

Concentrate was a uniquely American product. Despite considerable effort on the part of processors to promote it, concentrate was not a popular product outside the United States. Processors, like executives in other industries in the postwar period, put significant emphasis on gaining traction in international markets, particularly in Europe, and tried to use American aid programs like the Marshall Plan to do so. These markets were decidedly secondary to the domestic market but nevertheless executives viewed them as significant. But unlike those in other industries, processors had very little success. Even in Canada, which the industry viewed more or less as an extension of the United States, consumers were few. The Florida Citrus Commission’s Montreal-based field agent, Louis J. LaRocque, wrote in November 1950 that within Montreal itself, the price for a six-ounce can of concentrate was

122 Waverly Story, 1 January 1962, Florida Citrus Archives, Florida Southern College, Lakeland.
down around 30 cents, high by urban American standards, but that outside the city the going rate was a “forbidding” 43 cents a can. That price was very high by suburban American standards, and thus LaRocque concluded that “frozen juices will remain a dead item” if prices do not come down, and they generally did not.¹²⁴

Even as the export market improved over the course of the 1950s and into the 1960s, the rate of increase was slow and the sales rate to countries other than Canada was abysmal. In the three seasons from 1956 to 1959, only 3,002,000 to 4,460,000 gallons were sold abroad out of nearly 80,000,000 gallons produced. Moreover, during this period, Canadian consumption accounted for between two-thirds and nine-tenths of these sales. The rest went primarily to United States possessions and places American tourists traveled to.¹²⁵ This trend continued well into the 1960s; even as international consumption of concentrate increased, international purchases of Florida concentrate remained relatively low.¹²⁶

There were a few reasons for this. As a USDA study found in 1954, “one problem” processors faced was the “European preference for fresh fruit.” American consumers, or at least enough of them, did not share this characteristic. Thus, overcoming this hurdle would have required processors “to engage in intensive

¹²⁴ Louis J. LaRocque, Florida Citrus Commission, Regional Managers’ and Merchandizing Representatives’ Reports, 9 November 1950 (Lakeland, FL).
¹²⁵ Anonymous, “Export Sales Play Important Role in Size of Concentrate Carryover,” *Quick Frozen Foods*, February 1960, 121. As the title of the article from which these figures came suggests, the argument presented here is somewhat at odds with that of the article.
¹²⁶ Anonymous, “Bryant, Britain to Air Restrictions on Citrus,” *Florida Times-Union*, 20 October 1961, news.google.com. There are also numerous folders, containing everything from grower letters to drafts of bills, relating to the problem of exporting concentrate in the 1960s, especially but not exclusively to Great Britain, in the Spessard L. Holland Papers at the Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
merchandising." Although the study urged processors to go after hotels and restaurants preliminarily as a way to get to consumers and thereby develop a taste for the juice, ultimately this type of campaign would have been extremely expensive, time consuming, and difficult. It also probably would have been unsuccessful; as the report noted, "The greatest obstacle to sales of frozen juice is the lack of refrigeration in homes." Probably the bigger issue still was that the suburban environment in America where most concentrate was consumed did not exist in Europe. The lack of space, infrastructure, and capital prevented the spike in Europe of suburban development occurring in the United States. Without those three characteristics, and therefore without a car-oriented supermarket culture to facilitate the distribution and retailing of a frozen food, in combination with the lack of home refrigeration, a product like concentrate could not succeed. 

The story of American consumers’ relationship with concentrate is the story of life in America in the first two decades of the Cold War. A product that ensured great health, that was new and exciting to drink, that was easy to prepare, and that was cheap enough for middle class consumers was a testament to American ingenuity and something American consumers practically had a civic obligation to consume. Moreover, it fit snugly within American’s socio-political understanding of the world. Not surprisingly, Americans drank it with seeming abandon. Thus, as the late 1940s

128 Ibid., 45.
gave way to the early 1950s, processors were enormously optimistic about the future of their industry. But, as the following chapter shows, that optimism was grossly unwarranted. Entering the 1960s, the future of concentrate seemed much less rosy. Processors did not fear the loss of their consumer base but they did fear that it was not growing fast enough. Yet, as the following chapter shows, just three years into the 1960s sales of concentrate were in a free fall. The sense of progress that so enraptured processors during the go-go 1940s and 1950s threatened to leave them behind by the mid-1960s. The era of space travel was also the era of synthetic foods, and a new drink called Awake—a very cheap imitation of concentrate—had great popularity among consumers. Consumers’ acceptance of Awake forced growers and processors, an ever evolving and consolidating group, to decide whether to adapt or get out. This occurred at the same time that other beverage companies, most notably the Coca-Cola Company, got in. The result of these factors was a changed relationship to consumers, to their signature product, and to their industry.
CHAPTER SIX

Supplying Demand:
Coca-Cola and the Corporatization of the Florida Orange Industry

Your problem—my problem—our mutual problem in life is primarily women.... What I mean is—your success in the food business, and mine in research, is pretty much resolved by our ability to find out how women spread their buying among all the brands and stores and products from which they may choose.—Curtis C. Rogers, 1955

With this not-so-subtle appeal to male chauvinism, Curtis C. Rogers, then an executive for Market Research Corporation of America, began a speech to an assembled body of grocers (most of whom presumably were male), the subject of which was improving sales and increasing profits for the supermarket industry. He argued that doing so was as easy as understanding women, which, he conveniently noted, was his firm’s specialty. And yet, as his opening statement suggests, women were a cagey lot. Identifying female needs and desires so as to exploit them was a tricky and not wholly or at times even partly successful venture. The best a producer or retailer could do was his or her market research and attempt to cajole consumers into making purchases. Victory in the marketplace required savvy, but ultimately it rested on the good fortune to hit the right combination of factors important to consumers, and this, despite all the market research performed by people like Rogers, was simple luck.

And yet, as many food producers learned in the 1950s and 1960s, they could control their dependency upon luck through the utilization of something now called market segmentation. Executives for these companies recognized that as long as consumers purchased one of the products their company produced in every food category that their company was involved in, precisely which product consumers purchased did not really matter. Such companies shifted their research and development from improving the quality, distribution, and sales of a signature product to producing lots of different products within a product category for lots of different consumers. Kellogg Company, for instance, known since its inception almost entirely for Corn Flakes, began to make Sugar Frosted Flakes, Cocoa Crispies, and other cereals, as well as non-cereal breakfast foods like Pop Tarts. Since most Americans in the postwar consumer economy were eating increasingly more processed foods, this strategy paid off. Additionally, it enabled food producers to hedge their bets on any one product, to diversify, in the language of investors, while also providing them the market flexibility to develop new products. The result was a veritable explosion of different food products in the 1950s and 1960s.\(^2\) In order for this strategy to work, though, a food producer had to have sufficient capital to implement it. As some companies had that capital and others did not, the food industry consequently consolidated into the hands of relatively few corporations.

The relationship between the consolidators and the consolidated in Florida’s orange juice industry is the subject of this chapter. Taking full form in 1960 with

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Coca-Cola’s purchase of Minute Maid, multinational corporations bought up local Florida companies. The entre of companies like Coca-Cola and the rapid ascendancy of some Florida-based firms like Pasco Packing forced everyone in the industry to reconsider their relationship to their only product. Compared to multinational business executives far distant in spirit and often in body from Florida orange groves, most growers and juice processors were practically family farmers and small-scale food producers operating a cottage industry, albeit one that generated millions of dollars in revenue each year. To be sure, a number of “growers” were actually just investors and did not care much one way or the other about oranges. But for a lot of them, especially after mid-century, the orange industry was about livelihoods, about doing what their father and their father’s father had done, and they viewed their work as a kind of profitable public service in which they sold health and happiness at a fair price. Their solution to the changing business environment of the period was to redouble their effort to convince Americans to drink orange juice. They launched several sweeping advertising campaigns to that effect. For multinational executives, though, oranges and orange juice were about money. They were simply the means to an end. The corporate takeover of Florida’s large-scale cottage industry in the 1960s trumpeted the arrival of modern agribusiness in Florida’s orange industry, just as it did around the same time in most agricultural sectors across the country.

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3 This was, and is, especially true in the Indian River region, as chapter one suggests, but it had become true across the rest of the state as well by the 1960s. As examples, see Lizette Alvarez, “Disease Threatens Florida’s Citrus Industry,” New York Times, 9 May 2013 and Alvarez, “For Florida Grapefruit, One Blow After Another,” New York Times, 3 May 2014.
This occurred in part because the Florida orange industry in the late 1950s and early 1960s was in a state of mid-level crisis. After a decade of giddiness in which there was every indication and certainly every hope that the consumption of concentrate would become nearly as ubiquitous as the consumption of oxygen, sales stagnated and then dropped off. In 1953, around 25 percent of American families bought concentrated orange juice, and “the industry was confidently predicting that by 1959 the percentage would be up to 37 percent.” Instead, by 1959 the percentage had increased a mere eight tenths, and had in fact fallen from an industry high in October 1957 of about 30-31 percent. Price had something to do with the collapse. In 1953 the cost of a six-ounce can of concentrate placed it comfortably within the acceptable range for most middle class Americans, and generally declined the next few years such that by 1957 it had fallen nearly 50 percent to a mere 15.2 cents. It went up abruptly, however, following a freeze in late 1957 that severely curtailed the supply of oranges and significantly increased the cost of concentrate. Ten months after the freeze with concentrate selling for 24.8 cents per six-ounce can, a price not seen since concentrate truly went national, the percentage of families consuming concentrate had fallen to just 24.4 percent. This caused one observer to opine “it would seem that historically price has had relatively little to do with the extent of distribution of frozen orange concentrate. There is a saturation price at which the market will fall off sharply, to be sure, but a low-lower-lowest sales approach does not seem to mean that the market will grow accordingly.”4 In other words, rather than

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4 Anonymous, “Florida Concentrators’ Swing to Promotion Marks New Phase of Industry Growth,”
being a “classical economist’s delight,” as an analyst put it in 1954,\(^5\) for the most part, around 25 percent of American families always drank concentrate and the remaining 75 percent apparently needed more encouragement than they had been getting.

That fact led people like Minute Maid president John Fox to argue for increased advertising. Citing a recent marketing study finding that concentrate was a “precious” commodity to many housewives—that is, it “contributes directly to the well-being of her family” and therefore “assumes enormous stature in her eyes,”\(^6\) he argued for getting more housewives to buy orange juice in the first place.\(^7\) The supermarket revolution had made “free thinkers” of housewives, he said, but her habits are hard to break, and therefore “our problem is how to get the consumer to change her habits.” His solution was advertising: if concentrate could “be developed, in the mind of the consumer, to the point where she considers it a necessity, then the battle is ours.” It was a battle Fox thought he could win, based on this assessment of concentrate, and he offered his vision of the future: “Mrs. Consumer, the free thinker, choosing her own path through the maze of the modern supermarket, has a goal. Fixed in her mind is her family’s health. Tied to this thought is the precious health-giving quality of orange concentrate.”\(^8\) For Fox, and no doubt for most of his


\(^{6}\) The Center for Research in Marketing carried out the study, and William Capitman, a psychologist, authored the report. Capitman used the word “precious,” which Fox quoted; the other quotations are all Fox’s. John M. Fox, “Concentrate Continues to Sell Entire Line of Frozen Foods,” *Quick Frozen Foods*, April 1958, 104.

\(^{7}\) Fox, of course, is equally or more interested in getting housewives to buy Minute Maid in particular.

\(^{8}\) Fox, “Concentrate Continues to Sell Entire Line of Frozen Foods,” 115-16.
audience, the potential for profit in that kind of world, an Orwellian world in which corporate propaganda created and nourished free thinking, was highly alluring.

Processors took dramatic action following through on Fox’s suggestion. In September of 1959, twenty-two processing companies invested $3.3 million in a three-month national barrage of advertising and marketing. The campaign was the biggest in frozen food history, the first unified marketing activity of any kind in the short life of orange concentrate, and came at a cost of ten cents per gallon of retail concentrate. The campaign consisted of four concurrent parts. First, newspapers and magazines carried coupons for purchasing juice at a reduced price. Second, the processing firms held a consumer sweepstakes with a grand prize of $100,000 and secondary prizes. Third, the firms also held a trade sweepstakes for supermarket operators, distributors, and so forth, with the prizes being five Thunderbirds and fifty televisions. Finally, the campaign blitzed consumers with advertising in every imaginable manner, including via entry mats at grocery store doors.

The campaign seemed to work. Coupons poured into grocery stores by the thousands, far surpassing forecasts, with grocery stores “reporting that movement has been so good it is difficult to keep the store cabinet filled with concentrate.” Consumer purchases numbered more than a million gallons a week. Moreover, the

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13 Anonymous, “Florida Concentrate Drives Ups Movement; Campaign to Continue in December,” Quick Frozen Foods, November 1959, 142.
consumer sweepstakes received some 1.5 million tickets in just the first two months of the campaign. Such apparent success encouraged the twenty-two concentrators to keep the campaign going for a fourth month and into the initial stages of the 1959-1960 orange season.

In the final analysis, however, industry jubilance over its commercial success proved unwarranted. Over the course of the campaign, the number of concentrate consumers increased and the amount of concentrate each of those consumers drank increased, and were about 13% greater than they would have been otherwise, but, as a USDA report determined, this was due only to the reduced cost of concentrate. That is, the low price of concentrate encouraged greater and broader consumption, but only while prices were low and promotions available. When they returned to normal, consumers would return to their normal consumption habits. Most disconcerting for processors, the study found that contrary to popular belief and even sales results following the 1957 shortage, the sole determinant to buy or not buy for consumers was price. Competitive beverages siphoned off consumers whenever concentrate prices got too high, “since the uses are comparable.” This study was both a confirmation of processors’ fears about the instability of their consumer base and a harbinger of things to come.

In December 1962, the most damaging freeze in Florida’s recorded history hit, with disastrous results for both processors and growers. Theoretically and to that

15 Ibid., 5.
16 Ibid., 8.
point in practice, part of the miracle of concentrate had been that fruit formerly unsellable due to a freeze could still be utilized as juice. Even most of the fruit damaged in the 1957 freeze, previously the worst freeze to hit the state since 1895, was usable to some degree. At the time, growers, processors, and others in the industry reacted as though Armageddon had come to Florida, but, using the type of hindsight available when something worse later happens, the 1957 freeze was not too bad; it killed some trees, ruined some growers, and generally caused financial panic, but the damage was mostly short-term and the concentrate industry was not threatened. There was nothing short-term about the 1962 freeze, however. In addition to ruining thousands of growers and literally halting the production of concentrate, it created a vacuum in the market for juice beverages. That vacuum was quickly filled by synthetic juices. As the price for concentrate soared, consumers turned to synthetics, and retailers turned with them.

Synthetic drinks, of course, had been around for some time. They first hit markets in the late 1910s as quack companies sought to capitalize on doctors’ advice to mothers that babies drink orange juice. These drinks usually had no actual orange juice, though statements to that effect were small and inconspicuously placed whereas statements implying the opposite were large and pronounced. The first product to

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17 The effects were primarily twofold. Many growers were ruined and sold out; many of those who remained became much larger operators while also developing land in southern Florida where freezes were much less common. Orlando became less the geographic center of orange production and more the northern edge. On the processing end, Minute Maid, Tropicana, Pasco Packing, and a few other large juice processors contracted with Brazilian orange firms to ramp up production and thereby ensure that United States-based firms always had a supply of oranges. See Geraldo Hasse, *The Orange: A Brazilian Adventure, 1500-1987* (Ribeirão Preto, SP, Brasil : Duprat & Iobe, 1987), 160-271.

make an impact from processors’ standpoint during the concentrate era was Hi-C. Developed by Niles Foster in 1946, Hi-C was first packed and sold commercially in 1948 by Clinton Foods, Inc., also the producer of Snow Crop concentrates. When Clinton Foods sold off their Florida holdings to Minute Maid in 1954, Hi-C was transferred as well. Described by Minute Maid’s public relations manager in the early 1960s as “‘old timers’ among fruit drinks,” Hi-C’s sales “skyrocketed” when Minute Maid took ownership “with the result that Hi-C is now the acknowledged leader in the highly competitive Fruit Drink Field.” Part of its success, the manager waxed, “is due in great measure to its wholesome, pleasant taste and economical pricing. In addition, careful packaging of Hi-C Fruit Drinks eliminates the tinny taste formerly associated with canned drinks.” Parents magazine was sufficiently impressed and gave the drink its “Commended Product” seal of approval.¹⁹

The public relations manager’s overstated declarations aside, Hi-C was the leader in synthetic juices because until 1958, there were no other such beverages backed heavily by corporate capital. But that year, General Foods, the producer of Birds Eye frozen foods, introduced Tang. Unlike Hi-C, Tang had no orange juice whatsoever in it, but like its synthetic counterpart had more vitamin C and vitamin A than orange juice while being less expensive. More significantly, Tang hit grocery stores just as the effects of the 1957 freeze manifested themselves in increased prices for concentrate. Tang thus “lured away customers from former frozen orange juice

drinking habits.\textsuperscript{20} Tang also came out the winner in a study of infants’ tolerance of orange drinks. Tested on babies ranging in age from two weeks to at least three months, those fed Tang showed the fewest negative reactions (defined as an allergy or refusal to drink) with 29 percent expressing distaste, compared to 46 percent each for concentrate and a control solution.\textsuperscript{21} Although Tang did not rate mention in Dr. Benjamin Spock’s \textit{Baby and Child Care}, it nevertheless was potentially appealing to those uber-health conscious, free thinking mothers John Fox had observed.

The thought that synthetic products like these might be popular, especially with children, was not a complete shock to citrusmen. As the 1960-1961 annual report for the Florida Citrus Commission stated, “good food habits, per se, have become unpopular among teenagers. The sorry state of the overall breakfast picture is indicative of the fact that their eating habits nowadays are largely matters of chance, convenience, and example.” Still, until the 1962 freeze, synthetic drinks were small potatoes compared to concentrate and few in the industry worried too much about potential competition. The solution for the optimistic Commission was to encourage health education in schools, as well as to hold meetings and workshops around the country, all designed to get students to eat and drink citrus.\textsuperscript{22}

Even in the first few months following the 1962 freeze, however, most industry participants and analysts did not foresee the rise of synthetics and the fall-off


\textsuperscript{22} Florida Department of Citrus: Florida Citrus Commission, 1961 Annual Report, Florida Citrus Archives, Florida Southern College, Lakeland.
of concentrate consumption. One supermarket executive declared, “If the consumer wants frozen orange juice, she’ll *understand* the circumstances and *buy*” (italics in original). And, of course, consumers had continued buying concentrate after the 1957 freeze despite higher prices. Another executive similarly stated, partly in reference to charges of price gouging, “We’re not profiteering, that much is certain. As for our new prices to come, we’ll see what happens with competition. So far, we’ve found no consumer resistance to our present prices.” Still another executive shrugged off the freeze believing that once fresh oranges were no longer available any lost consumers would go back to buying concentrate.23 Not everyone felt that way, of course. An editorial entitled “Everyone’s Sold On Concentrate—Baloney!” in *Quick Frozen Foods*, the leading trade journal for that industry, argued that processors were making the grave mistake of taking consumers for granted. “Let’s look back into history,” wrote the anonymous editor, “and not too far back either. People used to drink tomato juice, and for breakfast too. Or, they didn’t drink anything. And what’s to stop the pendulum from swinging back?”24

Indeed, the pendulum did swing back turning naïve optimism into panic. As the price for concentrate jumped 71 percent over a year earlier, while other concentrated juice products climbed a mere 13 percent, some 17.6 million consumers, composing more than five million American families, stopped buying the juice. It was a staggering decline, made all the worse by the knowledge that the consumption of

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fruit beverages was actually going up: nearly 9.5 million more families bought some kind of fruit juice or drink in November 1963 than in November 1962.\textsuperscript{25} By 1966, a mere 23 to 24 percent of families bought concentrate, “a long way below the pre-1962 figure of 30 percent.”\textsuperscript{26}

A Market Research Corporation of America study entitled “Changes in the Consumer Market for Frozen Orange Concentrate” confirmed and amplified these findings. “Following the 1962 freeze,” it stated, “reduced Frozen Orange Concentrate purchases were largely replaced by other fruit juices and drinks; after the 1957 freeze, over one-half of reduced Frozen Orange Concentrate purchases represented a reduction in the amount of total juice and drink consumed.” In other words, consumers during the first freeze reduced their purchases of concentrate until prices fell, but during the second freeze abandoned concentrate altogether, bought other beverages, and therefore were less likely to go back to concentrate when prices came down. The study similarly determined that “The substantial reduction in the number of heavy Frozen Orange Concentrate buyers coincident with higher prices emphasizes the ‘conditional’ loyalty of many seemingly better buyers.” This was about the worst news anyone in any industry could receive about their consumers.\textsuperscript{27}

\textsuperscript{25} Anonymous, “17.6 Million Consumers Going, Going, Gone!,” \textit{Quick Frozen Foods}, November 1963, 251.

\textsuperscript{26} Florida Citrus Commission: Economic Research Department, Citrus Business Digest, May 1966, Chase Collection, Record Group 1, Series 4, Subject Files 1961-1984, Box 90, Citrus, 1965, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.

In another report called “Twenty-One ‘Orange’ Beverages as Mothers Think of Them,” involving 2,000 personal interviews across 33 cities, the MRCA determined that concentrate and “frozen concentrated orange juice product”—which might contain sugar, stabilizers, and a host of other non-orange ingredients—were perceived to be basically the same thing, and both as nowhere near the quality of fresh-squeezed juice. Moreover, a “majority think it reasonable for processors to add sugar, sweetener,” and other artificial ingredients to their concentrate.\(^{28}\) Worst of all, “Mothers tend to underestimate the juice content of fruit beverages labeled ‘juice’ and overestimate the juice content of fruit beverages labeled ‘drink.’” They believed that “frozen concentrate” consisted of around 81 percent juice when actually it was 100 percent, and they thought “drinks” had about 70 percent juice when in fact they had none. In general, they thought that all orange flavored beverages had some significant juice content (usually at least 30 to 40 percent) when many had either no juice or at all or far less than mothers thought.\(^{29}\)

Unfortunately for growers and processors, the problem was not that consumers had misconceptions. The problem was that consumers did not seem to mind. If a product looked like orange juice, tasted like orange juice, maybe even tasted better than orange juice, and if it had as many or more vitamins as orange juice and was far cheaper than orange juice, what difference did it make whether it was


actually orange juice? For processors and growers, the difference obviously was huge, but for many consumers it was not.

A case in point was a new product called Awake, put out by General Foods' subsidiary Birds Eye. For a variety of reasons, Birds Eye had abandoned the concentrate business in the 1950s, and Awake was an attempt to get back in, albeit indirectly. Containing no juice, lots of sugar, and orange flavoring, Awake was, according to promotional literature, entirely “a man-made product,” and did “not depend on growers for its basic ingredients.” Meaning, something like a freeze would never come along and create a scarcity of raw materials and thereby drive up costs of the finished product. Awake was also “super-concentrated” and required “25% less storage space” than concentrate, both in the supermarket and at home, and a 9-ounce can made as much juice as two 6-ounce cans of concentrate at between one-third and one-half the price. It contained 30 percent more vitamin C than frozen orange juice, 27 percent more vitamin B1, and over 300 times as much vitamin A. It was also easier to make. “Because the consistency is like ice cream, Awake can be made by the pitcher.” No pre-thawing or mixing in a blender required. So long as one had no concerns about drinking “juice” constructed completely in a lab, Awake was hard to beat.

30 “Birds Eye ‘Awake’ Story,” Chase Collection, Record Group 1, Series 4, Subject Files 1961-1984, Box 155, Pasco Packing Company 1964, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida. Birds Eye had gradually become less competitive in the concentrate market because, it said, “Birds Eye does not own orange groves so it is at the mercy of fluctuating commodity prices.” This did, in fact, distinguish it from all other concentrate processors, though certainly those processors felt they were at the mercy of price fluctuation too.
In fact, Awake was a runaway winner to a number of people. It supplanted concentrate in Navy mess halls because, as the undersecretary wrote to Florida’s United States Senator Spessard Holland, “Orange juice was purchased for use by the Mess until the spring of 1963 when the price per case jumped from $7.68 to over $20.00….No attempt has been made to continue to purchase orange juice in quantity since that time because of continuing high prices…. ‘Awake’ was purchased in July 1963 after being tested by the Midshipmen’s Mess for flavor. The product was recognized to be a synthetic beverage base and not a fresh orange juice. The flavor was found to be very similar to that of natural orange juice and gave a consistent flavor. Because of these factors, plus a low price of $0.76 per gallon, it was decided that ‘Awake’ would be used until the price of orange juice returned to a price which was economically justifiable.”

Other people also embraced Awake as well. A colorful letter from a constituent to Holland declared, “I was born in Florida and raised in an orange grove—some years ago! AWAKE, the GF drink IS BETTER THAN ORANGE JUICE, as advertised.” Randal Chase, one of the state’s largest growers, wrote to his aunt complaining about synthetics and noted, “One of these, ‘Awake’, made by General Foods, does not contain one speck of orange juice and I am sorry to say is

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quite palatable." In a later letter he griped that "anyone can tell it is not fresh juice, but the flavor or taste is pleasing, especially to those who are not too discriminating about fresh fruit." Chase's assessment did not seem to matter, and may not even have been accurate. According to one story, Awake "was once served at a meeting of growers and processors and not one of them realized he was not drinking pure orange juice." The director of Indiana's Division of Food and Drugs wrote that "The product is being sold house to house, and in many instances the driver salesmen ask the housewife, 'Do you need any orange juice today?' or some similar statement which implies this product is orange juice." According to Awake's own market studies, the drink outpolled both a store brand, A&P, and Minute Maid. Moreover, "72% of women thought Awake was orange juice in 'blind' taste."

The success of Awake, Tang, and other drinks reflected consumers' all-out embrace by the mid-1960s of packaged foods. William E. Black, a food economist and frequent consultant to various parts of the concentrate industry, noted in 1964 that "today's consumers are deeply concerned with finding newer, better quality and more convenient foods. They are searching for new eating and drinking experiences that accentuate pleasure rather than caloric satisfaction." Concentrate itself had been one of these foods. As Black continued to point out, though, consumers' strong demand

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33 Randall Chase to Mrs. R. C. Lasbury, Jr., 11 March 1964, Chase Collection, Record Group 1, Series 4, Subject Files 1961-1984, Box 149, Mrs. Lasbury R. C. Jr. 1964, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
34 Chase to Lasbury, Jr., 29 July 1965, Chase Collection, Record Group 1, Series 4, Subject Files 1961-1984, Box 149, Mrs. Lasbury R. C. Jr. 1965, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
36 'Birds Eye 'Awake' Story,' Chase Collection, Record Group 1, Series 4, Subject Files 1961-1984, Box 155, Pasco Packing Company 1964, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
for processed foods affected food producers. “The consumer doesn’t even care if his foods come from minerals. So the grower is not in competition with other farmers only, but also from oil refineries, ore smelters, coal miners, coke makers and a host of others.…Will agriculture survive the synthetic inroads?” No doubt it will on some level, he said, but unfortunately for farmers, “There is more quality control over man-made products. It takes an enormously long time to change the form of a food through plant breeding and other natural forces.” 37 In a laboratory, however, like the one Awake was made in, that change could be almost instantaneous.

Awake reflected something else, however: the recognition among food companies of market segmentation. Within the soda industry, for example, longstanding companies quickly introduced new products to appeal to consumers with different interests and concerns. Royal Crown Company introduced the first diet cola, Diet Rite, in 1958. Coca-Cola, which for nearly 75 years had produced its signature drink and nothing else, followed suit with Tab in 1963. 38 Pepsi followed that with Diet Pepsi in 1964. Coke also put out the citrus soda Fresca to go with its orange-flavored Fanta, and developed Sprite to compete with 7-Up, just as Pepsi produced Teem, its own 7-Up knock-off. 39 And there were other sodas. But the beverage industry boomed even outside the soft drink world. Carnation Company brought out breakfast-in-a-cup, Carnation Instant Breakfast, while General Foods

37 Anonymous, “The Changing World of Citrus,” 33. Of course, that was essentially the effect concentrate had on consumer diets and on the orange industry, and new industries have since sprung up to accomplish precisely this objective.
introduced freeze-dried coffee in 1964. Nestle followed suit with Taster’s Choice, and Coffee Rich and Coffee-Mate nondairy creamers complimented them.\textsuperscript{40}

It was in the midst of this rapid-fire introduction of new products that Coca-Cola bought Minute Maid. From Coca-Cola’s perspective, concentrate was just one of the new products it and its competitors acquired or developed during these heady days, and by almost any measure Minute Maid was an ideal acquisition. But while acquiring Minute Maid was merely a business decision for Coca-Cola, it was the defining moment of maturation for the young juice industry. Under the leadership of John Fox, Minute Maid was the first to perceive the potential of concentrate, and it was the first to produce it commercially. Over the course of its short history, it was the largest, most successful, and most innovative of all the processing firms. Moreover, although it had once been a part of National Research Corporation, it had operated with a considerable degree of autonomy and, significantly, it was in the business of making and selling frozen concentrated orange juice. Under Coca-Cola, a global beverage company with far greater interests than those of Florida juice, none of that mattered. Within five days, John Fox, the only president Minute Maid ever had, was gone, replaced by Ben Oehlert, a student of the new multinational corporate philosophy. Cinderella’s honeymoon was over.

As telling as the sale of Minute Maid was for the industry, more telling still was the response from growers and other processors. While many growers and processors reviled Oehlert’s ideas and all that Coca-Cola meant to their industry,

\begin{footnote}{40 Edward J. Rielly, \textit{The 1960s} (Westport, CT: Greenwood Press, 2003), 98.}\end{footnote}
some, especially larger ones, did not. In a letter to his aunt, Randall Chase wrote, "The merger of Coca Cola and Minute Maid" has "greatly firmed up the whole citrus situation. I think Coca Cola’s entry into the citrus field is a fine thing, and it will automatically have a tremendous outlet for citrus products. The inroads citrus juices have made on Coca Cola have worried them for some years." Jim Farley, "promoter of Coca Cola in Europe" mentioned in the mid-1950s that the company was trying to figure out how to address citrus to "maintain their dominating position in the soft drink field. Apparently they have done it by turning to citrus, and I am glad of it."\(^{41}\)

What Ben Oehlert, Randall Chase, and the larger processors recognized was the absolutely essential nature of diversification in the new corporate era. Consumers were not changing, per se; they simply had agency the industry had not previously recognized. To put it differently, the market was segmented and increasing profits required tapping into those markets, while also creating markets. Thus, just as not all Americans were Coke drinkers, not all Americans wanted to buy concentrate, and at the same time not all of them wanted to buy synthetics. And, the success of the synthetic market did not necessarily mean the collapse of the concentrate market. From the larger processors’ perspective, it merely meant more ways to make money from more people, and that was the reason Oehlert and others like him were in the orange industry at all.

\(^{41}\) Randall Chase to Mrs. R. C. Lasbury, Jr., 11 October 1960, Chase Collection, Record Group 1, Series 4, Subject Files 1961-1984, Box 102, Chase Groves, Inc. Board of Directors Meetings, Correspondence and Reports, 1959-64, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida. Chase changed his mind about two years later as the threat of synthetic juice grew, but had changed back by the late 1960s.
In fact, Oehlert sought to market concentrate like a soft drink. “The fundamental change that Coca-Cola has brought to Minute Maid’s policies,” he declared, “is to go from the business of selling orange juice as a breakfast medicine to the business of selling oranges in any and every form the public will take them.”

Thus, in the midst of panic over Awake and other synthetics, Oehlert openly celebrated the arrival of these new products to consumers’ consciousness, and routinely read off a list of statistics. Eighty-nine percent of concentrate was consumed at breakfast. Only 11 percent at some other time. Fifty percent of orange drinks were not consumed at breakfast. Ninety percent of juice and drink consumers preferred an orange flavored beverage. And, perhaps most significantly, in nearly twenty years no more than 30 percent of American families bought concentrate with any kind of regularity. Besides, he said, “Look at orange juice advertising. It tells mothers to see to it the kiddies take a four-ounce dose of the stuff at breakfast and forget it. It tells old folks to drink it to prevent colds. People don’t like medicine; they don’t like to do things that are good for them.” In other words, synthetics were the solution not the problem.

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46 Anonymous, “Can Orange Juice Fill Pause that Refreshes?,” 100.
For Oehlert, it was all just practical business sense. “God made many more
different kinds of people than he made oranges,” he declared.47 “Reduced to its
simplest terms, [Minute Maid is] in the business of producing, distributing and selling
citrus solids in whatever form the consumer wants. We are going to build our sales by
giving consumers the products they want, with the tastes and flavors they want, along
with quality.”48 This attitude was consistent with advice Market Research
Corporation of America had offered in its reports on the concentrate industry: “The
steady swing in consumer acceptance from the established juices to the newer fruit
drinks underlines the need for improved commercial products utilizing Florida
citrus.”49 Besides, Oehlert argued, most orange drinks did have a small percentage of
orange concentrate in them and thus the Florida citrus industry stood to benefit from
synthetics and should embrace them.50

This, however, was not a widely held view. The Florida Citrus Mutual, a
cooperative strictly composed of growers and to which more than 75 percent of them
belonged, printed a bulletin to encourage the passage of state legislation to fund an
increase in advertising. Under a large headline asking “WHY THE URGENCY?,”
was the statement, “Synthetic products are making dangerous inroads into the market
for processed Florida orange products and threaten to take a still larger share of our

49 MRCA, “Changes in the Consumer Market for Frozen Orange Concentrate.”
market."51 This was a fear even absentee growers had. Although most of them treated Florida citrus as a financial investment rather than a livelihood, they were just as vulnerable to synthetics as resident growers. R. V. Phillips, the general manager of Haines City Citrus Growers Cooperative vehemently argued against Oehlert’s theory that a product made 30 percent or less from concentrate served citrus growers as well as a product made 100 percent from concentrate.52 Citrus baron Ben Hill Griffin in a letter to “All Friends of the Florida Citrus Industry,” which included not just citrus growers and processors but fertilizer companies, transport firms, and others, encouraged a boycott of synthetics. Speaking about Awake, he wrote, “We have requested our employees and friends in our immediate area to discontinue the purchase and use of Maxwell House coffee and other General Foods products.”53

The citrus industry’s struggle with these new products reflected more than mere marketplace competitiveness. As the freeze proved in 1962, the concentrate industry was highly dependent upon unpredictable natural forces. If those natural forces happened not to be benign, both quantity and quality of raw fruit would be curtailed and effectively drive up prices for concentrate. That in turn would discourage consumers from drinking the same amount of concentrate and would, it

51 “Citrus Advertising Incentive Program,” Chase Collection, Record Group 1, Series 4, Subject Files 1961-1984, Box 90, Citrus 1965, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
53 Ben Hill Griffin to All Friends of the Florida Citrus Industry, 5 April 1965, Chase Collection, Record Group 1, Series 4, Subject Files 1961-1984, Box 155, Pasco Packing Company 1965, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
had seemed, cause at least some of them to turn to synthetic products.\textsuperscript{54} In an exchange between large grower Randall Chase and Bill Edwards, president of a major processing company, the former wrote, "Word has come to me through what I believe to be reliable sources that some of these ‘synthetic’ companies have advertising programs all ready to spring as soon as the concentrate price reaches a figure of’ about $1.70 a case.\textsuperscript{55} A related effect was the loss of valuable freezer space in supermarkets, which when gone was enormously difficult to recapture.\textsuperscript{56} Even three years after the freeze some supermarkets still did not carry any concentrate.\textsuperscript{57} A second major issue was simply that juice processors’ profit margins had always been relatively low, as the exchange between Fox and the four citrus growers in chapter four demonstrated, and furthermore varied from season to season. By contrast, returns for synthetic drinks were both high and the same year after year. The upshot was that concentrate simply could not avoid losing ground to synthetic drinks.\textsuperscript{58} Thus, most citrus growers felt that nothing short of an annihilation of synthetic products would suffice. This was manifested in a three-part advertising strategy. In the first part, the Florida Citrus Commission went on the offensive.

Acting theoretically on behalf of all participants in the industry, though in this case

\textsuperscript{57} Florida Citrus Mutual, “Where Do We go From Here?,” Chase Collection, Record Group 1, Series 3, Subject Files 1903-1960, Box 73, Florida Citrus Mutual and United Growers and Shippers Association – 1948-1965, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
\textsuperscript{58} Florida Citrus Commission: Economic Research Development, “Citrus Business Digest.”
against those like Minute Maid which very nearly pulled out of the commission, it took the position that orange juice should be presented as more than just a breakfast drink. As early as 1960 the industry had spent half a million dollars on print advertisements “structured to widen use of orange juice” by touting “Qualities besides the Vitamin C benefit.” These included a “quick pick-up,” “refreshment,” and so forth, all designed “to encourage consumers to drink orange juice after the breakfast hour.”

Regarding a similar effort in 1963, Homer E. Hooks, the general manager of the commission, declared, “What we want to do is retail the breakfast image but also point out that orange juice is good at anytime of the day and on any occasion.”

This is precisely what their advertisements did, extolling concentrate as an all-American beverage suitable for any all-American purpose. One representative ad featured the signature product on the rocks in a beer glass with the words “HOW TO EAT A HOT DOG” printed in red, white and blue overhead. Then, in the caption below, it said, “You’ve probably been gulping [orange juice] for breakfast for years. Well, just you try sipping some slowly sometime when you’re warm and thirsty. Enjoy iced orange juice while raking the leaves, reading a book, watching TV, or eating a hot dog. Come to think of it, who needs hot dogs?” Another ad, calling up images of local rock groups serenading weekend squires and charcoal burning everywhere, suggested, “On a Sunday afternoon, for example, when company comes

over for a backyard barbecue. Or when the children come in from play, all hot and thirsty.\textsuperscript{61} There was nothing, these ads directly implied, more American than working about—or laying or playing about—the suburban home.

The second approach was to brand Florida orange juice. In a speech to the Florida Canners' Association in 1964, John F. Nelson, the vice president of Golden Gem Growers, Inc., called on his listeners to encourage their industry to adopt a marketable brand. "All of you are familiar with the 'Good Housekeeping Seal of Approval.' It has become, over the years, a very potent advertising device." The industry, he said, needs exactly that sort of brand; it should develop it and then advertise it extensively. "By extolling the virtues of 'the real thing' I believe we can make [the housewife] conscious of the superiority of natural juices vs. synthetics.\textsuperscript{62}

In its 1963-1964 annual report, the Florida Citrus Commission announced its plans to do precisely as Nelson suggested, including the "adoption of the symbol 'O.J.' This symbol," the report said, "makes it possible for Florida orange juice to compete in the marketplace with an aggressiveness far beyond that normally associated with commodity advertising. Furthermore, and of the greatest importance, the O.J. symbol provides a means to identify Commission advertising and merchandizing with the specific products in the store. Heretofore, the advertising would tell the housewife to get Florida orange juice, but there was no way in the store for the housewife to


\textsuperscript{62} John F. Nelson, "A Possible Solution to the Problem of Synthetic Fruit Drinks," Howard C. Sweatt Papers, Box 1, Additives 7878-1, Florida Citrus Archives, Florida Southern College, Lakeland.
identify Florida orange juice.” Now consumers would know what was, and was not, legitimate Florida juice.\textsuperscript{63}

Advertisements thus built upon the not-just-for-breakfast image conveyed in other ads while attempting to solidify the “O.J.” brand. One ad claimed, “orange juice is long on goodness. In fact, it’s all-day goodness: delicious not only for breakfast but for lunch and supper too,” before suggesting that consumers “set some out for Santa come Christmas Eve” because “We hear he’s crazy about O.J.” Another ad excused consumers for having “gotten so used to having orange juice for breakfast that it seldom dawns on them to enjoy it at other times, too.” Like dinner. Drinking orange juice only in the morning, claimed an ad, “makes no more sense than eating ice cream only in summer. Because O. J. (Florida orange juice) goes as great with your p.m. pizza as it does with your a.m. toast. Probably greater. Because, wide awake, you’re more keenly aware of the luscious flavor of it.” So, drink it with “your very next pizza pie, pinochle game or TV snack. Or your next anything!” And a third pushed it as a late night nightcap. Under the heading of “How to Watch the Late Late Show,” it said, “Next time you want something light and liquid to go with a midnight TV snack, try a long cool drink of fresh frozen Florida orange juice. That’s right—just plain orange juice. On the rocks maybe. \textit{Sure} you can. There’s no law says you’re limited to a 4-oz. breakfast eye-opener, you know.”\textsuperscript{64}

\textsuperscript{63} Florida Department of Citrus: Florida Citrus Comission, 1963-1964 Annual Report, Florida Citrus Archives, Florida Southern College, Lakeland.

These were not universally appreciated approaches, however, as many in the industry thought it was a misguided attempt to kill the golden goose. In an article entitled “Industry Flirts with Perilous Idea of Playing Down ‘Breakfast Image,’” an anonymous author for trade magazine *Quick Frozen Foods* stated that many “industry leaders believe” this “would sell out the idea” that concentrate is healthy, and undercut the bread-and-butter, to say nothing of the origins, of their business.65 Market Research Corporation of America reports had also determined that concentrate’s best consumers were “upper socio-economic families,” and that better sales meant getting poor people to buy concentrate at about the same rate.66 Terrified and highly anxious about the long-term effects of the freeze and the loss of consumers to other beverages, these industry members believed that keeping remaining customers, getting back old ones, and further trying to capture low-income consumers deserved highest priority. The Florida Citrus Commission, in their minds, was essentially trying to capture new ground without re-establishing its foundation.

The third leg of the advertising assault was an effort to expose synthetics as frauds. This was predicated on the belief that synthetic producers misrepresented their products. Homer Hooks, general manager of the commission, charged synthetics’ advertising was “patently deceptive in that it cleverly plays up the words ‘fresh orange juice’ in the phrase ‘More Vitamin C than fresh orange juice’ whereas the product has no fresh orange juice or natural vitamin C in it.”67

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66 MRCA, “Changes in the Consumer Market for Frozen Orange Concentrate.”
supermarket advertisement in the *Des Moines Tribune* that mentioned specials, including the four-word “AWAKE—frozen orange concentrate” followed by a price, Hooks sent the clipping to a Commission lawyer and encouraged him “to send this to the Federal Trade Commission as further evidence of the deceptive and misleading nature of the basic ‘AWAKE’ advertising program.”

The commission’s advertisements reflected this outrage. One declared, “A big delicious glass of orange juice (with ice in it) goes good with almost anything, or all by itself. Mind you, we said orange juice. Not orange drink, pop, or ade. Fresh frozen orange juice from Florida. The real thing. … Nothing else takes the place of orange juice—the real thing from Florida.” Another ad was far more pointed: “Fresh frozen Florida orange juice,” it declared, “is the real McCoy. It comes from trees—not test tubes. So. O. J. is chock-full of genuine vitamin C—the natural vitamin C people need. Naturally sweet, too, for quick energy. Nothing’s added, nothing’s lost. Why settle for anything less?” A third, with a shot of a young couple seated at the breakfast table as viewed through a half-glass or orange juice, asked, “Recognize this? It’s the genuine article, the orange juice with all the natural vitamin C. Nothing’s added, the sweetness is natural. Nothing’s lost, either. It’s fresh-frozen Florida orange juice, the one and only O. J. Your system won’t accept substitutes. Why should you?”

The Commission also engaged in negative campaigning. “MOM:” declared one ad, “Mother Nature provides her children with genuine Florida orange juice.

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Don’t let chemical imitations persuade you to do less for yours.” Another said, “all that glitters isn’t orange,” anda third asked, “want a good laugh?” before saying, “Read the list of ingredients on the side of those imitation orange juice products. Funniest sounding assortment of chemicals you ever saw!” Another, one of a battery of ads run in the *Des Moines Tribune*, by all appearances the only smaller-sized city to have newspapers in which the Commission placed ads (perhaps to counter the Awake ad that so incensed Homer Hooks), said “A WORD TO MOTHERS: carrageenin Whatever it is, it isn’t in orange juice. Not real orange juice, anyway. We can’t vouch for the imitations. Who knows what’s in those! (Except maybe a chemist.)”

There was some suggestion that the advertisements might be working. In 1966, a Market Research Corporation of America study of Awake consumption found, “There is no direct evidence from the data received that FCOJ has been adversely affected by ‘Awake’. In fact, FCOJ’s recovery from the Spring of ’64 to the Winter of ’64-65 has been stronger among original ‘Awake’ triers (up 41%) than among non-‘Awake’ triers (up 25%).” Moreover, the percentage of concentrate out of all fruit juices and drinks in an average household was the same for both Awake and non-Awake homes. Thus, the MRCA concluded, Awake is a competitor for other synthetic orange drinks, and a big one at that, but is not actually a competitor for concentrate.

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70 Ibid.
71 Warren E. Savant to members of the Florida Canners’ Association, 25 March 1965, Chase Collection, Record Group 1, Series 4, Subject Files 1961-1984, Box 155, Pasco Packing Company 1965, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
Minute Maid, however, and other large juice interests were not impressed with these efforts or even their results. The key, company executives believed, was to make concentrate a more enticing product, and the best way to do that was to make it sweeter. Thus, the company leaped into the middle of a longstanding and acrimonious debate about adding sugar to concentrate. Florida concentrate had never been made with sugar, and despite periodic efforts to amend the regulatory standards, anti-sugar proponents had always dominated the argument. In 1949, F. L. Southerland, chief of the processed foods division at the USDA, sent a telegram to one of Florida’s U.S. senators, Spessard Holland, declaring in response to a possible amendment, “Proposed change would allow dilution of product through use of sugar and would seriously detract from the vitamin C content of the product as consumed, and is opposed by most of the industry here.” On the same day, Wallace Roy of Minute Maid also wrote to Holland, unequivocally stating his opposition to the amendment. Not only would sugar replace solids and thereby eliminate 25 percent of the vitamins, “Such a practice would also work to the economic disadvantage of those members of the frozen concentrate industry who are striving to produce and market a high quality pure, unadulterated product.” Even efforts to allow sugar in chilled orange juice, a then-marginally successful product, were consistently denied. In 1958 after yet another failed effort, David Hamrick of Tropicana complained that

73 Dodge Taylor et al. to Spessard L. Holland, telegram, 22 March 1949, Spessard L. Holland Papers, Box 188, Citrus Problems, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
concentrators had the luxury of storing late-season sweeter juice to add to the following year’s early-season tart juice, whereas chilled juice firms, which specialized in bottling fresh-squeezed juices, did not. The Florida Citrus Commission, the regulatory body for the industry, preferred to see firms like Tropicana import sweeter oranges from Cuba than add sugar to Florida juice.  

When, following the devastating 1962 freeze, the Food and Drug Administration allowed the addition of sugar to concentrate so long as the can was properly labeled, there was a “storm of protest.” An anonymous observer noted, “There are Florida processors who concede that the use of sugar additives could help improve, rather than destroy, the ‘naturally sweet’ image of their state’s product. But it is the general industry feeling in Florida that sugar should not be permitted under any circumstances” (italics in original). These processors feared, erringly as it turned out, that the California citrus industry would revive its concentrate operations and thus that the FDA should adopt Florida’s more stringent standards, which outlaw the use of sugar, as the national standards.  

Still, by 1964, evidence suggested that sweetened concentrate might offer the industry a way out. Bill Edwards, president of Pasco Packing Co., which made concentrate for about 100 different store brands, wrote that “while it is an accepted fact that, normally, older people prefer the more tart juices—younger people seem to prefer those which are” considerably sweeter. Thus, while processors should never

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use sugar to replace orange solids, they could use it to replace some of the remaining water in concentrated orange juice, thereby creating a heavier, more syrupy drink. “This is offered,” he said, “in a most sincere effort to accomplish the purpose of selling the younger clan—without interfering with our Cinderella product...**Pure Natural Unsweetened Concentrated Orange Juice**.”

Adding artificial sweetener to juice was another idea processors kicked around, but ultimately discarded. The central question was whether such juice could still be labeled “frozen concentrated orange juice,” since essentially the juice was a synthetic and thus would have to be labeled “frozen concentrated orange drink.” Henry Cragg, an executive at Minute Maid, wrote to Edwards that “the use of artificial sweeteners would be illegal, and it is very doubtful if it could be made legal without several years of hearings, filing of briefs, etc., and reversals of positions already taken by people in our industry.” Cragg concurred with Edwards on the addition of sugar, noting that “Actual tests have shown that not only do consumers not dislike the heavier juice, they actually prefer it by a wide margin.”

Thus, on the basis of these ideas, several processors began urging the Florida Citrus Commission to change the standards laws to permit sugar adding. Adding sugar, however, was still an extremely contentious issue and most viewed the effort as rank heresy and morally appalling. When Oehlert charged that “too many people...

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78 *W. F. Edwards to Board of Directors, Florida Canners Association, 16 March 1965, Chase Collection, Record Group 1, Series 4, Subject Files, 1961-1984, Box 147, Labor 1964-1965, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.*

appear to believe that pure orange juice is made by divine providence and shouldn’t be altered,” it was a charge that stung precisely because it was true.\textsuperscript{80} In a letter to Bill Edwards, Randall Chase suggested allowing those who want to make unsweetened concentrate continue to do so, and allowing those who would like to diversify to do so, rather than having a uniform standard banning sugar. Edwards responded, “Randall—The people opposed are the ‘Old Guard’—just opposed to change. I think we can get it put over.”\textsuperscript{81} A month following that exchange, Edwards, Cragg, and others of their mindset arranged for the introduction of a bill to amend the standards law. The bill stated that sugar-adding would be experimental for two years, and that processors could only add sugar to concentrate at a rate of 10 percent of the previous year’s production of concentrate during the first year, and at a rate of 20 percent of that same year during the second year.\textsuperscript{82} The amount of orange solids in concentrate would remain at 42 percent, the amount of sugar would be 9 percent, and the amount of water would drop from 58 percent in regular concentrate to 49 percent in the sweetened version. The final sugar to acids ratio would move from 12 to 1 in regular concentrate to somewhere between 14 and 17 to 1.\textsuperscript{83}

Edwards underestimated his opposition and the bill was not “put over,” but he did receive permission to conduct a marketing test through Pasco Packing. In the summer of 1965, his company began producing a sweetened concentrate that, with

\textsuperscript{81} William F. Edwards to Randall Chase, note, 19 March 1965, Chase Collection, Record Group 1, Series 4, Subject Files 1961-1984, Box 155, Pasco Packing Company 1965, Special and Area Studies Collections, P.K. Yonge Library of Florida History, University of Florida.
\textsuperscript{83} Ibid., 144.
the arrival of Valencias in February the following year, was ready to sell. For five
months the product was sold at Kroger grocery stores in three cities, at the same
prices and in precisely the same manner as unsweetened concentrate. At the time of
sales 1,000 shoppers were interviewed, and 715 were interviewed again 18 weeks
later. Of these customers, 9 percent had not bought concentrate before, 19 percent had
previously bought a synthetic brand, and 72 percent had been buying regular
concentrate. Many consumers expressed interest in buying the product again. “The
great majority of users of the Sweetened said that they liked the way it tastes, about
50% of these consumers said the sweetened product tastes like ‘real’ orange juice.” It
proved particularly popular with housewives under age 35, those with large families,
and those with pre-teen children, and especially unpopular with “weight watchers.”
Most importantly, “Sweetened FCOJ actually played a role in expanding consumer
demand. After being on the market for only 5 months, it accounted for over 33% of
total private label FCOJ sales in each of the test areas.”8

This was actually twice the percentage that an AC Nielsen study on potential national consumption suggested.

Even more significantly, “a very heavy percentage” of the product’s purchasers were
new concentrate buyers. John Malloy, the manager of Kroger Company’s frozen
foods division, said, “I have seen few new product results that equal it,” and gave

permission to his store managers around the country to buy it if and when it became available permanently.  

Another study the following year under different circumstances nevertheless yielded similar results. One hundred and twenty families in Philadelphia tested natural concentrate, concentrate with sugar, and a concentrate sweetened artificially with calcium cyclamate. Sixty-one percent of the families “preferred” “for the use of their whole family” natural concentrate, 32 percent preferred the artificially sweetened concentrate, and 17 percent preferred the sugar-added concentrate. Concurrently, 1,000 customers at Kroger stores in Nashville and Columbus sampled the same three concentrates, but without any of them knowing some were sweetened. Natural concentrate was “liked very much” by 33 percent, the artificially sweetened by 47 percent, and the sugar sweetened also by 47 percent. Thus, the study found, “A substantial segment of the population would prefer a sweetened orange juice.”

The result of the study proved what Minute Maid’s president Benjamin Oehlert had argued since he took the helm from John Fox. From a business standpoint, processors could not convince all consumers to buy the one product they made, but they could, perhaps, convince them to buy one of the products processors made. Oehlert may or may not have been visionary when he recognized the significance of market segmentation, given that he was hired as a president of a

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86 Florida Citrus Commission, “Artificially Sweetened FCOJ,” February 1968, Howard C. Sweatt Papers, Box 1, Additives 7878-1, Florida Citrus Archives, Florida Southern College, Lakeland. The F. D. A., however, did not allow on a permanent basis sugar to be added to any product called “orange juice” or “100% juice.”
subsidiary of a much larger corporation staffed with presumably like-minded executives, but he certainly was a good president for Coca-Cola’s new acquisition. Within five years of his appointment, he had convinced many formerly intractable processors of the value of his vision. Oehlert and his supporters recognized the simple fact that growth required diversification because consumers simply did not all want to buy exactly the same product, and no amount of cajoling could convince them all to do so. But accomplishing this objective meant running roughshod over many of their peers. Minute Maid, as powerful as it had been in the 1950s, never tried to pull off this type of coup. Throughout the 1950s, the company had a strong and mostly positive relationship both with growers and other processors, with a reputation for integrity and fairness among growers and a willingness even to share business acumen and research with competitors. This, however, was most definitely not Coca-Cola’s modus operandi.

Yet behind all of Oehlert’s observations and criticisms of the orange juice industry was the recognition of consumers’ agency. Their many differences spelled the success of some projects, like Tang or Awake, and the failure of others, like processors’ 1950s goal to turn everyone into a consumer of concentrate. Oehlert, though he thought he could position Minute Maid very favorably with consumers, nevertheless realized his company’s subordinate position in the producer-consumer

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87 Louis and Yazijian, *The Cola Wars*, 129-30. Growers tend to speak very positively about Minute Maid during this period, even when recalling disputes between them and the company, and generally are very appreciative for the contribution the company made to the orange industry. They also speak positively of Tropicana, the leading producer of not-from-concentrate orange juice, pegging the decline of harmonious relationships to founder Anthony Rossi’s sale of the company to Beatrice Foods in 1978. Growers often refer to the company in interviews as “Mr. Rossi” rather than “Tropicana.”
relationship. Processors simply could not be as profitable if they made only what some consumers wanted to buy. As the disputes over how to respond to synthetics suggest, though, profit, while important, was not the overriding goal for most citrusmen. For the larger ones like Randall Chase, who owned parts of a variety of citrus-oriented enterprises among other businesses, Bill Edwards, who owned one of the largest juice processing companies, and Ben Oehlert, who owned nothing but was president of a company that was the subsidiary of a multinational corporation, citrus was merely a vehicle for wealth creation. They were capitalists. For the thousands of smaller growers, however, who composed the overwhelming majority of the Florida Citrus Mutual and had strong influence in the Florida Citrus Commission citrus, was something closer to a way of life. This was true, albeit it less so, even for absentee growers who contracted with grove management firms. They, too, had a stake in oranges, not beverages. Smaller growers were also capitalists to be sure, but oranges and orange juice meant something to many of them that they did not to Chase, Edwards, and Oehlert. Thus they fought synthetics tooth and nail. But Oehlert was right. Not all consumers wanted concentrate, and this hamstrung those who tried to make it work anyhow while providing an opening for those of Oehlert’s ilk to seize control of the industry.

This was the latest and, with a few caveats, the final stage of the economic dynamic scholars have identified as the managerial revolution.\(^{88}\) That dynamic began in the late 1940s as processors seized upon the technological innovation of

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concentrate and became the power holders in the industry. At that time and over the
course of the 1950s, most people in Florida’s citrus industry embraced the revolution.
Within a handful of years, from about 1960 to 1965, though, that revolution
accelerated and changed shape, convulsing and consolidating Florida’s orange
industry. A handful of processors, most of whom had extensive non-concentrate
interests, joined forces with a small number of large growers, solidified their control
over the orange industry, and either converted opponents or pushed them out. And
they were able to do so because they recognized the agency of consumers and
capitalized on it.
CONCLUSION

*Breakfast without orange juice is like a day without sunshine* – Anita Bryant

This phrase was the tagline for hundreds of orange juice commercials in the 1970s. Its speaker, Anita Bryant, the former Miss Oklahoma, had turned a mildly successful singing career into an enormously successful advertising career, pitching parents and baby boomers on Florida’s signature product. Over the course of the decade, consumption of orange juice soared. In 1970, Americans per capita drank 3.7 gallons of orange juice a year. In 1980, Americans per capita drank 5.0.¹ Indeed, so successful was she at pitching orange juice that for millions of Americans, Anita Bryant was orange juice and vice versa. When she turned her talents towards leading the crusade to stamp out homosexuality, that linkage became abundantly clear. Juice drinkers around the country turned their ire not just on her but on the orange juice industry. Journalist-activists like Harvey Milk called for a boycott of orange juice. Protestors wore buttons with phrases like, “Anita Bryant Sucks Oranges.” Gay bars eschewed screwdrivers, made of vodka and orange juice, for “Anita Bryants,” made of vodka and apple juice. Although Bryant hung on as primary promoter for another three years, ultimately the Florida Citrus Commission decided not to renew her contract and one of the most successful advertising campaigns in American history was brought to a close.

¹Florida Department of Citrus, Economic and Market Research Department, *Citrus Reference Book* (Gainesville: Florida Department of Citrus, 2011), 78.
The Anita Bryant brouhaha underscored the Florida orange industry’s precarious dependency upon a variety of forces. The decision many consumers made to quit drinking orange juice, not to mention the public nature of that decision, was something few in the orange industry could have anticipated or done anything about, simply because it was a response to something and someone largely outside their control. The situation was doubly damning for them because they could not terminate Bryant’s contract without risking the alienation of, perhaps, most of America. In fact, it was safe to do so only after Anita Bryant filed for divorce in 1980 and thereby lost much of her conservative support. Fortunately for growers and juice processors, consumers as a group forgave them their trespasses as implicit Bryant supporters (or had never had an issue with it in the first place) and not only continued to drink juice but drank more than ever. Nevertheless, consumers on both sides of the political debate had demonstrated they were a force to be reckoned with and everyone in the industry knew it.

Although this was the first time any set of concentrate consumers had demonstrated their inherent power so belligerently, they had, of course, exercised that power from the moment a hundred years earlier when orange growing became a commercial enterprise. They bought within a capitalist framework; therefore, their agency as consumers provided them the opportunity to buy or not buy as they saw fit. Orange growers felt the repercussions of this fact every single day, knowing full well that failure to appease consumers meant failure to stay in business.
The history of oranges and orange juice, therefore, is not simply the story of their production. At a minimum, it is the story of a relationship between growers and consumers, two rather distinct sets of people. But growers did not personally bring oranges and orange juice to consumers’ doorsteps. Somebody else did that. Thus, the relationship between growers and consumers was mediated by a third party. That means an industry developed in Florida only because someone was willing to consume what growers grew and because someone else was willing to convey it from the latter to the former.

Given how precariously dependent upon consumers and middlemen the orange industry was, though, it is easy to lose sight of the fact that all of that dependency took place within the context of nature. Nature, in several guises, constrained the orange industry’s ability to produce something consumers or any of the middlemen wanted to buy. On some level, of course, the story of capitalist agriculture is the story of people trying to mitigate the effects of their absolute dependency upon nature. Florida orange growers were no exception. Their efforts to control and manipulate nature were integral to their production. But growers could not control or manipulate nature entirely. They could not grow oranges throughout the state, or the same types of oranges in different places, or the same quality or quantity in some places as in other places. Nor, for that matter, could consumers and middlemen ignore the fact that oranges readily perished upon picking. Thus, to a very significant degree, nature was the room in which growers, middlemen, and consumers came to do their negotiating.
Consumer agency within the orange industry manifested itself in day-to-day purchasing decisions, but it also affected growers in more complicated and less anticipated ways. Indian River growers at the turn of the century, for example, struggled to remain competitive with their peers elsewhere in the state because their growing environments yielded higher quality oranges but far fewer of them. That placed Indian River growers at a competitive disadvantage in a mass production-oriented economy. Growers from the “Interior” part of the state produced oranges in much greater quantity at far lower prices. Though they were inferior in quality, they were also much cheaper to buy. Indian River growers stayed in business, however, not merely because they promoted their oranges as higher quality but because snow birds and tourists ate their oranges then sung their praises to friends and family back home. This word-of-mouth promotion transformed the words “Indian River” into a brand signifying premium quality and the validity of the higher prices paid. These prices in turn enabled Indian River growers to compete in the marketplace.

Consumers had their handprints on the orange industry in other ways as well. One of these was a growing preference for California oranges over Florida oranges during the middle third of the century. Beginning in the 1930s, transport technology enabled California growers to sell their fruit regularly east of the Mississippi in places other than major cities. By the 1950s, few places in the country were sufficiently off the beaten path that these growers could not get their fruit there if they desired. The opportunity to choose between California oranges and Florida oranges gave consumers unprecedented ability to compare the same type of fruit grown under
radically different circumstances. California's semi-arid growing environments resulted in oranges with great color and shape, and nary a spot or mark from an insect or microbial pest. Florida's subtropical environment resulted in oranges with usually superior flavor, but not color or shape, and certainly not free of pest-produced spots and marks. Judging by all the standards available to them at the market—color, shape, size, and shine—consumers understandably chose California fruit over Florida fruit to an increasing degree and consequently, by the 1950s, put Florida growers on the verge of insolvency.

Ironically, however, just as this example of consumers' power threatened to destroy Florida's citrus industry, another example, combined with a technological innovation, saved it. Frozen concentrated orange juice, developed in 1945 and hitting the market nationally in 1949, appealed to consumers' worries about their health, their interest in eating more enjoyable foods, their desire for modern conveniences, and their economic prudence. As a product, its immediate and extraordinary commercial success breathed new life into Florida growers' livelihoods. Not only did growers' shed their well-substantiated fear of impending financial ruin, they doubled and redoubled their acreage. Within half a decade, juice had become the focal point of the orange industry. Selling oranges as inputs rather than finished goods, growers regained their financial footing and entered a period of unprecedented production and returns.

And then, fairly abruptly in the early 1960s, millions of consumers abandoned orange juice for synthetic orange beverages. Made mostly with sugar and
preservatives and containing little or no actual juice, these drinks were much cheaper than concentrate. They were also heavily advertised and far more appealing. As this shift coincided with a massive freeze in 1962 that destroyed most of Florida’s orange crop, growers’ fear of impending financial ruin abruptly reappeared. Most processing companies were also caught flatfooted, but a few others took advantage of this shift in consumer demand to consolidate and control the industry. The most prominent of these was Minute Maid, operating after 1960 as a subsidiary of Coca-Cola. Recognizing a phenomenon now referred to as market segmentation, Minute Maid shifted its focus to selling orange-based beverages rather than simply orange juice. That enabled Minute Maid and a handful of other processors to wrest control of the orange industry from the growers and establish themselves as its leaders.

Juice processors’ mid-1960s seizure of the orange industry reflected the renewed dominance of middlemen in their position as the nexus between growers and consumers. These middlemen were in a unique position to set the boundaries of consumers’ influence over growers and to limit growers’ profitability. They controlled what left Florida, which markets it went to, what condition it was in when it arrived, what price it sold at, and ultimately how much money growers made. And although they collectively formed the link between producers and consumers, they were collective in no other sense. From the 1870s through the 1930s, oranges made their way north from Florida through the hands of speculative buyers, shipping companies, auction houses, wholesalers, jobbers, stores, and street-side vendors, all buying oranges from the previous purchaser and selling them to the next. Together,
they made up the chain connecting the Florida grower to the Northeastern or Midwestern consumer. For those consumers off the beaten rail line, in smaller cities, towns, or the countryside, still more buyers and sellers were involved. And, every one of them had his or her own calculations of costs and returns and every one of them bought and sold with profit in mind. In the 1930s as supermarkets began to spring up, they consolidated these interstitial stages by purchasing directly from growers, shipping fruit directly to their stores, and selling directly to their consumers. By streamlining the orange supply chain, supermarkets created economies of scale that had not previously existed in the grocery industry, and by the 1950s they had pushed out almost all other forms of grocery retail. They had also situated themselves as the kingpins between growers and consumers. And, because their business model involved selling customers on a shopping experience as well as on the merchandise itself, they paid particular attention to the aesthetic quality of the fruit they purchased. That meant they, like consumers, privileged California growers’ beautiful fruit at the expense of Florida growers’.

The development of concentrate was therefore important to growers on this front as well. Though from their perspective processors were another middleman, for the first decade and a half growers nevertheless perceived them as an ally in the market against supermarket hegemony. Processors’ technological ability to transform oranges into orange juice made profitable virtually all growers’ fruit and thereby resolved their competitive problems with California. Furthermore, they formed tight relationships with growers, they stabilized the industry as it was beginning to careen
out of control, and their signature product was a hit with consumers. Not that the transition from oranges to juice was easy or smooth; in fact, the relationship between growers and processors had its share of growing pains. More than that, though, supermarkets—the other major middleman in mid-century—were not prepared to handle concentrate, and neither were most railroad and trucking companies. As concentrate was a frozen product, it required a life-support system of refrigeration all the way to consumers’ shopping cart. All the same, processors succeed in taking a moribund orange industry and transforming it into an enviro-industrial machine with unprecedented profits for almost all. The good feelings vanished in the mid-1960s, though. As processors became the power brokers in the industry and treated concentrate not as a signature product but as just one of many products, they effectively placed growers in a stranglehold. Dictating terms rather than negotiating them and growing their own oranges, they supplanted supermarkets as growers’ biggest headache in their effort to reach consumers and thereby earn a living.

Shot through this complicated, trialectic relationship among growers, consumers, and middlemen, of course, was the environmental significance of place. Both explicitly and implicitly, real and imagined, the specific environment in which an orange was grown—its place of origin—mattered. Growers in some regions could not produce the types or quantities of oranges other growers in other regions could. The Indian River region was the best example of that, yielding oranges of superior quality but in far fewer numbers than other growers’. This mattered to consumers, who prized Indian River oranges, but it also mattered later to processors who needed
Indian River oranges to offset the use of lower quality oranges from elsewhere in the state. The significance of place existed on a broader scale as well. Florida growers began losing the fresh fruit market to California growers in the middle of the century because of their very different growing environments. Yet, those same environments enabled Florida growers to shut California growers completely out of the internal business of selling to juice processors. Consumers of concentrate noticed those differences too, as California growers discovered when they tried to make concentrate anyway. Place mattered. From the beginning of the orange industry in the 1870s to the “Florida sunshine trees” of Anita Bryant commercials a century later, place mattered.

The 1970s proved to be the end of an era for the Florida orange industry. Over the course of the next decade, consumers shifted from frozen concentrated orange juice to pre-made, or “chilled,” juice. Such juice took one of two forms. The first of these was “recon,” or concentrated orange juice that had been reconstituted, bottled, and sold as a ready-to-drink juice. The second was pasteurized juice. This juice never underwent concentration and thus was widely regarded as having superior flavor. Companies dubbed it not-from-concentrate, or NFC, to draw consumers’ attention to the fact that it was not merely the same old juice in a new carton. Although available since the mid-1950s, the costs of production, storage, and transport were enormous and therefore the consumer market was very small. Cheaper processing techniques in
the 1980s made these juices more competitive with concentrate and sales increased. By the 1990s, NFC had become the unquestioned leader among the three.²

Three processors responded particularly aggressively to this consumer shift: Minute Maid, still under the umbrella of Coca-Cola; Florida’s Natural, a grower cooperative since the 1930s; and Tropicana, which actually launched the chilled juice business in 1954.³ As the market for concentrate declined, other processors, unable to compete with these three, dropped out of the industry. The consolidation of juice production naturally furthered the dependence of most Florida growers on processors. Roughly nine percent of the state’s growers, or about 10 percent of the state’s orange crop, belonged to Florida’s Natural and therefore benefited from this consolidation. Other growers, however, were not so fortunate.⁴

The shift in consumer tastes and further consolidation among processors may not have affected growers quite so dramatically were it not for a spate of freezes. Over the course of the 1980s, four freezes struck the state. Growers and analysts designated two of them as “major” because they resulted in considerable crop loss and grove destruction. They designated the other two “impact.” An impact freeze is regarded as “so severe that it annihilates entire groves across the state” and causes “a

³ Tropicana was owned by founder Anthony Rossi until 1978, when he sold it to the Beatrice Foods Company. Beatrice later sold it to the wine and spirits firm Seagram Company in 1988, and Seagram sold it to PepsiCo in 1998.
⁴ For more on this matter, see Alissa Hamilton’s interview-based analysis in Squeezed: What You Don’t Know About Orange Juice (New Haven: Yale University Press, 2009). Note, however, that her book is regarded by some in the industry as having “burned” interviewees because it “twisted facts” and “slammed OJ,” which is the lifeblood of every grower. Name Withheld, personal email to the author, 3 October 2011.
profound economic impact on the citrus industry.” For comparison’s sake, since 1835 when official record keeping began, Florida felt the effects of only eight other major freezes and just three other impact freezes.\(^5\) The constant freezes of the 1980s, therefore, created a sense of desperation among growers comparable to that of Plains farmers felt during the Dust Bowl.

There was, however, a still worse effect. The freezes opened wide the door for Brazilian growers to supply processors with oranges. That door had been open a crack since 1962 when an earlier freeze caused Minute Maid and Pasco Packing Company, which made generic concentrate for sale under a store’s brand, to explore orange production in Brazil. As a result, the Brazilian agribusinesses Cutrale and CitroSuco and the multinational agribusinesses LouisDreyfuss and Cargill began developing orange groves in the state of Sao Paulo. At the time, Minute Maid and Pasco Packing intended these groves to be insurance against future freezes. Trade tariffs made Brazilian oranges expensive compared to Florida oranges, and there were no processing plants in Brazil. The series of freezes in the 1980s, however, gave the Brazilian firms the opportunity to wrest control over juice orange production from Florida growers. For juice processors, this was largely incidental. For Florida growers, however, it was anything but. Tariffs continued to keep Florida growers relatively more competitive, but thousands of them quit the business after the freezes anyway. Those who remained have struggled against their subordinate position to

both the multinational juice processors and the multinational agribusinesses with Brazilian orange groves.\textsuperscript{6}

The history of oranges is the history of the confluence of these far-flung peoples within a specific natural context. What consumers ate and drank reflected decisions about taste, health, price, status, and convenience, but also on what a host of middlemen made available to them and in what condition, and on what producers were able to produce from the natural world in the first place. What those middlemen made available—what jobbers bought, what shipping companies shipped, what auction houses auctioned off, and so on—reflected their independent, profit-oriented business plans, but also what consumers were willing to eat and drink and what growers could or would grow. And what growers grew depended not just on what the market would bear or what distributors would carry but on what nature, in innumerable guises, allowed. These were intense and perilous negotiations, negotiations that paradoxically were almost always distant and anonymous, and they resulted in the oranges and orange juices that eventually made their way into consumers’ bodies. The results probably satisfied nobody fully, but satisfied everybody just enough. The irony is that those results transformed a fresh, relatively natural, and healthy piece of fruit into a frozen, processed, junk food. More ironic still, they turned a more or less family-based agricultural livelihood into today’s $7

\textsuperscript{6} Hamilton, \textit{Squeezed}, 112-113. Eighteen processors remain in Florida, down from a high of 53 in 1977; however, eight of these are owned by Cutrale, CitroSuco, Cargill, or LouisDreyfuss and almost all of them produce for Tropicana, Minute Maid, or Florida’s Natural. See also John H. Wilson, \textit{Brazil’s Orange Industry} (Washington, D. C.: United States Government Printing Office, 1980).
billion transnational orange juice industry with growers on two continents and consumers around the world.
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