Again, a majority of Americans—albeit a dwindling one—swore that they planned to comply.[138] Again, they did not. Even on the first Meatless Tuesday, butchers reported demand near normal.[139] Catholics, already committed to meatless Fridays, complained that they were bearing an unfair burden and asked, unsuccessfully, that the meatless day be switched to Friday. Within less than two months, Luckman had resigned, claiming, quite incredibly, that enormous savings had already been achieved.

Truman, calling for a "more intensified" effort, passed the job on to a three-man cabinet committee, but it was even less successful.[140] Its most important member, Secretary of Agriculture Clinton Anderson, had already said that the administration attached little importance to the Tuesday and Thursday food savings; they were mere "symbols of sacrifice."[141] On January 5, 1947, restaurant and hotel associations declared that the program was "bogging down" and advised those few members who had not already done so to abandon the meatless and eggless days as "impractical." The program's director called this "a real kick in the pants," but in fact its death knell had already rung.[142] By then food aid to Europe was slated to become part of the proposed Marshall Plan, and political and military concerns were taking precedence over hunger with regard to Asia.

Eventually Truman was able to turn the tables on his critics: One of the factors in his upset victory in the presidential election of 1948 was that he was able to blame high beef prices on their demand that price controls be removed. But by then the wartime and postwar meat shortage had taken its toll, reinforcing and perpetuating the beef-centeredness of a very carnivorous country. The idea that food was the measure of America's abundance had played a prominent role in family life during the Depression. Wartime shortages had perpetuated it. The "great gouamba" helped it hit the postwar era at full stride. It would hardly miss a beat for at least ten more years.

CHAPTER 7

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The Golden Age of Food Processing: Miracle Whip *über Alles*

"Of all the violent upheavals that have shaken and transformed the American market," said *Fortune* magazine in October 1953, "none had been bigger, or more baffling, than those affecting food." One of the few seemingly immutable laws of economics had been contravened, that formulated by the German Ernst Engels in the late nineteenth century. This simple proposition said that as family income rises the proportion spent on food will tend to fall. Yet since 1941 Americans' real incomes had risen steadily, and so had the proportion of their budgets spent on food. In 1941 the average American family spent 22 percent of its income on food; in 1953 the figure was 26 percent. At first, from 1941 to 1947, the main propulsion was increased spending for better "basic" foods such as meat, dairy products, eggs, fruits, and vegetables, particularly among low-income groups. Since 1947, however, the increased spending had been concentrated among the higher-income groups and had gone to purchase, not better food, but more foods with "built-in-service"—that is, preprepared and otherwise processed foods. "There are few jokes these days about young brides whose talents are limited to a knowledge of the can opener," said *Fortune;* "16 billion pounds of canned goods are now going down the national gullet every year. . . . One out of five home-made cups of coffee drunk in the U.S. today is made from a soluble preparation. In many supermarkets you can now buy a complete turkey dinner, frozen, apportioned, packaged. Just heat and serve." The food industry, like the auto industry, was expanding by selling more and more "extras."[1]

What *Fortune* labeled this "relentless pursuit of convenience" derived much of its initial steam from returning veterans' relentless pursuit of the American Dream.[2] With the end of the war, millions of them turned to the delayed task of family-building; one of the smallest child-bearing generations in the country's history began marrying and producing children at an impressive rate. The "baby boom" generation was on its way, and almost immediately it began to shape and distort the national agenda. Like a py-

thon that had swallowed a pig, the United States would spend the next eighty-odd years with many of its most important priorities dictated by the steady course of this massive bulge through its system.[3]

One factor encouraging the bulge was the failure of the expected postwar depression to arrive. Job opportunities continued to expand, as did real incomes, particularly among the middle class, which grew by leaps and bounds. Veterans' assistance programs such as the GI Bill of Rights spurred upward mobility by subsidizing education and skills training. In only six years, from 1947 to 1953, the number of families in the solidly middle-income group ($4000–7500 in 1953 dollars) grew from 12.5 million to 18 million, until they comprised 35 percent of all families. From 1947 to 1959, the proportion of families living on under $3000 fell from 46 percent to 20 percent, while the percentage of those earning between $7000 and $10,000, a high middle income in those days, rose from 5 to 20 percent.[4] Low-interest federal home mortgages for four million veterans helped Americans move into new homes at the rate of over one million a year, a pace that was sustained through the 1950s. Since only new homes were eligible, most of them sprawled out into suburbs, where the automobile was a lifeline to everything, including the new supermarket. In the four years after the war, Americans bought 21.4 million cars and 20 million refrigerators; consequently, they could buy more food less frequently.[5]

Food and appliance producers hardly missed a beat in switching from patriotic wartime themes to extolling the virtues of the middle-class American home and family, the new core of the mass market. Betty Crocker disbanded her wartime homemakers' legion and began a new radio program—"Design for Happiness"—on "how to create happy new homes."[6] Women were now "entrusted with the biggest morale job in history," said *House Beautiful:* redomesticating the (presumably brutalized) returnee. At first this would mean "understanding why he wants it this way, forgetting your own preferences. After all, it is the boss who has come home."[7] There was good reason to treat the boss with kid gloves, for his income was expected to provide the material basis for the family's dream—good housing, transportation, and home comforts.[8]

Women, on the other hand, were warned against asserting any war-inspired independence. Their contribution would continue to be the creative task of presiding over a happy home.[9] Marjorie Husted, Betty Crocker's creator, told advertising executives that women must be made to feel that "a homemaking heart gives her more appeal than cosmetics, that good things baked in the kitchen will keep romance far longer than bright lipstick."[10] Polls indicated that a large majority of both men and women opposed women working outside the home and believed that women who stayed home had "a more interesting time" than those who worked.[11] The few oddballs who questioned the conventional domestic division of labor were given short shrift. When a woman at a 1948 U.S. Women's Bureau conference in Washington suggested (à la Charlotte Perkins Gilman) that new apartments be constructed without private kitchens, instead being linked to central kitchens via dumbwaiters, and that other forms of hot meal delivery service be encouraged, the response was generally hostile. "I'm agin it," said Richardson Wright, editor of *House and Garden* and head of the Wine and Food Society. "The women wouldn't like it. Taking cooking out of their hands is like telling them that they can't have children. Most women find cooking gives them a chance to use their imagination. Some of them even feel it's a way of holding a husband and making the kids happy." Mrs. Roger Straus of the New York State Food Commission was also dubious. "Isn't it one more step in the direction of standardization?" she asked. "Most of us like our homes because they are individual, personal."[12]

Popular culture reflected this notion that food preparation was central to women's role in binding family ties. Wherever one looked, whatever one heard, the competent housewife in her kitchen seemed well-nigh ubiquitous. The popular radio soap opera "Ma Perkins" revolved around wise old Ma dispensing wisdom to her small-town family and neighbors amidst the clunking of her mixing bowls. Much of the action in TV's most popular family sitcom, "Father Knows Best," also took place in the kitchen and dining room. There wise and gentle Karen Anderson (Jane Wyatt) would prepare and serve properly balanced meals to husband Jim (Robert Young) and the other good-looking Andersons and become mildly exasperated when the children tried to rush through their meals to attend to the crises disrupting their lives. Harriet Nelson, co-star of "Ozzie and Harriet," seemed to hardly ever leave her kitchen. She spent much of each program surrounded by gleaming new electric appliances manufactured by the sponsor, Hotpoint. Wearing a particularly frilly apron to make the point that this involved no hard work at all, she would confidently bake cookies or prepare lunch while calmly holding conversations with manic children or commenting on her husband's latest harebrained scheme—no mean feat in the days before videotape. Many of Jackie Gleason's "The Honeymooners" TV comedy skits also took place in the kitchen, but since the lead characters were urban working class (a TV rarity), it was bare, gray, and depressing—not at all like the ideal ones in the suburban or small-town sitcoms. Alice Kramden, the sensible, all-suffering wife of Gleason's buffoonish bus driver, was forced to prepare her meals on an old gas stove and serve them in the dismal kitchen on a plain table covered with oilcloth. Nevertheless, she too was a competent cook who sported a frilly apron.[13]

The other media echoed that competent cooking was central to women's role. In the 1952 Hollywood movie "My Son John," when Helen Hayes begins to suspect that her intellectual son ("He has more degrees than a thermometer," she says) may be a Communist spy, she confronts him with her credo: "I've always gotten *my* strength from two books," she says, holding them up, "my cookbook and the Bible." Women might occasionally admit that they are not good cooks, wrote the author of a 1950 cookbook, "but they no longer boast about it. It's the *thing* to be knowledgeable about food; it's smart—and smarter still to be able to produce it, of gourmet quality, out of your own kitchen, especially if you can do it seemingly without

effort, and be gay and carefree about it."[14] That same year *Vogue* magazine insinuated that women who did not cook well were "nervous, unstable types," who would probably end up on the psychiatrist's couch.[15] "At first I found it hard to believe that being a woman is something in itself," a redeemed ex–working woman confessed to *Good Housekeeping* readers in 1951. "I had always felt that a woman had to do something more than manage a household to prove her worth. Later, when I understood the role better, it took on unexpected glamor."[16]

Dad's only culinary responsibility in all of this seemed to be to carve large joints on festive and ceremonial occasions. Although the bumbler's annual battle with the Thanksgiving turkey invariably evoked hilarity in sitcoms, it was also serious business, for it was a symbol that in the end—after Mom's alchemy in the kitchen—it was still the man of the house who would apportion the meal's centerpiece. Carving was supposed to be a skill passed down from father to son, but the fact that most men had not learned it led many to their only confrontation with their wives' cookbooks, in search of chapters such as the one in the *Good Housekeeping Cookbook* entitled "When He Carves." These featured detailed instructions for slicing and dismembering roasted meats that would have given the finest of French maîtres d'hôtel pause.[17] So inadequate did most men feel when faced with the ceremonial task that they shrank from carving almost anything else. (*Better Homes and Gardens*, thoughtfully recognizing this, recommended meat loaf meals on that account; they were "inexpensive, simple, delicious—and Dad won't have to carve!")[18]

The only other kitchen chore expected of men was dish-drying. This simple task, which required even less skill than dish-washing, was more of a social function than anything else, providing, as it did, an opportunity for couples to discuss the day's events or other important topics. (Indeed, when the Oscar Mayer meat packing company decided to get their salesmen's wives involved in a new sales campaign, it gave them free dishtowels emblazoned with the campaign's slogan to remind them to bring the topic up during the dish-drying conversation.)[19] It was also as remote from preparing and serving food as one could get without leaving the kitchen altogether, so it posed no threat to women's presumed mastery of the mysteries of food.

So complete was women's supposed monopoly over family food preparation that male food writers for women's magazines were often forced to assume female pseudonyms. Marshall Adams, one of *McCall's* best food writers and editor of its *McCall's Food Service Bulletin*, wrote under the pen name "Marsha Roberts."[20] But food prepared outside the house was a different story. It was taken for granted that the finest restaurant chefs were men. When *Better Homes and Gardens* featured seafood dishes from four famous restaurants, the recipes were credited to the male chefs of each and accompanied by the comment that this kind of "perfection in seasoning and cooking could be achieved [only] by a knowing chef."[21] Moreover, there was no question that the creative geniuses behind the much-ballyhooed

"revolution in the kitchen" were men. The trade journal *Food Processing* billed itself as "the Magazine of Applied Technology for Men Who Manage." There was nary a female face at gatherings of top food processing executives nor, of course, at the annual meetings of food chemists and food engineers. *All* of the food industry leaders surveyed about future food trends by *Food Engineering* in 1960 were men.[22]

Virtually unnoticed behind the idealized image of men "bringing home the bacon" for full-time housewives tending efficiently to their homes was the fact that many men could not pay for the new homes, cars, and appliances without a financial contribution from their wives. By 1953 30 percent of housewives were working, compared to 24 percent in 1941.[23] In 1957 twenty-two million women were working full-time—32 percent of the labor force—and over half of them, twelve million, were married.[24] By 1960 there were twice as many working wives as there had been in 1950, and the number of working mothers had increased by 400 percent. Most important, whereas before the war the vast majority of working mothers had been working class, by the mid-1950s about one-half were middle class.[25]

Food processors recognized that these women represented an excellent market for convenience foods; they did not have the time to prepare "balanced" family meals but could afford to have industry do some of it. In 1957 *Food Engineering* cited the rising percentage of working women who were married, widowed, or divorced to show that "everything favors convenience. . . . Working wives and mothers are great buyers of convenience foods." Later, it highlighted a 1960 survey indicating that almost 25 percent of supermarket shoppers were working women to stress the importance of packaging in selling to these women "shopping on the run."[26] The industrial designer Egmont Arens told industry leaders that the large proportion of the convenience food market made up by working women made it particularly important to have simple recipes on their packages: "When Mary Smith rushes home from work late in the afternoon she wants to buy food that not only will look pretty on the table but is something she can get ready in the half hour before her husband comes home to dinner."[27]

Yet working women were invisible in food advertising. They were also ignored by the recipe writers for the women's media and regarded as a negligible market for cookbooks. Instead, "Karen Anderson," who spent her day cooking and raising her family, remained their target. Top food executives who spoke patronizingly of "our boss—Mrs. Consumer" thought of her as a housewife and nothing but a housewife.[28] At the 1962 Grocery Manufacturers Association convention, the group's president (using very dubious figures) credited convenience foods with having cut the average housewife's daily kitchen time from five and a half to one and a half hours a day in ten years. There was no mention of the obvious fact that the major factor in lowering kitchen time was the growing number of working women, who had no choice in the matter. An executive of the American Can Company told the assemblage that "the packaging revolution" had helped give the American family not more time for women to work but "more time for

cultural and community activities."[29] Charles Mortimer, head of General Foods, boasted that "built-in chef service" had now been added to "built-in maid service," implying that housewives could now lead the lives of the leisured upper class.[30] Even in 1969, when it had become the norm for married women to work, the chairman of the board of the Corn Products Company saw the "social revolution" convenience foods had brought only in terms of the full-time housewife. "We—that is, the food industry—have given her the gift of *time*," he said, "which she may reinvest in bridge, canasta, garden club, and other perhaps more soul-satisfying pursuits."[31]

The repeated assurances that convenience food would indeed make for free time to play canasta were based on the postwar era's unbounded faith in the American genius for labor-saving technology. "You'll Eat Better with Less Work," *House Beautiful* had assured its readers in January 1946. It predicted that within two years they would be spending 50 to 75 percent less time on feeding their families. The bulk of food shopping would be done ten or twelve times a year rather than several times a week, and there would be more home entertaining because an elaborate company dinner would be prepared in half an hour.[32] *Better Homes and Gardens* said that canned whole meals, using technology developed by the army, would soon be commonplace on home shelves, along with canned hamburgers and frozen coffee and frozen grapes. Both magazines were enthusiastic about the savings that would accrue to consumers through prepackaging vegetables in cellophane, which would eliminate the wastage that came from dealers' mishandling and shoppers' poking.[33] The prospects of exotic or out-of-season foods flown in from the far corners of the world by giant cargo planes also excited optimism, as did the possibilities of dehydration and anhydration. "The day is coming," one writer enthused during the war, "when a woman can buy a boiled dinner and carry it home in her purse . . . when a well-stocked pantry will be reduced to a few boxes . . . when you'll serve the girls a bridge luncheon of dehydrated meat and potatoes with powdered potatoes and powdered onions, a dehydrated cabbage salad, and custard made with powdered eggs and powdered milk for dessert."[34] But above all, almost everyone agreed, the surest new path to liberation was the one carved out by Clarence Birdseye, the Gloucester, Massachussetts, businessman-inventor who developed "quick frozen" food.

Although he is often called the "inventor" of frozen foods, in fact Birdseye's most creative invention was that myth itself, which he fostered with a tale of how the idea had come to him on a fur-trading trip to Labrador, where he ate delicious fish and meat that had frozen almost instantly in the subzero weather. There were already a number of methods for freezing foods when his inspiration first struck in the mid-1920s, but they were used primarily to preserve foods that were already going bad from deteriorating further; this had fostered a connotation between freezing and low quality in the public mind. Birdseye's major contribution was quintessentially American: new packaging to overcome this poor image. Working with the DuPont chemical company, he developed a moisture-proof cellophane

wrapping that allowed foods to be frozen more quickly. Making the wrapper around it out of waxed cardboard prevented it from disintegrating into an ugly mess when the food thawed. The rotting-food connotation was combated by using the freshest possible foods and calling his foods "frosted" rather than "frozen." After a rather promising start, in 1929, only months before the stock market crash, Birdseye managed to lure megalomaniacal E. F. Hutton, head of the General Foods conglomerate, into entering a bidding war for the company with archrival Junius P. Morgan of Standard Brands—a war that, to Birdseye's enormous profit, Hutton won.[35]

This "marvellous invention" by the man who "wrought a miracle . . . *may change the whole course of food history*," said General Foods in its first advertisement for what it now called Birds Eye Frosted Foods. But the Depression economy dampened these high hopes. Home freezers were beyond the reach of almost everyone, and most grocers were unwilling to lay out upwards of a thousand dollars for the relatively small commercial chests.[36] The wartime OPA gave frozen fruits and vegetables a shot in the arm by taking them off the ration list seventeen months before canned goods were derationed, but production of home freezers had ceased.[37] When it resumed in 1946 and refrigerators with small frozen food compartments began to appear, industry optimists predicted that by 1955 one-quarter of the nation's food expenditures would go for frozen foods. Others went further and said that most of the nation's food would soon be prefrozen.[38] But then another setback occurred, as small entrepreneurs rushed frozen products of dubious quality into the market. General Foods eventually crushed most of them (in what the industry labeled the "Great Blood Bath"), but frozen food's reputation was again besmirched.[39] Who would sell frozen foods was not clear either, as special shops selling only frozen food vied with department stores, ice companies, and home delivery services for dominance. Macy's invested heavily in a line of individually frozen dinners that "went flat on their face," said its chief food taster.[40] To almost everyone's surprise, it was not food but orange juice that became the postwar era's first major frozen success story. By 1949 more of the frozen concentrate was being sold than the two previous frozen food leaders, peas and strawberries, combined.[41] In 1953 orange juice comprised fully 20 percent of all frozen product sales.[42]

Retailers' display cabinets had remained small and expensive into the 1950s, but the development of large open-top freezers for self-service establishments paved the way for supermarkets to dominate frozen food sales. By then Swanson's had come up with frozen individual meals, which, although they excited few palates, were serendipitously named "TV dinners." This tie-in with the era's TV boom allowed consumers to rationalize the obvious lowering of dining standards with the excuse that they were intended to be eaten in untypical circumstances—in front of the TV set—even though this was rarely the case.[43] "Advances" such as this and the development of main course treats like chicken à la king (an early popular favorite) led frozen foods' relentless march onto the nation's dinner table.

Frozen vegetable sales—led by brightly colored green peas and less dazzling string beans—boomed in mid-decade, particularly as large institutional kitchens switched to them. While sales of canned goods continued to outstrip them, by the end of that decade the gap was narrowing.[44] By 1959 Americans were buying $2.7 billion worth of frozen foods a year, 2700 percent more than in 1949. Over half a billion of these dollars were spent on "heat and serve" prepared dishes.[45]

Freezing was by no means the only process transforming American food production. Food producers talked of facing what they called the "fixed stomach": Americans could not be persuaded to eat more food.[46] Increased profits would therefore have to come mainly from two sources—economies in production and more value added to what they produced. The first was achieved in the conventional American fashion, by replacing humans with machines. For more than fifteen years after the war, most of the new investment in the industry went not to expand production but to mechanize it. "Continuous" operations replaced "batch" processing, eliminating human handling at various stages in everything from butter-making to bread-baking.[47] At the La Rosa Company's giant new pasta factory, noodle-making was turned into a continuous hands-off operation. Automatic equipment sucked up the semolina from freight cars, filtered it, dumped it into mixers, and then extruded, dried, and cut it. Frozen food producers installed machines that took foods from a conveyor belt into a breading contraption, plopped them into hot fat to be automatically fried, drained them, and slipped them into trays for freezing. Bakeries were "robotized" with new precision instruments regulating dough-mixing, fermenting, proofing, and cooling.[48] As a result, small processing companies fell by the wayside, bought out or driven out by larger ones seeking diversification or economies of scale. Even canning companies, historically a haven for small rural entrepreneurs, were affected. From 1947 to 1954, their number declined by almost one-quarter even though production increased. "This shows how rapidly food is becoming an industry of large-scale manufacturing operations," said *Food Engineering*.[49]

The other aspect of the postwar industry's structure—the drive for more value added—was based on the idea that processors had something almost as valuable as sustenance to sell to busy postwar housewives: time. Longer shelf-lives, more processing, precooking, and packaging all had one great justification: to liberate "Mrs. Consumer" from the drudgery of the kitchen. Indeed, there is a paradoxical contrast between the processors' advertisements, which, like the women's media, portrayed cooking as an interesting, nurturing, and creative pursuit, and their claims that new processing techniques and packaging would free women from this boring, unpleasant task. Asked in 1957 why people wanted things so "highly packaged," the president of Campbell's Soup replied: "To save trouble. The average housewife isn't interested in making a slave of herself. When you do it day after day [cooking] tends to get a little tiresome, and the young housewife is really less interested in her reputation as a home cook today. . . . She doesn't regard slaving in the kitchen as an essential of a good wife and mother."[50] The American Can Company claimed that in 1951–1952 frozen orange juice had saved housewives the equivalent of fourteen thousand years of "drudgery."[51]

By 1954 the value added to the cost of food by manufacturing was already 45 percent higher than in 1939. It continued to rise, until by 1959 it had accounted for most of the decade's increased spending on food.[52] By then chemical producers were among the main beneficiaries of the trend. Immediately after the war, chemists had set about putting wartime innovations to profitable peacetime use. Many schemes, such as those hoping to sell upgraded C-rations in supermarkets or to use army-developed dehydration techniques to reduce almost all foods to powders, did not work out. The inevitable predictions of meals-in-a-capsule were also, as usual, farfetched. But the chemists' major opening came from the fact that most of the current techniques for processing, preserving, precooking, and packaging had one thing in common: They made foods lose their taste, texture, and normal appearance.

The result was a kind of Golden Age for American food chemistry. From 1949 to 1959, chemists came up with over four hundred new additives to aid in processing and preserving food.[53] Preservatives such as calcium propionate extended the shelf-life of bread and seemed to promise virtual immortality for some kinds of baked goods. A whole array of chemicals prevented foods with fat from going rancid. Others stopped their color from fading.[54] Frozen and dehydrated foods were sprayed with sulphur dioxide gas or dipped in solutions containing sulfites to achieve the same ends.[55] "Smootheners" such as hydrolized starch, which could withstand the heating, freezing, and mechanical manipulation of modern food-processing, were a boon to manufacturers of baby foods, pie fillings, puddings, gravies, and stews.[56] New food colorings provided scope for creativity in conjuring up illusions of freshness. Sophisticated flavoring agents liberated manufacturers from dependence on natural fruits and flavors. ("There are not sufficient strawberries grown in the world to supply the demand for strawberry flavor," said a researcher for General Foods, makers of Jell-O, a bit defensively.)[57] One miraculous substance, monosodium glutamate, was even found to enhance desirable flavors and suppress undesirable ones![58]

Food processors got agricultural scientists to pitch in by developing foods more suitable for processing. In 1945, at the urging of A&P Stores' poultry research director, representatives of ten poultry organizations, the USDA, and two poultry magazine editors organized a national Chicken-of-Tomorrow Contest to underwrite the development of a better—that is, cheaper to produce and easier to market—chicken. The cross-bred finalists assembled at the University of Delaware in 1948 formed the basis for new breeds of battery chickens that were meatier, with broader breasts, thicker drumsticks, and fewer blemishes than their scrawnier, barnyard-scratching (albeit tastier) ancestors. The synthesis of Vitamin B_{12} in 1949 allowed that growth vitamin to be added to feed. This helped chickens grow faster while

lessening their need for protein, making chicken feed cheaper. The next year, researchers discovered that the contagious diseases and depressed growth caused by the stress of crowded batteries could be alleviated by adding antibiotics to the feed. Now, the number of broilers in the same "house" could be increased from three thousand to more than twenty thousand and even forty thousand. As a result of these and other innovations, the feed conversion ratio—that is, the number of pounds of feed it takes to produce one pound of chicken—was slashed dramatically, and the length of time it took to produce a fully developed four-pound chicken plummeted as well. In the words of proud poultry scientists, "chicken on Sunday became an everyday treat."

Another expert marveled at the "spectacular results" antibiotics and vaccination had achieved with livestock, allowing the number of cattle crowded together on feed lots to be increased from hundreds to tens of thousands.[59] Scientists working on their relatives in dairy herds were no slouches either, particularly as "hormonizing" techniques grew more sophisticated. By 1974 there were only half as many dairy cows as in 1950, but they were producing just as much milk. In agriculture as in food-manufacturing, however, more efficient production meant the demise of the small operator. Eighty-five percent of the dairy farms working in 1950 had gone out of business by 1974.[60]

Yet, as in food-manufacturing, the so-called advances were in the economics of production, not in taste. It was widely acknowledged that in practically all spheres taste had been a casualty of processing. Food trade journals were full of articles about and advertisements for flavoring agents, all of which assumed that they were to be used to replace tastes lost during processing. Even *Fortune* magazine—no critic of the food industries—acknowledged in 1952 that "it is hardly surprising that, in the opinion of many, the flavor of American food and drink—in jars, cartons, cans, fifths, and pints—leaves something to be desired."[61] At the producers' level, everyone involved in breeding, whether of animals or plants, understood that there had to be trade-offs for gains in economy, appearance, or shippability, and taste was the most easily traded-off quality.

This was particularly so in America, where food industry moguls had a generally low opinion of consumers' taste buds. How else explain the 1959 interview in which the president of Campbell's Soup, with a straight face, told an interviewer that the "biggest improvement" in food production in the past twenty-five years had been "in the breeding of plants to get better flavor in vegetables and fruits"? Even "the tomatoes are better," he said. "They have higher color and higher flavor. And that is typical of many vegetables."[62] The manager of the frozen foods division of Marshall Field & Co. harbored no such illusions. In 1956 he told the Grocery Manufacturers Association that most frozen vegetables and fruits were tasteless, "with absolutely no comparison to the fresh product except in appearance." This was because hotels, restaurants, and other institutional users had complained that the first packs of frozen peas shipped to them, which were

young, sweet and fresh, broke on steam tables and produced unacceptable amounts of waste. As a result, packers now let vegetables mature beyond their prime or switched to hardier but less tasty varieties.[63] Ordinary consumers apparently did not notice the difference.

Nutrition seemed of even less concern than taste. "Every woman likes to say she thinks a lot about the health of her household," said an industry analyst in late 1945, "but nutritional considerations are more of an undertone than anything else in the planning of family meals."[64] Other industry leaders dismissed out of hand those who continued to harbor prewar concerns that nutrients were lost in processing. "Today's processed foods have a food value at least equal, and often superior to, raw produce," said Paul Willis, president of the GMA, "but many housewives are still spending countless hours preparing raw produce in the erroneous belief that they are feeding their families more 'healthfully.' "[65] A Pillsbury vice-president noted rather smugly that market research into the effectiveness of advertising the protein content of cereals revealed that housewives were abysmally ignorant of what protein was and what it did. They knew only that it was a good thing and that their families should have some of it.[66]

A remarkable aspect of the postwar transformation of food-processing was the minimal extent to which it affected traditional American tastes in food. One reason was that most of the effort went into "improving" familiar foods and products. It took about five years and a large investment to introduce a completely new product, while "new and improved" foods such as Heinz "hot" ketchup (one of the big busts of 1959–1960) or new flavors of Jell-O could be whipped up in a year or so. Indeed, despite their self-congratulatory back-patting over their innovativeness, the food-processing industries consistently ranked near the bottom in the proportion of sales invested in research and development—a "mediocre" performance at best, according to one study. In 1962 the large processors employed only 10 to 15 percent more scientists than in 1939.[67]

The "new foods" columns, in which women's magazines regularly waxed ecstatic over their advertisers' innovations, were in fact dreary recitations of minor variations on ancient themes. *Better Homes and Gardens*'s "These Foods Are News!" column in 1959 and 1961, for example, was full of distinctly unnewsworthy products. "Potato salad from a package!" hardly seemed a miraculous labor-saver. A six-ounce box of dehydrated potato slices had to be boiled, seasoned with a packaged mix, and chilled before mayonnaise and hard-cooked eggs were added. New packaged soup mixes were the old standbys: tomato, mushroom, and chicken and rice. Canned condensed cheese soup was hailed as delicious on its own and as a sauce for vegetables or an ingredient in casseroles, hardly different roles than canned mushroom soup had been playing since the 1920s.[68] When Charles Mortimer, head of General Foods, chafed at the limited number of vegetables there were to process and ordered his experts to find a "new" one, they came up with—not finnochio, chayote, or Chinese eggplant—Rolletes, a mixture of pureed carrots and peas frozen on a stick.[69] Innovative packaging enveloped the same old

foods. Alcoa's new boil-in-the-bag aluminum packages were used mainly for macaroni and cheese. It developed an ingenious package for steaming frozen foods on the stove—a three-shelved aluminum tray with ice on the bottom shelf—but its main customer, the Gunsberg Company of Detroit, used it only for corned beef.[70] Even those radically new products that did strike it rich, such as cake mixes (only ten years after hitting the market in 1947 they were being used for over half the country's home-baked cakes), were usually new ways of preparing old foods.[71]

While some scientists worked in corporate labs to improve processing, others were out front defending it. The Nutrition Foundation, set up in 1941 by the major processors to fund research on how to revitalize foods, was used to marshal scientific opinions to correct "superficial and faddish ideas" and to combat those questioning any of the 704 chemicals that by 1958 were commonly used in foods.[72] When a lone congressman, James Delaney of Brooklyn, managed to parlay some political debts into permission to head a special committee to investigate the use of chemicals in food in 1950 and 1951, scientists with the food and chemical industries at first refused even to defend their practices. The National Agricultural Chemicals Association denounced testimony that DDT was present in cow's milk and seemed to accumulate in human body fat as "careless and unsubstantiated criticism" that threatened "to injure large segments of agriculture" and created "an unjustified fear" among consumers.[73] In late 1951, after testimony that chemicals used to make bread softer and whiter might be harmful received some publicity, the Food Protection Committee of the National Research Council reported that, "contrary to some ideas that had been circulated, reliable food processors had not reduced the nutritional quality of foods or created inferior products through use of chemical additives."[74]

In 1959 the H. J. Heinz Company hired a slew of the nation's most prominent nutrition experts to oversee the *Heinz Handbook of Nutrition*, a comprehensive reference manual intended to cover the entire field of nutrition. Subsequently translated into Spanish and Arabic, it warned that "discussions of modern methods of food manufacture inevitably highlight partial losses of a number of valuable nutrients during processing . . . while the large number of advantages are ignored or taken for granted." The advantages included providing more balanced diets for urban populations and the development of processed infant foods that provided "essential nutrients seldom supplied before when they were needed most."[75]

Some scientists went further, hailing processing as adding nutrition. "Often the availability of certain nutrients in natural foods can be improved by a proper degree of processing," said the well-known biochemist Conrad Elvehjem, soon to become president of the University of Wisconsin.[76] The head of food science at the University of California at Davis admitted that nutrition came last in the order of the food qualities that food scientists worked for, but this was because "if food isn't safe, convenient, good to eat and resistant to spoilage most people would throw it out regardless of its nutritive value."[77]

Government agencies also provided solid backing for the new food technology. In 1951 the FDA, jogged by the Delaney committee, had begun to demand more power to police food additives, but the Eisenhower administration, which took office in early 1953, was unsympathetic to this kind of government regulation of industry. In 1958 Congress mandated that it play a more active role, but its deputy commissioner saw the new powers as allowing more reassurance, not enforcement. Perhaps, he told the New York State Bar convention, they would "allay public concern over its food supply" caused by "incorrect" reports that carcinogenic chemicals were being added to food. The speaker who followed him, Dr. Phillip White, secretary of the AMA's Council on Food and Nutrition, agreed, assuring the lawyers that the quality of American food had never been better.[78] When some renewed concerns about "overprocessing" of foods arose, the FDA issued a pamphlet—thousands of which were distributed by processors—saying there was no such thing. "By patronizing all departments of a food store we can easily supply all of our nutritional needs," it said. "The American food supply is unsurpassed in volume, variety, and nutritional value."[79] Experts at the USDA and the state agricultural experiment stations, who devoted considerable effort to developing new ways of processing foods, were also supportive. In 1953 they hosted a "research luncheon" at the USDA laboratories in Beltsville, Maryland, for President Dwight D. Eisenhower, which included powdered orange juice, potato chip bars, a whey cheese spread, "dehydrofrozen peas," beef and pork raised on new (hormone- and antibiotic-added) feeding methods, and lowfat milk.[80] USDA home economists set about proving that not only did processed "convenience foods" save the housewife time, they also saved her money.[81]

This enthusiasm about the new ways of processing foods was paralleled by appreciation for that most visible new way of buying it, the supermarket. These had first come on the scene in the early 1930s, but their development was held up by Depression economics and wartime shortages. Chains such as A&P, which were the most dynamic segment of the grocery network, consisted mainly of relatively small stores, often little larger than the thousands of independent corner grocery stores they drove out of business. Their great advantage lay in their enormous purchasing power and centralized warehousing systems, which allowed them to get price concessions from manufacturers and save on distribution costs. After the war their capital resources gave them a head start in the rush to construct new suburban supermarkets and allowed them to shed most of their smaller inner-city stores and convert the rest to supermarkets. As a result, from 1948 to 1963 large chains increased their share of the nation's grocery business from 35 percent to almost half.[82] As early as 1956 the independent corner grocery store, while still visible, was a relic of the past. Full-fledged supermarkets accounted for 62 percent of the nation's grocery sales, while smaller, self-

service "superettes" took in another 28 percent of the food dollar, leaving the 212,000 small food stores to share 10 percent of the market.[83]

Supermarkets, with their dizzying arrays of processed foods, came to be regarded as quintessential symbols of the triumph of American capitalism. In 1957, when the U.S. government wanted to display "the high standard of living achieved under the American economic system" at the Zagreb Trade Fair, it reproduced a supermarket stocked with American processed foods and produce.[84] Simultaneously, across the Adriatic, where, according to William B. Murphy, president of Campbell's Soup, Western Europeans were "twenty-five years behind us [in] the kitchen revolution," the government mounted an exhibit at Rome's Levant Trade Fair that revolved almost exclusively around American food-processing equipment. Thousands of Italians walked under an eye-catching six-foot-high "U.S.A." sign to watch, presumably in awe, while a machine halved local peaches, removed their pits, peeled, washed and then refrigerated them in readiness for freezing.[85] Two years later, when Vice-President Richard Nixon stood amidst the glittering white kitchen appliances at the American exhibition in Moscow ("a lavish testimonial to abundance," the *New York Times* called it) and engaged General Secretary Nikita Khrushchev in the famous "Kitchen Debate" over the merits of their two systems, he pointed to the number of choices it provided in consumer goods as evidence of capitalism's superiority. (When he remarked that the appliances were intended "to make the life of our housewives easier," Khrushchev replied, "Don't you have a machine that puts food into the mouth and pushes it down? Many things you have shown us are interesting but are not needed in life.")[86] The next year, when Khrushchev visited America, he and his party were taken into a San Francisco supermarket. "The expression on their faces was something to behold," one of the hosts, Henry Cabot Lodge, told the Grocery Manufacturers of America.[87]

Not all foreigners were impressed. The bountiful Thanksgiving dinner displayed at the 1957 Dijon Food Fair elicited typically Gallic skepticism. "Who has an oven big enough to cook something like that?" said one woman, contemplating the monstrous turkey. Another, reflecting a common European conception of American food, wondered why the Americans had a gastronomic exhibit at all when everything they ate came from cans.[88]

The ascendancy of the supermarket played a major role in reshaping the marketing of processed foods. A 1960 DuPont company study indicated that there had been an unprecedented rise in "unplanned"—that is, impulse—purchases since a previous study in 1949. Most of it was attributable to supermarket shopping, for close to three-quarters of all supermarket food purchases were unplanned.[89] This kind of buying was not welcomed by the established food manufacturers, for it threatened their bread-and-butter, brand loyalty.[90] It also undercut the incentives producers' salespeople had traditionally offered to grocery store owners and their clerks. As the head of a major advertising agency explained, selling food products in self-service stores eliminated entirely "the possibility of substitution by a friendly or inimical clerk."[91] Now it was one-on-one, as it were, between the processor and the housewife, with no referee. As a result, packaging and marketing became much more important than ever. Psychologists with horn-rimmed glasses now prowled supermarket aisles, clipboards in hand, to determine why consumers picked certain foods off of shelves and not others, trying to turn packaging, hitherto a seat-of-the-pants affair, into a science. Raymond Loewy, perhaps the most brilliant American industrial designer of the century, was hired by Armour and Company to redesign its entire family of over four hundred meat and dairy products.

"In the modern super market women are no longer cajoled into buying a particular brand," wrote the prominent industrial designer Egmont Arens. "As a result, an entirely new kind of package design has developed. Instead of a package which was merely a poster, attractive at a distance, today we design a package for 'readership' "—a quality that would entice "the ladies who trundle their little shopping wagons among the shelves and tables" to pick up the package and read about its contents. "High impact colors" were essential for this first, "stop-traffic" part of the process, he said. When he redesigned A&P's coffee bags, Arens convinced company executives that vibrant reds and yellows were the way to go by taking them to the top of the Empire State Building and noting that the only autos that could be discerned were of those two colors.[92] Later "color studies" claimed to be much more sophisticated, telling packagers such things as that women reached most readily for red packages, while men were more attracted to blue.[93]

The new importance of marketing was reflected in the loftiest corridors of processors' power. When General Foods, the largest food conglomerate, selected a new top officer in 1954, it chose not a production or financial specialist but a marketing expert. This acknowledged, said *Time*, "that the emphasis in the food business has moved more and more from manufacturing to marketing."[94] In 1956 Unilever hired W. Gardner Barker, a market researcher, from Simoniz Wax to be in charge of new products at its Lipton subsidiary. Three years later he was chosen to head the company, where his distinguished career was highlighted by the successful introduction of Cup-a-Soup.[95]

With the ascendancy of marketing, spending on advertising soared. Much of it still echoed prewar themes. Wesson Oil gave recipes for "Man-Winning Tomato Salad"; Pillsbury promised that its new pie crust mix would "put a loving look in your husband's eye."[96] Its immensely successful Pillsbury Bake-Off, begun in 1949, was a national version of the cooking and baking contests that had been transfixing women at state and county fairs for many years. General Mills stuck with ageless Betty Crocker—in whom by 1954 it had invested thirty years and over a hundred million dollars—allowing only a streak of what may have been gray in her cartoon image's hair. Although her new radio personification, singer and actress Adelaide Cummings, was a dazzling blonde ex–fashion reporter who lived in a Park Avenue apartment, her radio persona was distinctly down-to-earth. Her scripts

remained what *Sponsor* magazine called "models for the integration of selling and programming . . . an example of how to tie product and program together so naturally they seem like one unit."[97] Advances in color photogravure that reduced the cost of color advertisements in magazines helped reinforce the old home economics lessons about the importance of presentation. Bright pictures of canned peas, corn, pineapple, and tomato sauces, arranged in perfect circles, squares, or triangles, virtually leapt from the pages.[98]

But by 1950 one theme had come to dominate all else: convenience. "Quick 'n' easy," "heat and serve," and "ready in a jiffy" beat tattoos on the pages of the magazines and echoed on the radio and TV. Among the most memorable were the commercials on an immensely popular live drama show of the 1950's, "Kraft Television Theater." While disembodied hands effortlessly mixed Miracle Whip, Kraft marshmallows, Kraft caramels, and Velveeta into some rather bizarre concoctions, the soothing voice of an off-camera male announcer assured housewives that these "easy to make" recipes were "bound to please" everyone in the family. A typical one demonstrated a "speedy way to put together a tray of good-eating snacks . . . in a jiffy" with four different kinds of Kraft "cheese food."[99] Another suggested "Cheese Rabbit" for a quick one-dish dinner: a jar of Cheese Whiz mixed with a can of kidney beans, some onion, pepper, margarine, ketchup, and Worcestershire sauce.[100]

General Mills, grounded in the faltering flour industry, managed to emerge from the decade stronger than ever thanks to its timely development of convenience foods. Until the late 1940s, Betty Crocker had devoted much more effort to promoting Gold Medal flour than to Bisquick, a premixed biscuit and batter mix.[101] By 1950, however, Bisquick, which saved some preparation and baking time, was getting much more play. Then, in mid-decade, both the flour and Bisquick took back seats to her cake mixes, which became one of the great marketing success stories of the time. When originally developed, the mixes had demanded the addition of nothing more than water. However, marketers soon realized that cake-baking was still too important a part of the housewife's self-image to eliminate her contribution completely. They therefore had the directions changed slightly to require the addition of one egg. "Betty" also encouraged minor additions to the basic cake mixes to foster the illusion of individuality. Yet they did not stray from the formula that made her the most successful recipe dispenser of the era: Keep them "simple, quick, and right."[102] Other processors marched to the same simple beat. Arens, the revered package designer, told food producers that recipes on packages must be simple and quick and that the results should be simple as well. "Overelaborate dishes usually are not the kinds that women want for everyday meals," he warned.[103]

Whatever might be said about the gastronomic or nutritional merits of the processors' products, their ascendancy helped buttress the American ideal of a classless society. The war, as we have seen, had had a leveling effect, and some of this egalitarian thrust persisted—at least with regard to food—

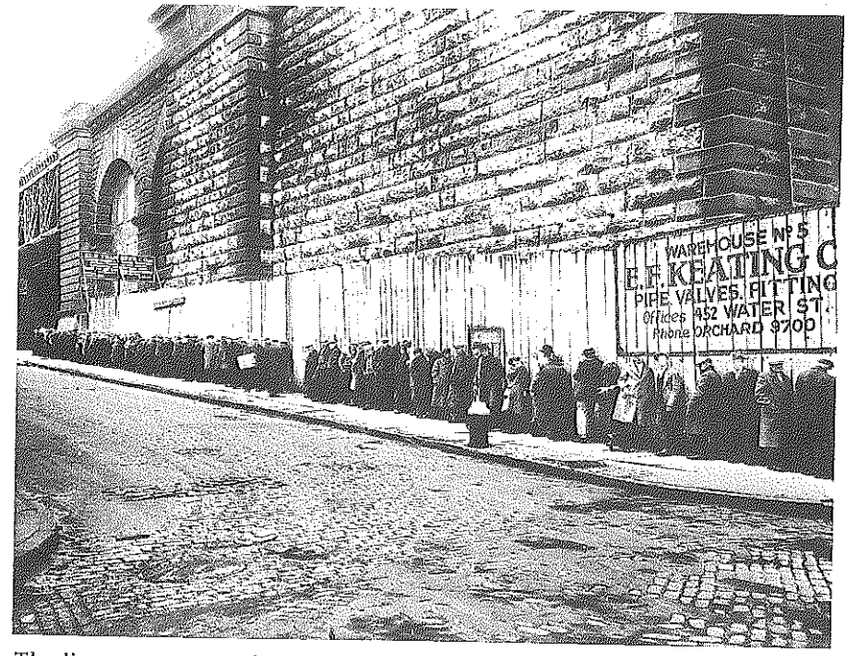
through the 1950s. Although class differences certainly persisted, Americans were not especially conscious of them. This was particularly true of the middle-class suburbanites who now set the nation's cultural tone. William H. Whyte noted in his study of Park Forest, Illinois, a middle-class suburb of Chicago: "It is classless, or at least, its people want it to be."[104] Studies of suburban life such as his indicated that social status was based much more on social activities than on family, occupation, property, or consumption habits—including food.[105]

The nature of the food-processing innovations of the 1950s, which mainly brought old familiar foods in different packages, also inhibited food from becoming an important mark of class and status. They were aimed not (as would later be the case) at particular "upscale" niches of the market, but at what *Life* magazine called in 1957 the new "mass-class market" of middle-income families, earning between three and ten thousand dollars annually, who now comprised 63 percent of the population and accounted for 72 percent of consumer purchases. This was the market for convenience foods, noted *Food Engineering*.[106] The weekday dinner table at a corporate lawyer's household in upper-middle-class Flossmoor, Illinois, looked little different from an insurance company clerk's in Levittown, New York: Campbell's canned or Lipton's dried soup, broiled meat, frozen french fries, and a frozen green vegetable, with supermarket ice cream or a Jell-O concoction for dessert—an All-American "square meal." Popular dishes such as tuna and noodle casseroles transcended class lines. The recipes upper-middle-class Vassar College alumnae in New Haven, Connecticut, contributed to their fund-raising *Vassar Cook Book* differed little from those in similar books produced by women considerably below them on the social scale, particularly in reliance on the same processed foods. "Spaghetti West Texas" had a sauce of ground beef, canned tomato soup, and canned corn. The meat loaf was a bit unusual in that it contained a can of Campbell's Vegetarian Vegetable soup, but its ketchup sauce was a familiar sight on tables from Palo Alto to the Bronx.[107]

Nor was there much to be expected in terms of distinctive food tastes from the old upper class. They now feared another wave of war-profits-bloated nouveaux riches would invade their sprawling Westchester mansions and rugged Kennebunkport "cottages." But while their Gilded Age forebears had tried to outdo the parvenus in lavish entertaining and dining, they adopted a strategy of "conspicuous underconsumption," which meant serving more or less the same food as everyone else.[108]

In 1962 Charles Mortimer, chairman of the board of General Foods, credited the food industry's research and development effort with "making possible the enormous processing plants and their time-and-labor-saving output of the best eating the world has ever seen."[109] The kind of food he meant was almost certainly reflected in the list of the most popular TV dinners at that time: fried chicken, roast turkey, Salisbury steak (hamburger), and roast beef—simple food that exemplified the straightforward nature of America's dominant position in the world economy.[110] Perhaps it

was natural that, in an era when Americans brimmed with confidence in the superiority of their political, economic, military, and even cultural institutions, they should feel similarly about their food and those who produced it. In any event, this certainly seemed to be the case. That same year, when Elmo Roper's pollsters interviewed 1173 shoppers, almost all female, outside of supermarkets, only 4 percent of them had any suggestions for improvements to be made by food manufacturers—and these dealt mainly with easier-to-read labels.[111]

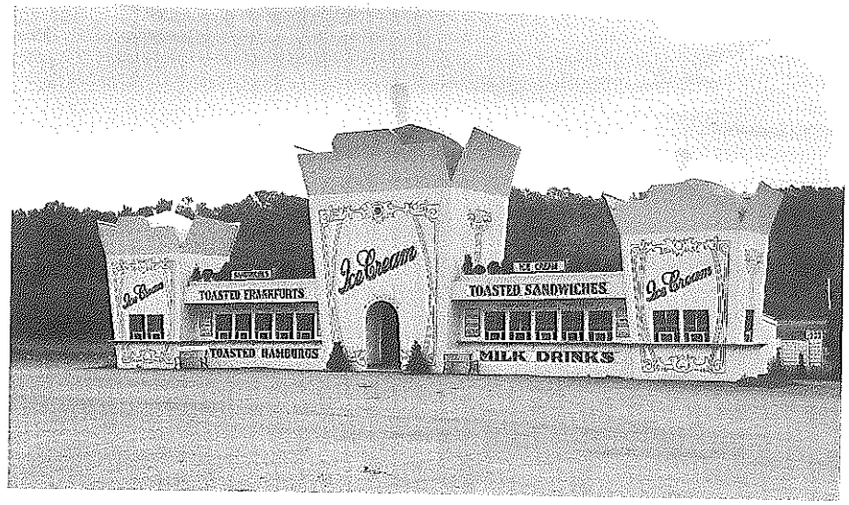


The line-up at a soup kitchen under the Brooklyn Bridge in the early 1930s. Mobster Al Capone's organization was among the many that sponsored breadlines and soup kitchens during the Great Depression. (Library of Congress)

A 1933 addition to the White Tower chain of restaurants, whose sparkling appearance helped assuage the traditional suspicion of restaurants' ground meat. They were often strategically placed along mass-transit lines to attract a working-class clientele. (Paul Hershorn and Steve Izenour, White Towers, copyright © 1979 by the Massachussets Institute of Technology)

Christmas dinner of potatoes, cabbage, and pie at a farm on submarginal land in Iowa, 1936. Until the 1960s, the most serious problems with hunger tended to be concentrated in rural areas. (Library of Congress)

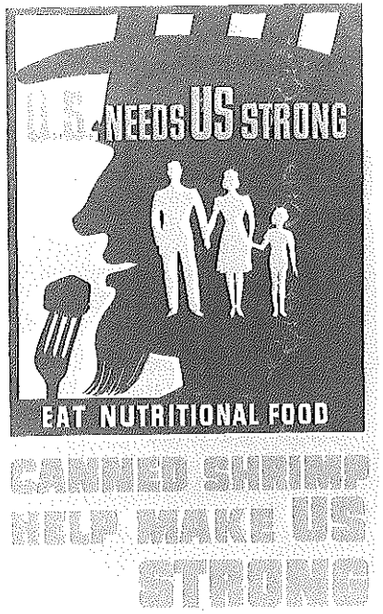
The Depression stimulated a renewed emphasis on women as homemakers, as well as pressure to save money by entertaining with dinner parties at home, as evidenced in this advertisement for American Home *magazine, published on September 18, 1939, shortly after Germany invaded Poland.*



One of the many restaurants which sprang up along the nation's highways during the 1930s which, like Howard Johnson's, tried to lure motorists with their eye-catching appearance and the promise of a clean alternative to the thousands of run-down hot dog stands, barbecue joints, and other food shacks which also lined the highways. (Library of Congress)

Women and children lining up in Detroit, Michigan, in the spring of 1942, to be issued the first ration books, for sugar. Although it was hardly onerous by the standards of other belligerents, food rationing turned out to be quite a trauma for the self-described "people of plenty." (Library of Congress)

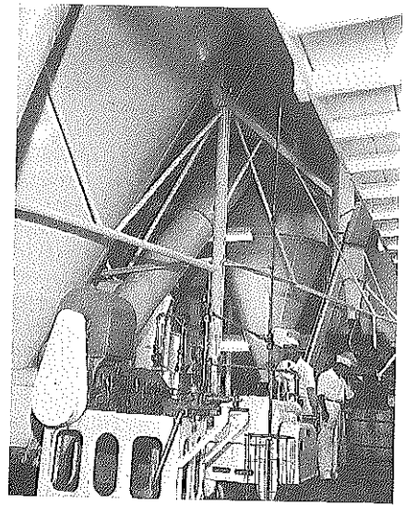
Soldiers in "the best-fed army in history" pass the milk at noon "chow" at Fort Belvoir, Va., in January 1943. By any standards, the amounts of food allocated to the armed services were truly enormous. (Library of Congress)



A War Food Aministration poster trying to persuade Americans to eat foods which were not rationed. Government attempts to promote voluntary conservation of food were notably unsuccessful.

A Copenhagen fishmonger offers Herbert Hoover an eel during the ex-president's world tour in 1946 as head of the Famine Relief Committee, which tried, with little success, to persuade Americans to cut down their food consumption to provide provisions to send abroad. (National Archives)

Photograph distributed abroad by the U.S. Information Agency in 1958 to impress foreigners with the achievements of American industry. The housewife stands amidst her gleaming appliances displaying some of the processed, packaged, and plastic-wrapped foods she bought at the supermarket. (National Archives)



An enormous new machine for drying eggs for use in the new methods for manufacturing foods developed in the 1950s, "The Golden Age of American Food Processing." (National Archives)

A 1959 USIA photograph of a family praying before breakfast. Wonder Bread is about to be pushed down into the toaster, and each bowl contains a piece of shredded wheat. Four children per family was not untypical during the "Baby Boom," which produced the generation which would set the rest of the century's cultural tone. (National Archives)