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THE ORTHODOX DEFENSE: THE WAR OF THE METAPHORS

The food industry zeroed in its big guns on the insurgency right away. If the countercuisine functioned through networking, so did mainstream cuisine. A loose alliance of agribusiness firms, government agencies, scientific authorities, and mass media writers, this food establishment helped to distinguish what was considered "healthy" from what was considered "faddish," "balanced" from "extreme," prudent from foolish, safe from harmful. In the 1970s there was a lot of mopping up to do.

The ideological heavyweights generally agreed that organic force was dangerous—and it was! As critic Jim Hightower put it in 1975, although the $500 million organic foods business posed no immediate competitive threat to the $160 billion food industry, the very existence of naturally produced alternatives might cause people to wonder about all the brand-name stuff they were buying. Beyond calling unwanted attention to food manufacturing, the organic paradigm questioned conventional science, challenged the prevailing system of food distribution, and advocated a radical decentralization of population and power. Confronting the organic

menace, the food system went into a full-scale "moral panic" in the early 1970s. In *Folk Devils and Moral Panics* (1972) Stan Cohen says:

> *Societies appear to be subject, every now and then, to periods of moral panic. A condition, episode, person, or group of persons emerges to become defined as a threat to societal values and interests; its nature is presented in stylized and stereotypical fashion by the mass media; the moral barricades are manned by editors, bishops, politicians, and other right-thinking people; socially accredited experts pronounce their diagnoses and solutions; ways of coping are evolved or (more often) resorted to; the condition then disappears, submerges, or deteriorates.*[1]

The fierce counterattack did force organic proponents to lay low through the late 1970s and early 1980s. Although organic research and development went on, it was done quietly, out of the sight lines of the food industry's heavy artillery.

The food wars of the 1970s showed how dominant forces combat deviant ideas. Yet, however lopsided, such hegemonic contests are never one-sided. According to Antonio Gramsci, hegemony is a "moving equilibrium," an ongoing process of adjustments, shifts, and accommodations by the dominant culture.[2] In the food-ideological battles of the 1970s, radicals scored points too, forcing adjustments and compromises. To maintain overall control, the establishment would have to give a bit by 1980. But the dominant culture gave, not out of any benevolent spirit of fair play or noblesse oblige, but because the food establishment was itself weakened by internal debates: How safe and fulfilling *was* the food supply? Was chemistry a friend or foe? Had modern agribusiness produced the best of all cuisines? While some diehards fiercely defended the status quo, others in government, the media, and business saw the need for some changes. But which or how much? Just when food-related stories were big news, the public was treated to the discomforting spectacle of scientists, journalists, and politicians disagreeing among themselves. The cracks that gave hope to the Bay Area's Briars and other alternative organizations widened in the later 1970s, leaving the public even more worried

and confused about food quality. The struggle to fill the cracks posed major ideological and marketing challenges: to what extent would the fissures be occupied by the countercuisine's alternative organizations-in-training, and to what extent would they be patched by the food industry's new adhesives?

TRUE BELIEVERS

First the hard-core defense.

Ideological conflicts are as much a clash of metaphors as of economic and political self-interest. While countercuisine partisans saw themselves as heroic rabbits struggling to establish healthy niches in a survivalist briarpatch, many in the food establishment acted more like complacently plump suburbanites whose cocktail party is invaded by voracious rats. How could this have happened? After having been so careful for so many years! While some hippies might wonder if rodents were so terrible, the industry rushed to mobilize the fumigators.

The fierce counterattack was no surprise to radical critics, who viewed the food industry's ideological apparatus as a powerful and sophisticated equal of the better-known defense establishment. In power-structure analyses with titles like "Boston's Agri-Biz Academics" and "Professors on the Take," left investigators chronicled the "interlocking directorate" between the "Green Monster" and its kept intellectuals and politicians: elite university nutritionists, land grant college agronomists, chemical engineers, newspaper and magazine food and health writers, school dieticians, medical school professors, government researchers and managers, agriculture committee members in state and federal legislatures, and so on. A favored target was Dr. Frederick Stare, who had chaired Harvard's Department of Nutrition ever since founding it in 1942. Stare was a dedicated defender of just about every staple of modern processing—additives, sugar, white flour, fortified cereals—and he did not hesitate to voice his scorn in the most direct and colorful ways. Like another professorial spokesman for the food industry, USDA Secretary Earl Butz, Stare was a master of pithy positivism. In *Panic in the Pantry* (1975), a full-scale defense of the status quo written with fellow nutritionist Elizabeth Whalen, Stare argued that "food additives are like friends. We need and depend on them and often take them for granted. . . . Eat your

additives, they're good for you." Dismissing as "totally unfounded" concerns about the chemical cuisine, Stare called the back-to-nature "mania" a "hoax, perpetuated by opportunists who are intent on taking advantage of nervous and very gullible consumers." Stare was formidable because he really got around, testifying before congressional committees, writing for the whole gamut of academic and popular periodicals, speaking on dozens of panels, sitting on food industry boards of directors, and, most important, serving as a standard "source" for mainstream journalists in need of a quotable reaction to the latest food scare. Such journalists rarely quoted Stare's critics, who alleged that the inventor of Special K (and consultant on the Pop Tart) was simply a hired gun. Stare repeatedly denied that he personally benefited from industry largesse, but he did acknowledge that his own department received numerous research grants from food corporations. Harvard's Nutrition Department was also the base of another much-quoted expert, Jean Mayer, who had served on the Board of Directors of Monsanto and Miles Laboratories.[3]

Establishment defenders frequently ridiculed the "conspiracy theories" of underground journalists, and indeed cited such "paranoia" as evidence of the pathological marginality of countercuisine "quacks." Dismissing these "food neurotics" and "food McCarthyites," a *Vogue* writer wondered how so many scientists "with the most impeccable credentials" could all be "in league with the devil." Such was the line in the more popular magazines, but behind the scenes, in industry trade journals, food corporations were actively setting up "information programs" that relied on friendly academic experts to reassure and "educate" an increasingly alarmed public. Thus, to the extent that these allies had helped the food industry in the past and were asked to do so again in the battles of the 1970s, the radicals were not unnecessarily paranoid. Someone *was* out to get them.[4]

To read just the titles, credits, and bibliographies of articles in *Food Technology* is to appreciate how widely cast was the food-industrial-academic net. A three-page assault in 1974 on "Organic Foods" by the Institute of Food Technologists' Expert Panel on Food Safety and Nutrition had forty footnotes, citing diverse and impressive-sounding journals like the *Annual Review of Plant Physiology, Journal of Nutrition Education, Journal of Agricultural and Food Chemistry, Bulletin of the Entomological Society of America, Journal of the American Dietetic Association,* and *Journal of Home Economics.*

Mixed in were articles from parascientific periodicals tied to specific industries: *Food Product Development, Dairy Council Digest, Chemical and Engineering News.* Expanding the interdisciplinary net were references to *Scientific American, Natural History, Science, Farm Bureau, Today's Health, Nutrition Today, Ladies' Home Journal,* and assorted publications of the USDA and FDA. The article's experts were in turn quoted, paraphrased, and otherwise invoked in mass-market publications like *Time, Life, Seventeen, Vogue,* and *House Beautiful.*[5]

Reiterated in this and dozens of similar articles was a defense of the assumptions and metaphors upon which the food industry had long depended for popular support. Challenging the sharp contrasts drawn by the countercuisine, the defenders offered their own interpretations of key concepts—especially "natural," "organic," "chemical," and "moderate."

WHAT'S NATURAL?

For the countercuisine, "natural" stood for a subversively preindustrial and romantic world—something very different from the status quo. On this the orthodox defenders agreed: "natural" was a dangerous concept that might seduce the public into romantic antimodernism and thereby undo many years of propaganda on behalf of high-tech food production and processing. Determined to nip any natural trend in the bud, the food industry's ideological warriors were bold—especially in the early 1970s, when they still assumed that they had history on their side. Rather than bend to any public softness for nature, the zealots made two self-serving but somewhat inconsistent arguments: that everything, including additives, pesticides, even plastics, was natural; and that modern technology was superior to nature.[6]

The "everything's natural" argument simply defined away all conceivable conflicts. If man, birds, food, cars, and Carnation Instant Breakfast were all assembled from the same relatively finite array of chemicals, then they were all related! The logic recalled high school chemistry class: Remember those periodic charts that used to hang up front, over near the window? All those elements are natural! Remember our friend carbon, letter C? Well, since everything that has the letter C in it is organic, just about all pesticides and processed foods are "organic." So much for Mr.

Rodale! Conversely, "natural" foods were actually composed of chemicals. Like the back-row wise guys in tenth-grade lab, some defenders delighted in playing practical jokes by scaring their squeamish victims with a tongue-twisting list of chemical compounds and then revealing, after a chuckle or two, that these were the ingredients in "natural" eggs, coffee, green beans, or an apple. Presenting a paragraph-long partial listing of the ingredients in breast milk, Kraft's chairman, William Beers, mused that food technology's public relations problem was one of semantics, not science: the public was simply frightened by all that technical language.[7]

But it shouldn't be, the defense continued; a chemical is a chemical is a chemical. Contrary to the claims of holistic fetishists, it did not matter whether you ate whole wheat bread or fortified Wonder, since, in molecular terms, the nutrients were the same. Similarly, a plant could derive its nitrogen equally easily from synthesized fertilizer or "organic" compost; nitrogen was nitrogen. Nor was there any difference between applying a store-bought pesticide, like DDT, or some biological control, like rotenone. Both were chemicals. "Chemical pest control is neither foreign nor incompatible with nature," American Cyanamid's pesticide manager explained to a 1970 convention of outdoor writers. "Animals and plants are chemical factories. They regulate their growth, reproduction, and relations within their environment by chemical signals and exchanges."[8]

In what transmuted into a sermon about the eternal and universal oneness of life, those who questioned chemicals stood accused of denying their own essence. Marveling at this breezy reductionism, Michael Jacobson, of the Nader-inspired Center for Science in the Public Interest (CSPI), caricatured it this way:

> *People, natural foods, air, and water are made of chemicals.*
> *All of these things are safe.*
> *Food additives are chemicals.*
> *Therefore food additives are safe.*[9]

Overplayed, the "everything's natural" tautology probably failed to ease anxiety, for it offended common sense. If everything was natural, then nothing was artificial—and this just did not seem right to those who, while perhaps rusty in high school chemistry,

felt sure that only *some* things were natural, and, moreover, that some chemicals *were* dangerous. The real issue was *who* should control *which* chemicals and for whose benefit and at what costs? These were questions for policymakers, not dictionaries.

The second case against natural foods was stronger because it confronted the policy questions directly. Rather than relying on an etymological sleight-of-hand, it acknowledged that there *was* some difference between nature and chemistry, and it was a good thing too, the argument went, for chemistry was superior. Cut the nostalgia; nature has never been a friend to mankind. Without science and engineering, we'd starve. Measured against the job performance of Mother Nature, food technology's benefits far outweighed its risks.

The portrait of nature as a poor provider was archetypal, used whenever would-be civilization builders needed mythic support. The Greeks, for example, invoked Prometheus, who, to feed and warm mankind, stole fire from the gods, who would have preferred that we suffer in an apparently frigid state of nature. At some cost to Prometheus's liver (even in the Golden Age there was no free lunch), humans defrosted, learned to roast, bake, and fry, and ultimately mastered the world. Elaborating on that ancient case for better living through chemistry, the modern-day Prometheans of the food industry spelled out the ways that Mother Nature grossly neglected her human offspring, especially in the field, at the cash register, and in the kitchen.

First, in agriculture, "nature" meant plagues, pestilence, and famine. The defenders of high-tech agribusiness wrongly equated "organic" with laissez-faire and somberly warned of the dire consequences of "doing nothing" and "leaving everything up to nature." (In fact, organic farming entailed a supervigilant, labor-intensive manipulation of nature in nondestructive ways.) Nature has never been in balance, they argued; ruthless competition, not serene harmony, is the universal and timeless rule. To Exodus's frogs, gnats, flies, cattle anthrax and boils, hail, locusts, and dust, they added 10,000 other species of insects, 1,500 species of parasitic nematodes, 1,500 parasitic plant diseases, 80,000 species of fungi, and 600 kinds of harmful weeds—all eagerly awaiting any sign of Americans letting down their shield of 45,000 brand-name insecticides, fungicides, herbicides, rodenticides, defoliants, nematocides, miticides, desiccants, and plant-growth regulants. Organic researchers questioned whether all these pesticides had

actually increased yields in the relatively short time that they had been applied; there was some evidence that the percentages of crop lost to pests had remained about the same, but at vastly increased costs. But chemistry's defenders commonly avoided matters of productivity and effectiveness. Rather, they tended to cite the same statistics and anecdotes: the incredible reproduction rates of the ordinary house fly, the potato blight that devastated Ireland in the mid-nineteenth century, Texas's great grasshopper plague in 1864, DDT's role in fighting malaria, yellow fever, or sleeping sickness. That there possibly were less toxic alternatives to these chemicals (as became clear after DDT was banned in 1972) was rarely admitted.[10]

Similarly, defenders of petrochemical fertilizers repeatedly misrepresented the case for natural substitutes. While every organic gardener from Albert Howard on knew that the heat generated within a well-tended compost pile made it sterile, establishment spokesmen wrote as if compost were fresh night soil and thus more dangerous than any synthetic fertilizer, even with the acknowledged chemical runoff problems. "While organic foods may escape chemical pollution," Harvard's Jean Mayer asserted, "biologically speaking they tend to become the most contaminated of all. Organic fertilizers of animals or human origin are obviously the most likely to contain gastrointestinal parasites."[11]

Mayer & Co. warned that organic farming would bring both Third World sanitation problems and, by doubling food costs, Third World poverty and famine. While radicals hoped that, with improved techniques, wider distribution, and increased demand, organic food prices would decline, industry defenders assumed that organic prices would remain high forever, doubling the 16 percent of family income said to be spent on food. This statistic was repeated constantly, even after the USDA admitted that it applied only to families of four with household incomes of $20,000 —about one-fifth of American families in the early 1970s. Jim Hightower estimated that the average "working stiff" spent up to 60 percent on food—a figure he attributed to the high costs of oligopoly.[12]

Nature would also impoverish the farmer. Without the strong chemical fix to which they were now addicted, farmers would go bankrupt. In dismissing "impractical" compost and manure, no one acknowledged the possibility that decreased yields might be offset by lower costs, and that even these losses might be made

up, in time, through careful husbandry. Instead, the trade-off was invariably drawn between mass starvation and mass affluence. Virtually every attack on organic ideas dutifully quoted Earl Butz's categorical declaration: "Without the modern input of chemicals, of pesticides, of antibiotics, we simply could not do the job. Before we go back to an organic agriculture in this country, somebody must decide which 50 million Americans we are going to let starve or go hungry." "Natural farming is perfectly all right," went an advertisement by Pennwalt Corporation, a maker of agricultural chemicals, "as long as you believe in natural famine." That millions of Americans were already hungry or that American farmers had been overproducing long before the widespread application of these chemicals did not enter into the debate. Frances Moore Lappé's argument that world hunger was a political and distribution problem, not a matter of a problem of production, received no attention from those whose livelihood depended on heightened production. Rather, the choice was between "doing nothing" and the status quo, with no possibility of change, except for farmers to get big or get out. The small family farm was just one small step above Mother Nature in mankind's evolution from barbarism to civilization.[13]

Similar arguments abounded for chemicalized food processing. Life without preservatives meant botulism, salmonella, and dysentery; without fortification, rickets, pellagra, and scurvy; without fabrication, starvation; without artificial flavors and dyes, boredom. Not only did chemicals fight germs and build strong bodies, they could be less toxic than many "natural poisons." "As a physician and a student of nutrition for the past 30 years," Frederick Stare announced, "I am convinced that food additives are far safer than the basic natural foods themselves." In *The Consumer's Right to Know*, a consumer newsletter distributed by the Kraft Food Company, Michigan State University nutritionist Dena Cederquist testified to the horrors of a natural diet: "I was raised on an Iowa farm, and grew up on natural foods. Now I have prematurely gray hair, wear glasses, and have all my teeth filled. I had undulant fever as a child from drinking raw milk, and I've had major surgery for cancer. So, I'm delighted that milk is pasteurized, and that our food supply is of consistent, safe quality." If the argument be believed, some of the deadliest toxins were in foods commonly thought to be healthy: spinach and rhubarb (oxalic acid), peanuts and corn (aflatoxin), celery (nitrates), potatoes (solanin), lima

beans (cyanide), almonds (prussic acid), cinnamon (hallucinogens). The natural food store, with its unprocessed wheat germ, raw milk, and herbal teas, was a minefield of rancidity. Almost as dangerous as Mother Nature was the human mother who persisted in old-fashioned ways. Home-canned beans were potentially more deadly than anything concocted by Del Monte; moldy home-baked brown bread could not compare in safety with store-bought, plastic-wrapped, artificially preserved white.[14]

Here again, the strategy was to neutralize the critics by making everything equal, toxins in cereal and toxins in celery—everything's natural, everything's deadly—and thus to finesse the question of control. The average consumer could monitor his personal intake of potentially deadly spinach, but could he regulate the amount of coal tar dyes in Jell-O? Obviously not. But trust us, the defenders argued, *we* know how much to put in. Why would we want to poison you? "Why would the food industry want to destroy its consuming public?" Dr. Cederquist asked. "I'm sure they'd like to keep us consuming for as long as possible." And if economic self-interest and inherent good were insufficient to safeguard the public, there were always the experts at the FDA, with its list of additives Generally Regarded As Safe (GRAS). Whereas chemicals were scrutinized by federal watchdogs, nature roamed unregulated, free to maim and kill, as the *FDA Consumer* observed in an article entitled "Natural Poisons in Food": "There are toxicants present in naturally produced foods that would never be permitted by FDA if offered as food additives." If the FDA was negligent, some processors argued, it was in tolerating the Mama-Papa natural foods business.[15]

Beyond being a life-threatening pest, nature was a poor chef. Additives enhanced the palatability of packaged foods. Without the sodium in baby food, how would baby eat her carrots? Without the food coloring, artificial strawberries, and sugar in otherwise bland cold cereals, how would Mom get her kids to drink their milk? One flavoring manufacturer urged its processor-customers to "think of putting in a little something for Mother. The delicious, pure flavors that will help give her children the health and body-building foods they need." In nutritionists' terms, processing enhanced the "nutrient availability"; in other words, processors bribed otherwise picky eaters to take their vitamins and minerals.[16]

Such bribery would be even more necessary in the near future, food technologists argued, for without artificial flavor, how

would people down their seaweed patties? Like many in the late 1960s and early 1970s, scientists worried about overpopulation and worldwide food shortages. But for solutions technologists looked not to redistribution (as Lappé advocated) but to new feats of chemically aided production. Especially promising was the fabrication of pseudo-chops, burgers, and sausages out of substances previously thought inedible—algae, fish meal, textured vegetable proteins, wood pulp, and petroleum by-products. In a 1974 report to a U.S. Senate committee investigating world hunger, an "availability panel" of nutritionists, M.D.'s, and food executives chaired by Jean Mayer strongly recommended that food processors be "encouraged to create new foods as new technologies and new resources provide opportunities, especially new foods that will improve the nutritional status of malnourished people in lesser developed areas of the world."[17]

This servant-savior mantle was enthusiastically welcomed by food technologists who, to enhance a product's acceptability, carefully engineered its "hedonics"—taste, flavor, mouthfeel, texture, and color. The frontispiece to a standard textbook, *Flavor Research: Recent Advances*, gave a poetic version of this mission to "feed the hungry":

To researchers who analyze taste
We dedicate this opus in haste,
We salute all your labors,
Devoted to flavors,
And your efforts to minimize waste.

With so many people to feed,
Of every religion and creed,
We have no recourse,
Than to use each resource,
To meet man's nutritional need.

Noting that the cost of protein processed directly from waste effluents was only three cents a pound—one-third the cost of agriculturally produced animal protein—one flavoring industry marketing consultant concluded that "the challenge to the art and science of flavoring is quite clear."[18]

Despite this rhetoric of public service, critics suspected busi-

ness self-interest. For one thing, as the food chemical ads themselves showed, artificial flavors were far more predictable than Mother Nature's. Thus, Durkee's Synthesized Tomato Flavor enabled sauce makers to "quit hassling nature's fickleness—crop failures, labor costs [apparently a natural plague too], supply problems, quality fluctuations." Moreover, "feeding the world" could be a euphemism for "expanding exports of processed foods" to the Third World. Although there might be merit in investigating the protein potential of waste effluents, algae, fish meal, and soybeans, food industry critics and defenders alike knew that for the foreseeable future any edible analogs would be far too expensive to feed the poor. As insurgent nutritionist Joan Dye Gussow quipped in an essay, "Who's Going to Eat the Breakfast of Champions"—a reference to a Kurt Vonnegut novel in which petroleum was the main food source—the new food analogs were "more likely to end up as Baco's than as survival rations." In the near future, the industry hoped to ship what it was already making. For example, one Nabisco executive confided that, to offset the growing public concern at home about additive-ridden "junk foods," Nabisco hoped to expand its exports of Oreos and Ritz Crackers to Latin America. "It's fine to talk about nutrition, but when people are really hungry, what they really need is calories. Our products are good supplies of basic calories and a certain amount of nutrition." To quibble about natural ingredients thus seemed a frivolous self-indulgence at a time of global calorie shortage.[19]

CHEMICAL LIBERATION: THE IDEOLOGY OF CONVENIENCE

The case against nature was logically consistent with the long-term thrust of consumer capitalism: for at least half a century, mass marketers had been struggling hard to propel consumers out of their earthbound, preindustrial ruts and up into a weightless realm of perpetual nowness and newness.[20] But perhaps aware that messy tradition still had a residual gravitational tug, food technology's defenders also sounded the venerable theme of equal opportunity: Modern agriculture and processing freed farmers and housewives from drudgery, created time for more noble pursuits, and, through lowered costs, raised everyone's standard of living.

When applied to convenience goods and services, the ideology of equal opportunity had long served to reconcile democratic values with mass production. The original mass producers of cheap cars, cigarettes, and entertainment were all hailed as democratic liberators. Similarly, in *The Americans: The Democratic Experience*, Daniel Boorstin recounts the way early innovations in food processing were promoted as ways to overcome the constraining inequities of season and region.

> *The flavor of life had once come from winter's cold, summer's heat, the special taste and color of each season's diet. The American Democracy of Times and Places meant making one place and one thing more like another, by bringing them under the control of man. The flavor of fresh meat would be tasted anywhere anytime, summer would have its ice, and winter have its warmth, inside and outside would flow together, and men would live and work not only on the unlevel ground but also in the homogeneous air.*

In the 1850s Gail Borden offered his condensed meat biscuit and milk as invaluable aids to westward migrants in desperate need of portable meals that could be consumed safely and quickly anywhere; the same rationale sold fast-food burgers a hundred years later. In 1924 a historian of the canning industry boasted that canning gave every American family—even in the worst tenements—"a kitchen garden where all good things grow, and where it is always harvest time. There are more tomatoes in a ten-cent can than could be bought fresh in city markets for that sum when tomatoes are at their cheapest." Virtually the same words pitched refrigerated meat in the 1880s, frozen beans in the 1930s, and irradiated pork in the 1980s: in each case, a commercially controlled technology was hailed as an important step forward in what Boorstin terms Americans' democratic drive to "level time and place."[21]

To this basic theme the ideological warriors of the 1970s added a timely variation: processed convenience foods were allies of feminism and environmentalism; only a society as widely blessed with affluence could afford the luxury of such life-style insurgencies. This assertion was familiar enough during the political battles of the late 1960s, when rebellious youths were portrayed not as champions of the disadvantaged but rather as spoiled by-

products of an overly generous mainstream society.[22] In the food wars of the 1970s, processors themselves took credit for creating the affluent prerequisites for rebellion.

The notion that packaged foods and electric appliances liberated women from kitchen slavery was not in itself new, nor was it completely inaccurate, but what was relatively novel was the assertion that the revived drive for women's rights in the late 1960s was caused by the blender, toaster oven, and instant pudding mix. As recently as the 1950s food ads and articles in women's magazines had implied that convenience goods helped to preserve dependence and domesticity; relieved from drudgery, housewives would have more time to drive children around and look pretty for husbands. It was the overworked wife, such literature warned, who would be less able to maintain her spouse's sexual interest or who might be tempted to abandon the nest herself. By the late 1960s, however, manufacturers offered themselves as accomplices in women's drive for independence. For example, one executive argued that more and more women were entering the workforce because, with all the new convenience foods and tools, they no longer had to spend so much time in the kitchen. Thanks to these aids, he continued, women were freer to augment their family income. Along the same lines, Jean Mayer suggested that the additives in convenience foods were a precondition for the women's liberation movement:

> *The women's liberation movement became possible when labor-saving devices freed adult females from many of the drudgeries of housekeeping. Refrigerators eliminated the need for daily food shopping, modern stoves and dishwashers reduced somewhat the time associated with the preparation of meals. The development of convenience foods, however, was the major quantum jump in freeing the housewife from the need of spending hours every day being the family cook. . . . Food additives have played an indispensable role in the development of these time-savers.*

More a nutritionist than an historian, Mayer overlooked the rise of feminism in the early nineteenth century—long before the introduction of laborsaving appliances and packaged foods by supposedly benevolent male manufacturers.[23]

Such explanations also tended to reverse cause and effect. Historians of housework have shown that some household appliances and prepared foods did reduce drudgery—especially at the turn of this century—but they did not necessarily reduce labor. Historian Ruth Schwartz Cowan observes that American housewives worked about as many hours a week at home in 1980 as in 1910—fifty. Rather than cutting time, the new tools often introduced new standards and tastes that, if anything, created new tasks and also new income needs. When women went to work it was not because they now had spare time, but rather because they needed the additional income to pay the higher capital costs of the ever more mechanized household. In turn, with two jobs, women now had even less time, and thus came to rely even more on gadgets and processed foods—a cycle of dependency hard to break. The recent revival of feminism stemmed in part from resentment at the failure of household mechanization to free women's time and spirits, and partly from women's need to make more money to pay their bills. Convenience goods manufacturers had little to do with women's "liberation"—except as targets of mounting criticism. In fact, in their own trade periodicals mass processors frequently acknowledged that many women resented being dependent on products increasingly perceived to be nutritionally and aesthetically inferior to homemade.[24]

In addition to asserting patrimony of women's liberation, food establishment defenders also attempted to portray the rise of consumerism and environmentalism as inevitable offshoots of mass-produced prosperity. With all this extra money came extra time to worry about every teensy risk. "At the present time," a food researcher for the right-wing Hudson Institute announced, "the abundance of our food supply permits the luxury of trying to avoid any and all risk." Fretting about trivialities like preservatives and pesticides was a bit like some bored, pampered teenager crying about a split fingernail or a misplaced curl. Branding as an "extreme self-indulgence" what was a very moderate food labeling proposal by the FDA, one industry ally observed, "In no place in the world where food is in short supply could one imagine a regulatory effort of this kind. . . ."[25]

Having progressed so far, soft Americans had quickly forgotten to whom they owed it all. "Please note that it is our new

wealth which gives us the luxury of being able to reassess our relationship to our environment," one General Foods market researcher asserted. "While we were scratching for enough calories to maintain our body weight, environmental issues didn't seem very important." To enhance the point, food industry defenders commonly claimed that life before processing was barely worth living. If these historical portraits be believed, as recently as the early twentieth century America was little different from Bangladesh, a world where rickets, scurvy, and kwashiorkor were the norm. Having conquered these dread diseases through modern medicine and food processing, narcissistic Americans of the Me Decade seemed to be enjoying "the luxury of worrying" about the maladies of affluence: heart disease, cancer, stroke, hypertension, and diabetes.[26]

Like moralizing parents badgering picky children to remember the starving in India and clean their plates, the food establishment urged balky consumers to ponder pellagra and gobble down their additives, sugar, and fat. To some extent, such reasoning simply reflected cultural lag on the part of nutritionists and doctors still fixated on nineteenth-century deficiency diseases. Operating within the prevailing paradigm of "nutritional adequacy," studies found that most—but by no means all—Americans now ate enough of the "basic" nutrients: protein, calories, vitamins, and minerals. But it was no coincidence that this argument served the self-interest of food processors oriented to "adding value" to otherwise inexpensive raw foods. Conquering the familiar deficiency and food bacterial diseases had been easy for them, for it required the addition of ingredients; battling the newer "diseases of affluence" was much harder, for it involved taking out ingredients that made products manageable and palatable. In the vitamin boom after World War I, major manufacturers profited nicely by replacing some of the nutrients lost in the processing—and then charging for the extra step of "fortification." So too, defeating mold and salmonella meant more preservatives, more packaging, more handling, more fees. But how to "add value" by doing less in the first place?[27]

STAKING THE CENTER

After ridiculing reformers, misrepresenting organic farming, slandering nature, belittling Mom, and caricaturing history, the defense then attempted to occupy the democratic middle ground highly desired in a public debate. Here again, as with "natural," the middle was more rhetorical than scientific.

The vocabulary of attack was classic. First, the critics were relegated to the undesirable fringe. Like health reformers before them, food radicals were subject to a variety of well-worn epithets: "faddish," "cultish," "quacks," "lunatic," "nuts," "reactionary," "hucksters," "hogwash," "superstitious," "medieval," "witch-hunting," "fraud," "dupes," "zealots," "anti-intellectual," "emotional," "hysterical," and perhaps the most damning in a supposedly postideological age, "ideological." Reductio ad absurdum was a particularly favored tactic: if the radicals "had their way," we would return to "the pickle barrel era," plagues and pellagra, "mass starvation," "caves," "the trees," and so on. Hopelessly naive "do-gooders" were a frequent target—as in American Cyanamid's T. J. White defense of pesticides before the 1970 conference of the Outdoor Writers Association of America:

> *Pesticides are pollutants in some degree or another. But what isn't a pollutant, including you and me? You may have read of Goodwyn Goodwill, whose only desire was to leave this world a better place for his having passed through it. He was a happy man until he took up the study of ecology. Goodwyn Goodwill became so concerned he was harming the ecology of our planet that his only solution was to drop dead. He did, was cremated, and his ashes were scattered. Alas, most of his remains became smog and the 10 parts per million of DDT in his ashes floated back down to earth.*

So if the mischievous radical was one pole, the overly credulous public was the other. Ignorant, confused, or just plain lazy, the average citizen—Goodwyn Goodwill—was letting himself be-

come unduly alarmed by left extremists. Since life was imperfect and imperfectable, the best that one could hope for was that men of "good sense" would make "sound judgments." And who would these "reasonable" people be? The "experts" in industry, government, and research—the food establishment.

The soothing vocabulary associated with these authorities was as centrist as the harsh description of radicals was polarizing: "reasonable certainty," "knowledgeable," "scientific," "informed," "responsible," "constructive solutions," "best scientific judgment attainable," "generally recognized," "pragmatic," "balanced," and, to be sure, "moderate."[28] But how meaningful were these labels? As Benjamin Disraeli wrote, "There is moderation even in excess." Advocates of radical reform also counseled moderation. In *Small Is Beautiful*—the crystallizing textbook of appropriate technology, voluntary simplicity, and the Briarpatch philosophy—E. F. Schumacher characterized his "Buddhist Economics" as "the Middle Way between materialist heedlessness and traditionalist immobility."[29] To the countercuisine, this meant avoiding "extremes" such as fast food on the right and misunderstood macrobiotics on the left; co-ops were the sensible middle ground between supermarkets and health food stores. Confident that common sense resided in a time-tested, minimally processed "natural" diet, underground food writers expressed contempt for overnight wonders, whether the latest instant toaster breakfast from Pillsbury or the latest mystical import from Asia. Suspicious of "heavy" dogma, rhetoric, and rules, they advised readers to steer what they saw as a cautiously flexible course between "poisons" and "fads."

Still, the countercuisine's "sound judgment" was quite different from that of the establishment. Who would do the judging? The conflicting definitions of "common sense" were most clear when it came to the question of "evidence." Both sides recognized that, because little sustained research had been done on the thousands of food chemicals introduced in the past thirty years, there could be "little evidence" of an ingredient's harmfulness or safety. For critics like Beatrice Trum Hunter, scientific ignorance dictated an abstemious approach: when in doubt, throw it out. For defenders like Emil Mrak, former chancellor of the University of California (and frequent board member of various food corporations and federal agencies), our lack of knowledge meant that we should "quit worrying about food safety, practice moderation, and

enjoy life." When the critics cautioned, à la Franklin, "never leave that till tomorrow which you can do today," and "a little neglect may breed mischief," the defenders seemed to urge consumers, with Ecclesiastes, to eat, drink, and be merry—and forget tomorrow. When one side was skeptical about anything that might be risky, the other side shrugged that this was silly, since it was probably more dangerous to cross the street. As with so much of the debate, it boiled down to a conflict between doubt and trust.[30]

To bolster trust, the food industry stepped up its "nutrition education" efforts. The young in particular needed to be reminded about plagues and pellagra. With relish, major food corporations distributed free pamphlets to schoolteachers ever grateful for colorful material. At a 1977 hearing before the House Subcommittee on Domestic Marketing, chairman Fred Richmond (D-NY) found most corporately sponsored "nutrition education" to be "self-serving." Of twenty-five samples of corporate literature, seventeen examples were "highly promotional." Observing that "under the guise of nutrition education, they are promoting their products to captive audiences" of students, Richmond warned that the classroom was in danger of becoming "the new frontier for advertising." Sheila Harty's *Hucksters in the Classroom* (1979), a Nader-related study of industry propaganda in the schools, reached a similar conclusion: it was hard to distinguish nutrition education from product advertising in publications such as KraftCo's "Guide to Cheese Nutrition," Kellogg's "Stick Up for Breakfast Campaign," "The Campbell Cookbook," the Manufacturing Chemists Association's "Food Additives: Who Needs Them?", McDonald's "Nutrition Action Pack," and "Mr. Peanut's Guide to Physical Fitness."[31]

Given the "lack of evidence" about food chemicals, such materials had little that was new to tell students. Instead, they warned against "faddism," and charted the standard three-squares, basic-four formula for a "balanced diet": Three times a day eat selections from the four basic groups: meat, dairy, vegetables and fruits (one group), grains. Reflecting the older war against deficiency diseases, this protein- and vitamin-rich diet also testified to the power of the meat and dairy interests, who got 50 percent of the responsibility for a "balanced" diet. In this equation, a vegetarian diet seemed to lack protein and was thus "imbalanced"; the macrobiotic diet was particularly dangerous because it lacked both meat and dairy. Grains—whether whole wheat, corn flakes, or refined starch—were considered sources of carbohydrates but not

of protein or fiber. Ice cream fit nicely under dairy as a fine source of calcium—along with American cheese. The sugar in the ice cream and the additives in the cheese did not enter into consideration, which was fine by the food processors. But where would soybeans and other legumes fit—with lettuce, apples, and other fruits and vegetables?

Despite such jurisdictional dilemmas, the standard advice was quite inclusive, not exclusive. By eating a "wide variety" of foods, consumers would spread the risks, acquire as-yet-unidentified nutrients, and, happily for food processors, feel free to sample the 10,000 or more foods available in modern supermarkets. The last consideration was of special comfort to snack-food makers whose products were full of sugar, salt, and fat, but were rather meager in any of the "basic fours" and were not generally consumed during the "three squares." In responding to the charge that junk foods did not even satisfy the conventional formula, such manufacturers relied on what were the standard defenses of every questionable product, from beer to cigarettes to potato chips: crossing the street is probably more risky; don't overdo it; who said that X (chips, beer, candy bars, cola, or the like) is the only thing you should eat? Blaming the consumer for imbalances, individual manufacturers hoped that shoppers would make up dietary shortcomings not by restricting purchases of junk foods but by eating even *more* widely. Addition, not subtraction, was the key to business prosperity.[32]

Although there was little new in the content of such "education" or in what it revealed about nutritionists' congenial ties to food manufacturers, what *was* significant was that these campaigns had to be waged at all. A more secure establishment would have had to say nothing. As sociologist Paul Starr argues in *The Social Transformation of American Medicine* (1982), persuasion (or force) is needed only when authority breaks down; when authority is secure, reasons are assumed or taken on faith, and do not have to be stated. The 1970s were years of widening doubt, however, when a lot of reasons had to be stated—and restated.[33] For the food industry as for Starr's medical industry, the erosion of authority was worsened by the fact that the doubts were felt within the power structure. The network was beginning to unravel. That food processors felt compelled to endow their own "research" and "educational" institutes, councils, boards, centers, and bureaus was evidence that the normally unpaid, quasi-autonomous channels of

information and reinforcement were no longer so dependable. Indeed, in the mid-seventies, as the diehards struggled for the desired middle ground, their list of purported "extremists" lengthened to include "zealots" at the FTC, "ideological" liberals in Congress, "arbitrary" regulators at the FDA, "ill-informed" scientists at elite universities, "huckster" physicians, the "sensation-seeking" media, and—perhaps most distressing to true-believing food engineers—the "hypocritical opportunists" at major corporations who were beginning to market "natural" and "healthy" foods, the party line notwithstanding. In turn, these would-be compromisers distanced themselves from the "reactionaries." Thus, as the orthodox dug in, they deepened the cracks that threatened the whole edifice.