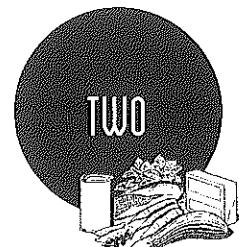


do intend to change how people think about what it means to eat right. As the voices of the dietary reformers quoted at the beginning of this book suggest, the people who promote dietary advice are hoping to do a lot more than help us each to achieve better health. They see eating habits as a link between individual bodies and the social body, so dietary advice is a way for them to pursue social aims, not just better the health of individuals. While it may often seem like we are each navigating the terrain of dietary choice in purely personal ways that have only to do with our own health and well-being, I hope to have provided a starting point from which to rethink eating right as a social duty, a moral measure, and a form of power worthy of our most critical attention.



SCIENTIFIC MORALIZATION AND THE BEGINNING OF MODERN DIETARY REFORM

The most recent official dietary advice is MyPlate.¹ Issued by the United States Department of Agriculture (USDA) in 2011, it is designed to make dietary advice simple by showing which foods belong on your plate and in what proportions. The idea is to take the complex facts of nutrition and convey a simple message about diet in a graphic format that connects to how people really think about food. Behind the guide are numbers of accepted truths about the relationship between food, nutrients, and health: that food comprises various nutrients needed by the body, for example, and that each food contains different amounts and kinds of those nutrients; that food delivers calories, which provide energy but are harmful if consumed in larger quantities than the body can use; that certain vitamins are essential to the prevention of diseases and that some can also enhance health. But these basic tenets of nutrition, established and refined over the course of roughly the last 120 years, are only part of what lies behind MyPlate's version of a good diet. MyPlate's simple graphic also expresses a number of beliefs about how people should behave in relation to food, ideas that have been infused with morality since antiquity. Understanding MyPlate or any other dietary advice therefore requires that we

look not only at the evolution of nutritional knowledge, but also at the ongoing relationship between nutritional facts and moral precepts.²

The science of nutrition provided an empirical accounting of dietary health that was, from its inception, driven by social purpose and suffused with moral intent. Domestic scientists, the first of the modern dietary reformers, leveraged both the empirical and the ethical aspects of nutrition, applying its factual framework to the aims of moral uplift and social amelioration. The failures and idiosyncrasies of these turn of the twentieth century reformers, who championed beef broth and brown bread as a means of moral uplift among the Northeast's urban poor, are well documented. Historians have pointed to the dangerous mistakes in their nutritional calculus, the class-bound conceits of their reform mentalities, and the regressive nature of a gender politics based on domesticity, while acknowledging that the way Americans eat may have been forever transformed by their embrace of science, technology, and industry as essential to modern homemaking.³ My concern is not whether domestic scientists succeeded or failed in their social mission or how they may have changed American eating habits. Instead it is to investigate the cultural politics of dietary health at the turn of the century so that we might better understand the social role of MyPlate, the Body Mass Index (BMI), or injunctions to "eat local" today. What matters for the present analysis is that domestic science was the first of many twentieth-century dietary reform movements to harness the calculative power of nutritional science for social aims, but its story reveals what the others conceal—the interplay of the moral and the quantitative that is at the core of modern ideals of dietary health. The story of domestic science is critical to understanding the role dietary advice now plays. It is about the formation of a social dynamic of dietary health that has since become part of our common sense, obscured by taken-for-granted notions of what dietary ideals are and do. Domestic scientists took care to articulate the moral valence of eating right, overtly embraced dietary lessons as a way to inculcate social values related to particular ideals of good citizenship, and openly used diet and dietary advice to stabilize the identity of the emerging middle class. I explore each of these facets in turn, illuminating the politics of dietary health that animated the domestic science movement and laying a foundation for seeing subsequent dietary reform movements, and contemporary dietary advice, through a new lens.

Nutrition, Scientific Cookery and the Quantifiable Morality of Eating Right

For people who lived and ate before the ascendance of scientific reasoning, choosing what to eat was mainly a matter of ethical or religious concern. As John Coveney shows, for ancient Greeks practicing ethical comportment in relation to the pleasures of food was instrumental in constructing and displaying an ethical self. Moderation was paramount, but the aim was to enhance, not deny, one's experience of pleasure. Failing to exercise self-mastery and balance between needs and desires was to lose sight of "truth" and "natural reason." For early Christians, strict conduct in relation to food was seen as a duty to God. Pleasure had become a mortal sin and avoiding food pleasure was a way to renounce the flesh and bodily passions. After the Enlightenment, the management of pleasures (related to both food and sex) became the purview of the state, which expressed its rule through medical and scientific discourse. But the concerns that guided writers on diet in the sixteenth and seventeenth centuries—the health of the body, eliminating disease, and the purity of the soul—changed little during the eighteenth and nineteenth centuries. Moral and aesthetic criteria, rather than objective, numerical standards, prevailed.⁴

The language and meaning of eating right were transformed when the emerging science of nutrition produced new ways of measuring the value of food and assessing the wisdom of eating habits. Nutrition produced a quantitative framework and, like other sciences, ultimately staked its claims to authority on the presumed objectivity of the numbers it produced.⁵ Its numeric facts made it possible to authoritatively determine a good diet, assess the quality of diets, and compare diets to each other in new ways. But nutrition did not introduce an entirely new conceptualization of the relationship between food and health; it built on existing moral precepts concerning the management of the appetite. The advent of scientific nutrition attached the morality of eating right to a seemingly objective quantitative scaffolding that allowed it to function in new ways. Nutrition provided an objective means of determining good eaters and of numerically assessing and comparing the morality of eaters. I first examine the building blocks of turn-of-the-century nutritional thinking, tracing the social and moral imperatives that drove the knowledge nutrition

produced, then follow the trail into the work of domestic scientists, reformers who put nutrition to work for explicitly moral, social purposes.

Wilbur Atwater, “the father of American nutrition,” provided three pieces of interlinked information that made possible a new way of thinking about the value of food, the goodness of diets, and the moral character of eaters. In the 1800s, German chemists established that food was comprised of different components that had specific physiological functions (proteins, fats, carbohydrates, and mineral matter).⁶ Until the 1880s, balance between these elements was considered the basis for an adequate diet, but the development of the calorie as a means of measuring energy made it possible to more precisely determine a good diet.⁷ Atwater, who had trained in Germany and whose federally financed work took place at the first U.S. Experiment Station, in Connecticut, began by investigating and quantifying the chemical components of food. He analyzed 2,600 foods grown and processed in the United States, establishing their chemical composition and organizing the data into tables that showed the amount of water, protein, fat, carbohydrate, “ash” (mineral matter including potassium, sodium, and calcium), and the number of calories, or “fuel value per pound.” The tables covered every conceivable cut of meat (from very lean to very fat) and all kinds of other foods, too, from donuts and pies (apple, custard, lemon, mince, and squash) to artichokes (fresh and canned), succotash, lentils, parsnips, peas, apricots, figs, and chocolate.⁸ The tables were published by the USDA, and became commonly used among middle-class cooks.⁹

Atwater later put this detailed knowledge of the chemical constituents of thousands of food items into relation to two other pieces of the social and physiological puzzle: the amount of energy that consuming various foods would make available and the cost of each food. He conducted legendary experiments that involved enclosing human subjects in a sealed “calorimeter” and measuring every element that went in as food and water and everything that came out as energy and waste. These efforts revealed what Atwater saw as the “true” value of food—how much energy it could produce as work—and gave the lie to other scales of value. Unpleasant food, it turned out, produced no less energy than did delicious food that was chemically similar. More important, once Atwater had compiled tables that expressed the relationship between energy value and the cost of food, it became clear that the cost of food had no bearing on its nutritional value. The chemicals contained in food had the same effect on, say, a

person’s ability to ride a stationary bike or perform mathematical computations regardless of how much that food cost.¹⁰ Atwater redefined the value of food based on chemistry and the physiology of human nutrition. But the aim of this computation was not simply to determine what kind of chemicals a given food provided or how much energy would be produced by eating it. It was to better understand the relationship between the nutritional value of food and its cost so that people could be taught to eat well for less. The triangulation of information about the chemical constituents of food, human energy needs, and the cost of foods produced a measure of food value that social reformers embraced precisely because it married the empirical aspects of nutrition to the social and moral aims of economy.¹¹

In the late 1880s Atwater published a series of articles in the *Century*, a popular middle-class monthly, in which he discussed the social role of nutritional knowledge. He wanted people to understand that providing their families with good food was not about buying the best, most expensive delicacies, but rather was a matter of understanding the scientific value of food and choosing foods that provided the most energy for work at the least cost. Atwater worried that people of limited means were spending far too much money on food, leaving too little left over for other necessities. He painstakingly explained that the “best food,” sold at the highest prices and having the finest flavor, was not necessarily the most economic or the most healthful. He taught readers that using “the protein of oysters to make blood, muscle, and brain will cost him two to three dollars a pound,” but the same amount of protein could be had in the form of cod and mackerel for between thirty and eighty cents a pound.¹² Twenty-five cents could buy about 14,000 calories in wheat flour or 12,000 in potatoes.¹³ Economizing, not buying expensive food, was the way to improve the diet. Atwater argued that the American view of economy as anathema to “our dignity as free-born” would have to be overcome, and he warned, “Unless we mend our ways the future will bring a loss instead of a gain in material prosperity, and a fearful falling away rather than improvement in our morals.”¹⁴ His aim was to “remedy this evil” through “popular understanding of elementary facts regarding food and nutrition, and the acceptance of the doctrine that economy is respectable.”¹⁵ The facts of nutrition, combined with the social aim of economy, had produced a quantitative index of dietary morality (see figure 2.1).

Atwater put his knowledge about food to use as a means of moral

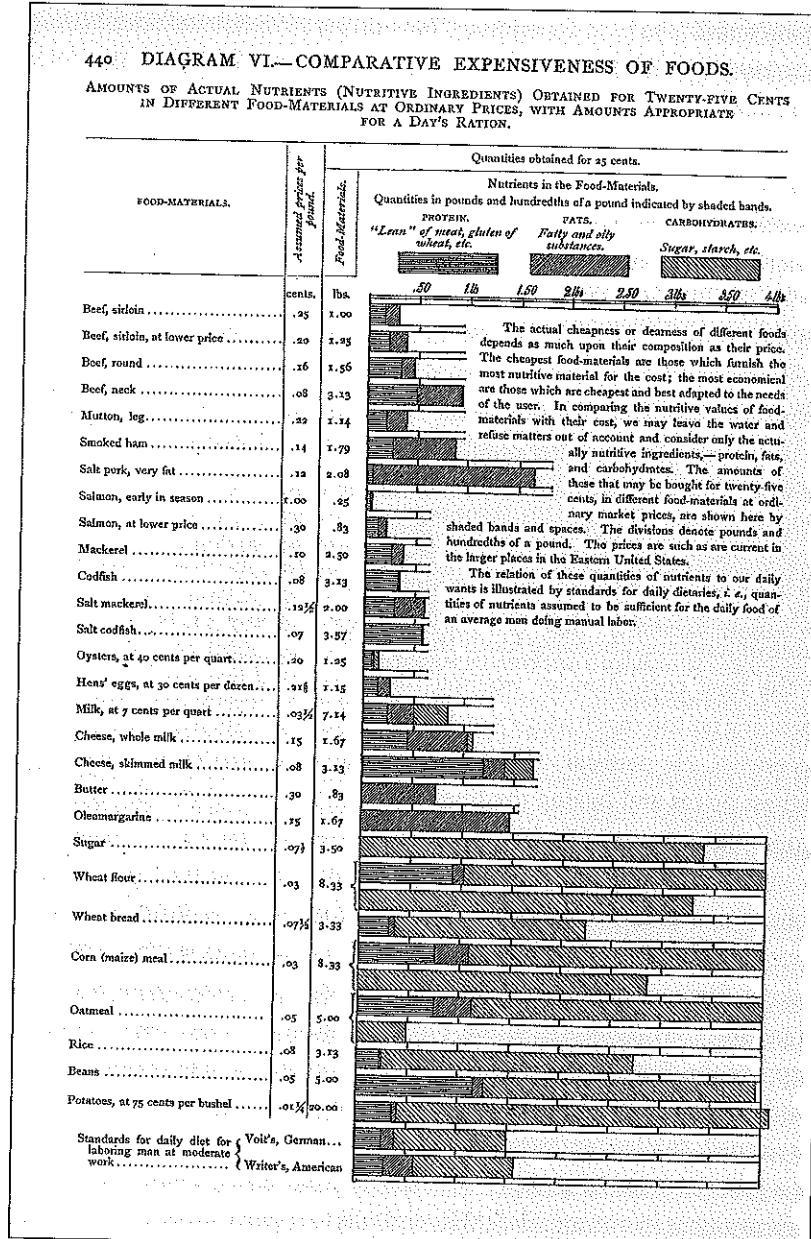


FIGURE 2.1 • W. O. Atwater's "Comparative Expenses of Food," a quantitative index of dietary morality. The subtitle reads: "Amounts of Actual Nutrients (Nutritive Ingredients) Obtained for Twenty-Five Cents in Different Food-Materials at Ordinary Prices, with Amounts Appropriate for a Day's Ration." Courtesy of Cornell University Library, Making of America Digital Collection.

assessment. One of his articles in the *Century*, for example, described a well-meaning coal laborer who did all that he could to provide his family with finest flour and sugar, paid more for the nicest cuts of meat and excellent butter, but therefore had to skimp on other necessities. His family had little left over to pay for new clothes, and they lived in a crowded tenement, sleeping in rooms with no windows, because they "indulged in this extravagance in food."¹⁶ The scientific calculation of food value revealed the moral failings of the coal laborer, who was described by Atwater as "innocently committing an immense economic and hygienic blunder."¹⁷ The blunder was economic, hygienic, and therefore also moral. It was revealed through calculative strategies of nutrition that reflected the values of frugality and self-restraint and that measured dietary health in social and economic terms.

The overt intermingling of nutritional knowledge and moral concern evident in Atwater's work reflected the broader social context of the nineteenth century, in which scientific and religious thought were considered both similar and compatible. As Charles Rosenberg explains, through much of the nineteenth century scientific and religious values were seen as complementary; both offered ideals of selflessness and truth. Moral and scientific progress thus seemed inevitably parallel and complementary. Most nineteenth-century physicians believed, for example, there "could be no conflict between their findings and the truths of morality." Americans typically accepted both realms of thought simultaneously and moved comfortably between them.¹⁸ After the Civil War, science began to garner increasing cultural appeal and prestige. Its processes of counting and calculation came increasingly to be seen, and celebrated, as objective and free of personal values.¹⁹ But a fusion of empiricism and morality was common among turn-of-the-century social movements, which saw female reformers applying the calculative strategies of science and social science to the spectrum of social ills, from intemperance to prostitution. As Rosenberg notes, while "phrased in the measured terms of empirical analysis," these reform movements were "suffused by a vision of transcendent moral benefit."²⁰

While some turn-of-the-century reformers launched hygiene and purity campaigns, temperance crusades, playground movements, and tenement reforms, others turned to "the food problem."²¹ Enthusiastically embracing nutrition as a simultaneously empirical and moral tool, these women articulated a striking faith in the power of eating right to mitigate

the most pressing social concerns of the time. In an 1894 article in the *New England Kitchen*, an organ of the emerging domestic science movement, one reformer wrote, “The proper preparation of food is a vital problem, and the relation of nutriment to personal morality no longer to be ignored. . . . The ministry of diet in the work of character-building is therefore one of the most important studies a woman can undertake.”²² The reformers believed that teaching people to eat right would keep them away from alcohol and labor unions, and improve their character and morals. Drunkenness was seen as a “disease of ill-feeding.”²³ Cravings for alcohol were caused by “the constant gnawing of an unsatisfied stomach caused by not having the proper foods properly cooked.”²⁴ Good meals provided in comfortable homes were bound to be more attractive than the street and the saloon, and would mitigate the allure of “rash movements” and protect workingmen from falling prey to “demagogues and partisans.”²⁵ One woman writing about the relationship between diet and “labor problems” explained, “Not only man’s physical and mental but his moral well being also depends upon the kind of food he eats.” She went on, “By using every possible means to educate the wives and daughters of working men to be more intelligent homemakers, we can do more towards the solution of the labor problem than all the anarchists, the communists, the socialists or even the labor organizations . . . have ever been able to do.”²⁶

Ellen Richards was among the female reformers who embraced scientific dietary reform as a means of social improvement, and she eventually became their leader and inspiration. An accomplished scientist with a deep appreciation of the moral aspect of eating right, Richards understood the opportunity that the science of food presented for women. Born in 1842, Richards studied chemistry at Vassar, but after graduating in 1870, she was unable to find work in a chemical firm. She applied to Massachusetts Institute of Technology (MIT), then in its infancy, and was admitted as a “special student,” becoming the first female to receive a B.S. at that institution (without appearing officially on the books and, therefore, not setting a precedent for coeducation). In 1876 she convinced MIT to establish the Women’s Laboratory, where female students worked under her direction until 1883, when they were finally permitted to join the men and Richards was named an instructor of sanitary chemistry, becoming MIT’s first female faculty member. As a scientist, Richards was devoted to finding ways of improving domestic life both because she

wanted to prove the legitimacy of scientific education for women and because she was convinced that science promised better living. As a reformer, she motivated and directed a groundswell of interest in scientific domesticity, leading the movement that would eventually become home economics. At the time of her death, in 1911, Richards was remembered as the movement’s “prophet, its interpreter, its conservator, its inspirer, and to use her own word, its engineer.”²⁷

Richards’s passionate commitment to the application of scientific knowledge toward the aim of creating better homes and cities meant that while she revered the quantifiable norms of a good diet that had been produced by scientific research, she understood them as imparting a clear moral obligation to eat well in the interest of the social order. That she was described as both an engineer and a prophet is entirely fitting, as her commitment to the social application of science was shot through with religious zeal. “We are like wanderers in a dark corridor, dark only because we do not reach up and turn on the light,” she wrote, bemoaning the tendency among Americans to refuse to live as well as they might because they had not placed adequate faith in science.²⁸ Those she inspired also used religious metaphors to describe their project, suggesting that they, too, saw the application of the science of nutrition (and domesticity more broadly) as entirely compatible with religious values. They referred to traveling to give lectures as responding to “a call” or moving to a new city to set up projects as taking up “the work.”²⁹

The marriage of scientific empiricism to the moral aims of social reform characterized the early work of domestic scientists, who partnered with Atwater on a series of dietary studies and put his nutritional calculations into practice in experimental public kitchens. Working under Atwater’s supervision, domestic scientists conducted around 350 studies of the eating habits of American families over a fifteen-year period beginning in 1885. The studies took place in various cities around the country, some were hosted by colleges, and one study, conducted in collaboration with the Tuskegee Normal and Industrial Institute and the Agricultural and Mechanical College of Alabama, focused specifically on “the food of the Negro in Alabama.”³⁰

In each study the researcher began by accounting for all food materials in a home. Over the course of the next seven days, she measured all food purchased, all kitchen and table waste, and all food remaining at the end. She also observed the content of each meal consumed and, finally, used

Atwater's food composition tables to establish the amount of nutrients being provided. Each study resulted in a table showing the nutrients provided in relation to the costs per person per day. The purpose, Atwater explained, was both to collect information about living conditions and to assess the "pecuniary economy" of the families studied. "Pecuniary economy" referred precisely to the empirical and moral assessment of a family's food choices in terms of how efficiently, or wastefully, they attained energy for work.³¹

Moral assessment was inseparable from the application of the empirical standards of nutritional quantification. The results of each dietary study were passed along to "the woman of the house" in what was called a "frank chat," and also published in USDA bulletins that were read by the growing number of female reformers turning their attention to matters of the diet.³² The bulletins chronicled the failure of many to economize, and the success of some, whose ability to live well on limited means surprised and impressed the researchers. Moral condemnation was frequently explicit. A mechanic's family living in New York, for example, was described as "shiftless" and "careless" because they were found to be buying "buns at 5 cents a pound when wheat flour was worth 2 cents a pound," and purchasing bananas and oranges, which were "extravagant for people in their circumstances." The researcher who prepared the report noted that the problem was as much one of poor choices as it was one of limited means, writing that "the great trouble here, as in so many poor families of the congested district, lies in unwise expenditures fully as much as in a limited income."³³ The "wisdom" of expenditures was a moral measure that had become quantifiable through the numeric language of nutrition and, therefore, could now be used as a standard for both assessment and comparison.³⁴

Domestic scientists embraced nutrition as the guiding principle of every act related to choosing, preparing, serving, and consuming food, but maintained the values of moderation and asceticism that were central to earlier, more overtly ethical approaches to eating right. They saw eating right as a moral practice that began with banishing the sway of tradition, intuition, and preference. They believed American home cooks were too casual, sloppy, and ignorant, and wanted to replace chance with predictability and chaos with a rational, scientific practice consistent with the emerging industrial order. They argued that the kitchen should become a "domestic food laboratory" where the cook practiced "scientific cookery."

As one reformer explained, scientific cookery was considered an extension of the scientific process of digestion, "a long series of processes, essentially digestive outside of the body," which could properly be thought of as "external digestion."³⁵ While scientific cookery reframed cooking and eating as a scientific process, it was at the same time a moral discourse that moderated pleasure and constrained the possibility of excess in the form of either caloric intake or expense. First and foremost, food was to be conceived of in terms of its function in the body, not its sensual properties or potential to please. Every activity in the "domestic food laboratory" was to be geared toward preparing food to achieve its end: "absorption through the living walls of the alimentary canal to minister to human nutrition."³⁶ Economy, or the proper correlation between the chemical components of food and the needs of the body, was the guiding principle.

Pleasure was viewed as a threat to the reign of scientific reason in the kitchen, tempting eaters toward both caloric and economic forms of excess. Atwater argued that there was no place for pleasure in the new science of eating right, since taste had no bearing on whether or not food was "healthy and digestible" from a scientific perspective.³⁷ For domestic scientists, who were more intimately aware of what it really meant to feed people on a daily basis, pleasure was not entirely dispensable, but it had to be moderated through the application of science. As one writer explained, good taste had a role to play, but only because it led to the "greater outpouring of the needed digestive juices, thus furnishing the means for more rapid and complete digestion"—"palatability" was, in essence, an accessory to digestibility.³⁸ For Richards, the temptations of the appetite were to be reined in by the principles of scientific nutrition. She wrote, "A higher rule of life than the mere gratification of taste, regardless of health and pocket, must prevail" if the "temptation to intemperance in eating was to be resisted," and she described "temperance in the use of foods" as "even more essential than in anything else which tempts man's appetite."³⁹ She warned that excessive flavor and pleasure were potentially harmful, especially for the young, and argued that infants and children should not be exposed to highly spiced or sweet foods since bad habits could be fixed "by a very little unwise indulgence."⁴⁰

An allegorical tale called "King Palate," published by Mary Hinman Abel in the early 1890s, perfectly illustrates the concerns about managing pleasure that ran through the discourse of scientific cookery. In the story King Palate is a monarch who enjoys himself too much and pays the price

until he finally learns to rein in his passions and live within the constraints provided by scientific knowledge. Abel described King Palate as “lawless in his conduct” and doing “just what he pleased,” which included enjoying feasts with his subjects. Eventually, his kingdom was overrun by enemies, who went by the names of Indigestion, Dyspepsia, Gout, and “a hundred others.” Then Knowledge, a youth of “wondrous promise,” arrived, but the king called him a fool and ignored him as long as he could. Eventually, Knowledge grew into a man, developed a following among the people, reined in the passions of the king, and led the land to thrive.⁴¹ In the end, knowledge prevailed over pleasure, just as domestic scientists hoped it would in every American kitchen. The story of King Palate’s downfall dramatized the dual function of the dietary advice domestic science promoted, as both a set of empirical rules about what to eat and a set of moral strictures that expressed concerns about moderation and pleasure.

The New England Kitchen, which opened in 1890, put the principles behind this allegorical tale into action. A paragon of scientific cookery in all of its empirical and ethical glory, the New England Kitchen was a public kitchen set up in one of Boston’s “poor sections” under the leadership of Richards and Abel.⁴² The aim was to provide immigrants and the poor both with pails of food to be taken home and with lessons in eating right that were intended to improve their morals and character. Using Atwater’s calculations, Richards and Abel devised a menu of foods to “give the largest possible amount of nourishment for a given amount of money,” and they subjected each item to extensive chemical analysis in order to ensure its uniformity and nutritional efficiency.⁴³ The menu included beef broth, vegetable soup, pea soup, cornmeal mush, boiled hominy, oatmeal mush, pressed beef, beef stew, fish chowder, tomato soup, Indian pudding, rice pudding, and oatmeal cakes. Since most of its patrons were illiterate, the kitchen taught through its food and its example. Its entire operation was open to the view of patrons, who the reformers hoped would learn to appreciate and adopt scientific methods simply through exposure (see figure 2.2). Abel called the kitchen a “silent teacher of cleanliness, intelligent methods, and a uniform and good result in cookery.”⁴⁴ She explained, “It is good for people to daily pass and sometimes enter a cleanly, pleasant place where . . . they hardly know how, they get hints for more healthful living.”⁴⁵ In an article on the New England Kitchen in the *Century*, Maria Parloa, a prominent domestic scientist,

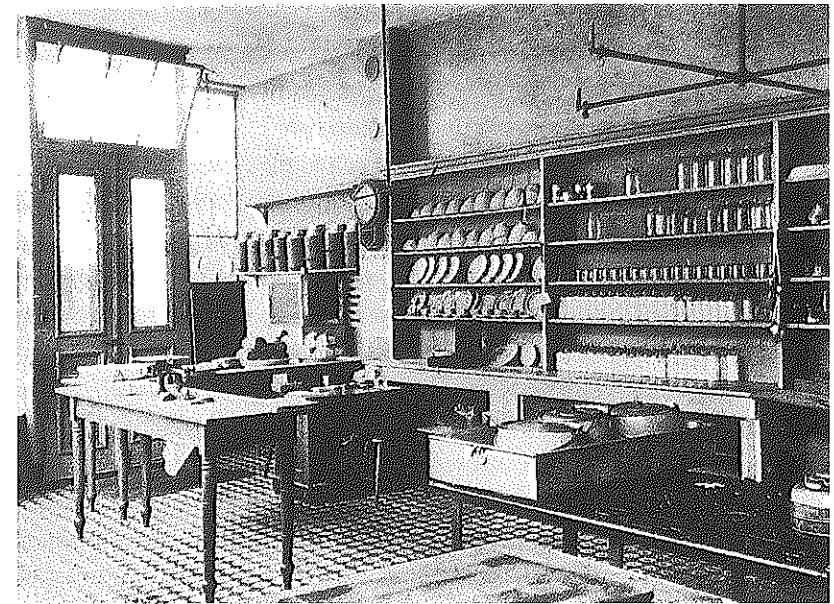


FIGURE 2.2 • A silent teacher: interior of the New England Kitchen.
Courtesy of the MIT Museum.

celebrated its intertwined material and ethical aims, writing that when people with poor diets “are educated up to the point where they choose soups, well-cooked cereals, and good milk, there will be a great gain in their physical and moral condition.”⁴⁶

After an initial period of excitement, in the mid-1890s the reformers who had invested so much in the conceptualization and materialization of the public kitchens noticed that the population they aimed to reach had little appetite for the scientific morality they were serving. Philanthropic support waned, kitchens either closed or abandoned their original missions, and domestic scientists began to come to terms with the fact that they would have to give up their attempts to reform the poor and invest their attention elsewhere.⁴⁷ In trying to understand why their project failed, Abel and the others noted that their patrons were simply unwilling to cede their own measures of good food to scientific standards.

Richards noticed that the intended patrons rejected the New England Kitchen not simply because they did not like the food it offered, but also because they were not willing to accept the definition of eating right that

it embodied and sought to transmit. She wrote that the “death knell” of the public kitchens was sounded “by the woman who said ‘I don’t want to eat what’s good for me; I’d ruther eat what I’d ruther,’” and that the man who pointed to a baked Indian pudding and said, “‘You needn’t try to make a Yankee of me by making me eat that’ . . . may have helped ring the knell.”⁴⁸ The kitchen offered a menu of food that was “good” by the measure of scientific nutrition but not necessarily so by the measures of taste, tradition, and cultural status that were meaningful to the men and women, many of them immigrants, who it sought to serve.⁴⁹ Levenstein has detailed the “manifest failings” of the reformers: they failed to appreciate that working-class families considered better food (especially more beefsteak) the just reward of their hard work; they suffered from “bland palates and underdeveloped appreciations of the joy of eating”; and they studiously ignored the tastes of their immigrant customers.⁵⁰ But the reformers sought to impose a bland New England diet not merely out of insensitivity and ignorance. Rather, they were redefining the meaning of eating right through the lens of science and learning to quantify the morality of eating right.

The failure of the public kitchens did not stop the momentum of domestic science; it merely launched the movement into its next, more successful phase. And despite its failure to achieve its stated intent—to improve the diets and character of immigrants and the poor—the early work of the domestic science movement represented an important transition in the culture of dietary health. The dietary studies and the public kitchens applied ideals that married morality and scientific nutrition, making them the first modern dietary-reform projects. The ideals of a good diet that provided the most nutrition at the least possible cost and a cooking practice that scientifically reduced pleasure to its chemical role in digestion introduced a new meaning of eating right that was infused with moral asceticism but spoke in the increasingly authoritative, numeric language of science, making a good diet for the first time a seemingly objective, quantifiable moral measure.

“Natural Law” and the Making of Good Citizens

While we tend to think about choosing a good diet as a matter of individual bodily health, because of the moral content of dietary ideals eating right is also a process of self-assessment, self-improvement, and self-making

that takes place in relation to particular social values, norms, and ideals.⁵¹ As efforts to improve the eating habits and the character of the Northeast’s urban poor lost momentum in the mid-1890s, Ellen Richards began to connect the empiricism of nutrition and scientific cookery to the particular social ideals of Progressivism, and to articulate the moral dimension of nutrition in relation to emerging ideals of good citizenship. Concerns about intemperance gave way to pronouncements about race improvement and the importance of learning to sacrifice individual liberty for the sake of “true democracy.” In the first decade of the twentieth century Richards and her allies built a movement, known as home economics, that taught people to eat right and, in the process, instilled emerging norms of good citizenship. Home economics leveraged the ethical aspects of dietary advice to help acclimate the public to massive changes in social conditions and the structure and function of the federal government; it was as much about training citizens for the Progressive Era as it was about teaching the science of domesticity.

Richards’s ideas about the social role that domestic science should play were initially out of sync with the aims of many of her colleagues, who were motivated by an entirely different and more mundane concern—the servant shortage caused by the proliferation of jobs in the growing industrial sector. They were focused on teaching cooking and sewing to inexperienced girls and on training middle-class women to better manage their servants or make do with less help. Richards redirected the movement by assembling people who shared her motives, with the hope that they might eventually form a new organization to replace the National Household Economics Association (NHEA), which focused on securing skilled labor for middle-class homes.⁵² In 1899 she organized a meeting of a small group of like-minded reformers in Lake Placid, New York. The eleven attendees chose “home economics” as a name for their work and discussed training teachers, developing high-school curricula, and the need for showing colleges and universities the importance of the new field.⁵³ The conference accomplished what Richards had hoped it would, setting into motion a reorientation of the domestic-science community around addressing social problems through interventions into the educational system. Home-economics reformers continued to meet annually in Lake Placid for the next ten years. Attendees, who eventually numbered close to seven hundred, included instructors and supervisors of programs in domestic science from kindergarten to college, magazine editors, women

running dietary programs in sanatoriums and hospitals, Canadian and English leaders in the field, and a few men with relevant expertise such as, on occasion, Wilbur Atwater.⁵⁴ By 1903 the NHEA had collapsed, and six years later the American Home Economics Association was formed, with Richards as its first president. By 1914 home-economics courses were offered in 250 colleges and universities, with 28 four-year programs leading to a bachelor's degree, 20 masters programs, and one doctoral program in household administration.⁵⁵

Despite its reputation as a short-sighted effort to teach cooking and cleaning, home economics in its foundational period was a reform movement with social aims that were shaped in part by widespread concerns about "the future of the race."⁵⁶ As the public kitchens failed, Richards shifted focus away from working with the urban poor and toward dietary reform among the middle class in the name of race betterment. In 1899, as she neared the culmination of this gradual transition, she explained: "I believe that the greatest need of intelligent persons today is a right attitude of mind towards the development of the highest powers of the human race. I believe that the well-to-do classes are being eliminated by their diet, to the detriment of social progress, and *they* and *not* the poor are the most in need of missionary work."⁵⁷ Like many of her contemporaries, Richards feared that modern life was destroying the vigor and reproductive vitality of the Anglo-Saxon middle class. Darwinism had created a consciousness of species, an awareness of well-being at the level of race, and a new obligation to be healthy for the sake of the race. An ambiguous term, *race* could refer to the human race, to a nation or population, or to a distinct social unit, much like the term *class*. While in the context of Progressive Era health reform *race* ostensibly applied to the human race in general, it was understood by most to have a special reference to Anglo-Saxons.⁵⁸ The concept of health as a duty to the race at the turn of the century implied, therefore, that the Anglo-Saxon portion of the population should regenerate itself and then "rescue the less blessed (and potentially race destroying) portions of humankind."⁵⁹ The eugenics movement generated and capitalized on this concern, channeling widespread social anxiety into a program for improving the future of the race. Eventually, eugenics consolidated around sexual selection as the most important means of race betterment, advocating both positive (encouraging better breeding) and negative (eliminating the unfit) methods of improving heredity. But prior to World War I, efforts to improve the environ-

ments in which people lived also played an important role. Many saw environmental reform as an important corollary to hereditary reform.⁶⁰

For Richards, dietary reform was a way to improve individuals in the present, rather than wait for the effects of eugenic reform on future generations. Richards began to develop her thinking on the relationship of diet to race betterment in the early 1890s and refined her analysis throughout the next two decades, finally publishing a book on the concept in 1910. In 1901 Richards wrote, "In the interest of the race, of its mental as well as physical development, there is no subject which should occupy the attention of educators comparable with that of food and its influence on human progress."⁶¹ In 1904 she explained to her colleagues at the Lake Placid Conference that the word *eugenics* had been coined by Francis Galton to express a better race, and she suggested the term *euthenics* to describe better living. "Euthenics," she argued, should be used instead of "home economics" as a name for the work that was being done in higher education.⁶² At the 1906 Lake Placid Conference, Richards explained that euthenics was "the science of better living conditions in order that the human race may enter into its heritage of fuller organic life, instead of sinking below the beasts of the field."⁶³ Her thinking on the topic culminated with the publication, shortly before her death, of *Euthenics: The Science of a Controllable Environment*, in which she described euthenics as focusing on the "better raised" instead of the "better born."⁶⁴ "Euthenics precedes eugenics," she wrote, "developing better men now, and thus inevitably creating a better race of men in the future. Euthenics is the term proposed for the preliminary science on which eugenics must be based."⁶⁵ Euthenics was hygiene not for future generations but for "the present generation," and while eugenics was awaiting "careful investigation," euthenics presented "immediate opportunity."⁶⁶ Dietary reform was resolutely central to this vision of race progress. "The food problem is fundamental to the welfare of the race," Richards wrote in *Euthenics*. "Society, to protect itself, must take cognizance of the question of food and nutrition."⁶⁷

Richards's euthenics, with its passionate commitment to social betterment through changes to living conditions, was entirely consistent with the aims and tactics of the Progressive movement.⁶⁸ In fact, the dietary ideals articulated within the framework of home economics conveyed core ideals of Progressivism, using the language of eating right to help reframe notions of freedom and democracy and to prepare Americans for

a new iteration of what it meant to be a good citizen. Richards argued that the public schools, founded for “the production of efficient citizens,” were failing to fulfill their mandate because they had not adapted to the changing needs of American society. She explained that while lessons in the three Rs—reading, ’riting, and ’rithmetic—may have once been sufficient, there was now a need for “a fourth R in addition to the time honored three . . . *Right Living*.⁶⁹ She advocated lessons in Right Living, or “right ideals of life and its meaning,” that would train good citizens by giving “every child the means of making himself an efficient human being.”⁷⁰

These lessons in Right Living were to be delivered through a rigorous scientific education that emphasized, above all, the importance of understanding and submitting to the laws of nature. For Richards and her colleagues, the concept of natural law, or the laws of nature, referred to principles that governed the natural world.⁷¹ Especially in the high-school curriculum, learning the laws of nature was emphasized over learning practical lessons. Students in a high-school home-economics course might spend ten weeks on physics, twenty on chemistry, and a mere three to eight weeks applying the science in planning and cooking meals.⁷² Though usually remembered as being as fluffy as the cakes they aspired to perfect, early home-economics courses delivered (mostly to young girls) a serious education in natural law and, concurrently, in the social values of Progressivism.⁷³

Richards, who described home economics as “nothing less than an effort to save our social fabric from what seems inevitable disintegration,” had a profound appreciation for the kind of unity and order that the laws of nature could impose on the chaos of contemporary life.⁷⁴ For Richards and her colleagues the universal laws of nature seemed to offer a way to renew the social cohesion that industrialization and urbanization had so badly frayed.⁷⁵ The question of what held the society together concerned many Americans at the turn of the century, as they experienced a disorienting transition from the agricultural rhythms and familiar relationships of small-town life to the dizzying industrial pace and complex social networks of the urban context. Some turned to natural law to explain and impose cohesion.⁷⁶ The notion that there existed a set of irrefutable laws whose proof could be seen throughout the natural world, but particularly in the body, appealed to members of the middle class for whom the cultural and political changes of the nineteenth century were overwhelming.⁷⁷ Richards and her colleagues, for example, noted that projects such as the New England Kitchen could not succeed because of the unmanage-

able heterogeneity of the urban population. The diverse tastes and “national preferences” of those dwelling within Northeastern cities simply could not be pleased by a single menu. The laws of nature, however, offered to contain and order the chaos of diverse tastes, preferences, and habits. As Mary Hinman Abel explained not long after the failure of the kitchens, “To the unlearned man every food stands by itself and is only to be judged by its taste; but science has reduced the seeming complexity to order.”⁷⁸ An unwavering set of truths that emanated from nature and was ordained by the authority of science helped to limit the available interpretations of a “good diet.” Science offered a set of beautifully irrefutable truths that, many hoped, would reduce dissent and structure the increasingly complex society.

Through the teaching of natural law, home-economics courses conveyed lessons in good citizenship similar to those being taught in civics courses. The role of the national government had historically been to collect taxes and appropriate funds, but by the end of the nineteenth century Progressive reformers were beginning to envision and create a professionally staffed government broadly involved in managing the operation of society.⁷⁹ In response, a new civics curriculum treated the notion of individual liberty as a myth that needed to be replaced by acceptance of government’s role in curtailing individual freedom for the sake of society.⁸⁰ For home economics, the laws of nature provided irrefutable proof that man was not intended for unregulated freedom and a means of instilling the habit of willing compliance with the increasingly interventionist laws of the growing state. Reflecting changes in notions of citizenship related to the legal separation of citizenship from suffrage, civics education was no longer about voting and political rights, focusing instead on moral education, teaching a sense of dependence and deference to experts, and developing desirable habits and behaviors (including health habits).⁸¹ Home economics also taught exactly these things, using the notion of natural law as a means of instilling an ethos of obedience and deference to experts while training pupils in Right Living, the habits of daily life that would best express self-control and morality.

Like civics courses, home-economics courses paved the way for the state-building endeavors of the Progressive Era, teaching reliance on government and limiting the notion of individualism to fit within the growing need for an active state and the expansion of government regulation and welfare programs. Richards adamantly supported the growing role of the

federal government, explaining, “Conditions of motion, of rapid intermingling of distant populations” demanded “national control” through “prompt and thorough action which well-equipped Federal forces alone possess.”⁸² In 1900, at the second Lake Placid Conference, Richards described home economics as a means of preparing students for a form of citizenship that emphasized responsibility to the needs of the larger social group and required obedience to natural laws and by extension to the laws of the state. She talked about the importance of developing a child’s responsibility toward his environment, of teaching him about his relationship to “public health and public morals,” and of helping him to understand “the laws that govern the moral and physical health of the individual, and of his obligation to keep these laws.”⁸³ In *Euthenics* she wrote an eloquent defense of the ideals of Progressivism that animated home economics: “The individual may be wise to his own needs, but powerless by himself to secure the satisfaction of them. Certain concessions to others’ needs are always made in family life. The community is only a larger family group.”⁸⁴ She went on to explain that with new regulations helping to manage the life of the community, it was no longer reasonable to expect the same kind of freedom; by coming into the community, the individual “forfeited his right to unrestrained individuality.”⁸⁵

Richards had long believed that the American ethos of individualism needed to be revised to make way for new political realities and that the teaching of natural law, while potentially unwelcome, offered a way of doing so. In *The Cost of Food* (1901), she bemoaned the difficulty of teaching Right Living, “especially in the face of the intense individualization so widely taught—namely that each person is a law unto himself.”⁸⁶ She expressed concern that her efforts to teach respect for natural law were so often met with “scoffing” and “a demand for freedom and unrestrained choice as a mark of American Liberty.”⁸⁷ Expressing her frustration, she continued, “Men have yet to learn that ‘independence cannot with safety be made to apply to their relations with nature.’”⁸⁸ Richards argued passionately for a more limited interpretation of freedom, and saw lessons in Right Living as an obvious means of instilling them into the daily lives of Americans. She explained that most Americans had a mistaken notion of liberty as meaning “each person is a law unto himself”; on the contrary, she argued, true freedom came not from “unrestrained choice” but from living knowledgeably within the constraints provided by “the fixed principles which govern all living organisms.”⁸⁹ Obedience to natural law was

especially important when it came to food, and Richards saw home economics as an opportunity to teach people how to eat not just for themselves, but for the good of the whole. At the fourth Lake Placid Conference, she explained, “Each man likes to be law unto himself in the first flush of freedom. He thinks that is democracy. But the student finds that true democracy is sacrifice for the sake of many. In food, not what *we like* but what is good for the many should be the standard.”⁹⁰

That lessons in eating right were also lessons in natural law, which were truly lessons in good Progressive Era citizenship, was beautifully illustrated by a report presented by the Committee on Home Economics in the Elementary and Secondary Schools at the third Lake Placid Conference, in 1901. The committee expressed concern that their students thought freedom meant the liberty to do whatever they wanted, and complained that this led to “a certain lawlessness,” “lack of personal responsibility,” and “deplorably bad manners.”⁹¹ The report went on to explain how a lesson in bread baking could remedy these problems by teaching students about the absolute limits on freedom that natural law imposed. Sure, the girls were free individuals, but if they simply did as they pleased—“refuse to pour boiling water on the yeast, forget the salt, refuse to make their muscles work effectively, let the dough stand a length of time convenient to themselves, and fail to manage the oven dampers”—they would learn the consequences of disobeying the laws of nature. They would find that “Nature has gone quietly on her way, and returns to them their just due; their own careless, irresponsible selves expressed in a soggy, dark, sour, ill shaped loaf of bread.” Such a lesson, the committee explained, would result in much more than better bread. They described the lesson as one that put “in concrete terms the whole matter of the limitation of the individual by his environment,” arguing that “through a series of such experiences there comes an understanding of what law means, and self-control, and obedience, and freedom.”⁹²

Eating Right and the Making of the Middle Class

In a space large enough to seat just thirty people at a time, ten thousand attendees of the 1893 World’s Columbian Exhibition in Chicago were served a scientifically calibrated lunch in an exact replica of the New England Kitchen (see figures 2.3 and 2.4). The Rumford Kitchen served brown bread, pea soup, beef broth, “escalloped fish,” rolls, gingerbread, and

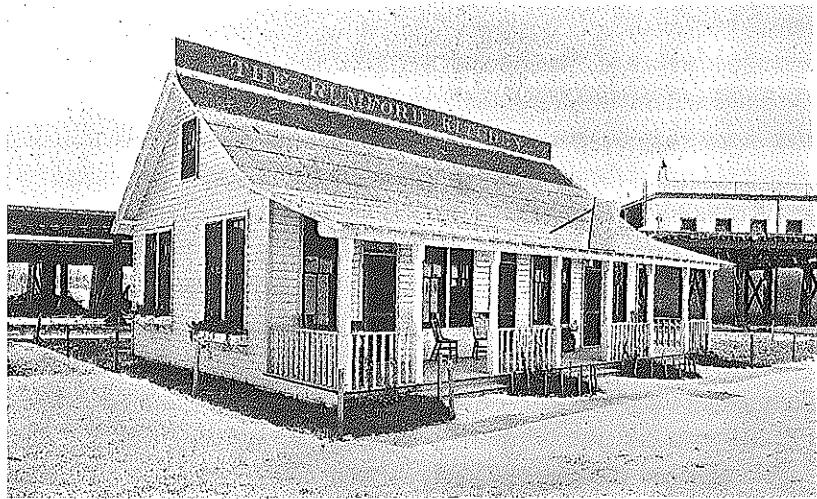


FIGURE 2.3 ▶ The Rumford Kitchen at the World's Columbian Exhibition. Courtesy of MIT Libraries, Institute Archives and Special Collections, Cambridge, Massachusetts, Report of Massachusetts Board of World's Fair Managers, World's Columbian Exposition, Chicago, 1893.



FIGURE 2.4 ▶ Interior of the Rumford Kitchen, with mottos visible on the walls. Courtesy of MIT Libraries, Institute Archives and Special Collections, Cambridge, Massachusetts, Report of Massachusetts Board of World's Fair Managers, World's Columbian Exposition, Chicago, 1893.

baked apples, but it was decidedly not a restaurant.⁹³ Like the New England Kitchen, the operation was not about feeding people so much as it was about teaching them to eat right; it was an “absolutely scientific and educational” enterprise dedicated to the “application of science to the preparation of food.” But while the New England Kitchen had attempted to reform the urban poor, the aim of the Rumford Kitchen was to “arouse the intelligent, thinking citizen to the need and possibility of improving in these directions.”⁹⁴ The reproduction of the New England Kitchen in this new context was meant to demonstrate the basics of scientific nutrition and scientific cookery to a new audience, but it served another purpose as well: to highlight and dramatize the distinction between the “incorrigible poor” and the eager, amenable “intelligent classes.” The middle-class audience at the fair turned out to be much easier to teach, in part because they were literate—there were menu cards on each table showing the relationship between daily nutritional requirements and the composition of each dish being served, blocks demonstrating the composition of the human body, a reference library on food and hygiene, and inspirational quotations lining the walls.⁹⁵ But the fairgoers also proved themselves to be much more amenable to scientific eating than were urban slum dwellers. Drawing out this distinction gave the reformers an opportunity to define and distinguish the middle-class patrons of the Rumford Kitchen as good eaters in contrast to the immigrants and urban poor whose stubbornness has caused the New England Kitchen to fail.

Just as the introduction of nutritional quantification made eating habits available as a mode of comparison between individuals, so, too, did it provide a means for creating, identifying, and comparing social classes on the basis of how well they managed to attain the goal and social ideal of dietary health. The middle class emerged as a social identity and style of living in the nineteenth century, as certain “daily routines and social networks” distinguished the lives of some people from those of others above and below them in the social hierarchy.⁹⁶ But even as the term *middle class* was achieving a relatively stable and widely understood meaning toward the end of the nineteenth century, the concept, according to one historian, “crumbled at the touch.”⁹⁷ Changes in the structure and scale of capitalism were undermining class distinctions based on the difference between manual and nonmanual labor, blurring the boundary between middle-class “brain workers” and the hard-working laboring class. The expansion of permanently low-paying nonmanual jobs and a severe eco-

nomic depression between 1873 and 1896 meant that many who might have expected to attain middle-class status were unable to do so.⁹⁸ The middle class was at once expanding in size and searching for ways to know and distinguish itself that transcended increasingly unreliable economic and occupational markers.

The pursuit of health became a means for the professionalizing middle class of the late nineteenth and early twentieth centuries to know and identify itself and to stake claims to responsibility and authority. Health became a key marker of middle-class morality and identity, but its utility as such derived in large part from the way it could distinguish members of the responsible middle class from those beneath them in the social hierarchy who failed to achieve the goal of health. Robert Crawford explains that the identity of the “healthy self derived from two interrelated oppositions: “(1) a biologically healthy self that is conceived in opposition to disease and death; and (2) a metaphorically healthy self by way of which conventional beliefs about the self are imagined as opposed to the qualities of ‘unhealthy’ persons *already* positioned as subordinate, outside, and stigmatized.”⁹⁹ The “unhealthy other,” positioned as outside, stigmatized and dangerous, was a common figure in the discourse of health reform at the turn of the century. Tuberculosis crusades, for example, appealed to stereotypes of the other as “dirty and dangerous” despite public rhetoric emphasizing the democratic intent of health education. “Not surprisingly,” writes Nancy Tomes, “the ‘careless’ or ‘unteachable’ consumptive was usually poor, uneducated, and foreign-born or nonwhite.”¹⁰⁰

Domestic scientists began to both assert and leverage the significance of the distinction between the healthy middle class and the unhealthy other as they celebrated the “resounding success” of the Rumford Kitchen. In addition to bringing scientific meals to thousands of fairgoers, the Rumford Kitchen presented a moment in which failure of the poor to live by the new knowledge of nutrition was set into stark contrast with the apparently avid interest of the “intelligent classes” in eating right. Among the twenty printed leaflets distributed at the kitchen and later published as *The Rumford Kitchen Leaflets*, there were two pieces in which Mary Hinman Abel reflected on the difficulties the reformers faced trying to change the diets of “working men” and contrasted this to the ease with which the middle-class audience was reached.¹⁰¹ “The Story of the New England Kitchen” and “Public Kitchens in Relation to the Working Man and the Housewife” detailed the stubbornness and lack of interest among the poor that had in

Abel’s opinion led to the demise of the public kitchens. Abel portrayed the poor as unreachable, “incorrigible,” and too diverse to be pleased by a single menu. She wrote that the problems of the public kitchens primarily arose from a single cause: “The extreme slowness with which the mass of people change their habits with regard to food.” She went on to very directly point out the contrast between the stubborn class and the more flexible class: “The cosmopolitan traveler and the fashionable diner-out will taste of a new dish with readiness, while the factory worker or the average school girl cannot be brought to try it.” The success of the Rumford Kitchen was taken as further proof that the middle class was unlike the “large class” of people who refused to eat what was good for them and who opted instead to eat what they liked.¹⁰² Recognizing the middle class as open to reform in contrast to the stubborn “unhealthy other,” domestic scientists provided advice about how to eat right that helped to further define middle-class identity and delineate its boundaries.

Maintaining the fuzzy boundaries of the new middle class entailed taking into account all of the factors that worked together to define its common experience and outlook. The dietary ideals that domestic scientists promoted did exactly this by defining a good diet as eating habits that were accurately calibrated to the income, occupation, experience, lifestyle, and habituated preference of the eater.¹⁰³ The notion that a good diet was different for people with different incomes was the fundamental premise of early nutrition and the reform movement that promoted its principles. It was precisely the inappropriate expenditure on food relative to income that Atwater wanted to remedy through his research, which revealed that there was no reason to spend a meager income on expensive sources of energy when less-expensive sources were available. Atwater’s research established the fact that the cost of food, as Richards explained, “is no measure of its nutritive value.”¹⁰⁴ One of the Rumford Kitchen leaflets celebrated this odd but wonderful fact: “How strange it seems the fact, when we first learn it, that a Roman feast and a Lenten feast, a Delmonico dinner and the lunch of a wayside beggar, all contain the same few simple elements of nutrition! . . . So this is nature’s democracy, food is food, for a’ the wit of cooks!”¹⁰⁵ “Nature’s democracy” made it both irrational and immoral to choose expensive cuts of meat and other delicacies if means were limited, but doing so was perfectly appropriate, in fact expected, when money was available.

Domestic scientists conveyed the importance of dietary differentiation

by income to the American public. They provided books, leaflets, lectures and school curricula that reiterated Atwater's principles of nutritional efficiency and taught women how to provide good diets at various costs per day and for various income levels. For example, Richards's book *The Cost of Food: A Study in Dietaries* delineated proper diets for people at several different income levels. For those subsisting on fifteen cents per person per day Richards recommended an evening meal consisting of milk, homemade bread, butter, and stewed pears, while for those spending one dollar a day tomato soup, halibut, filet of beef with piquant sauce, potatoes, beets, sweetbreads, and lady fingers were among the items on the menu (see figures 2.5 and 2.6).¹⁰⁶

Anxiety lurked at the heart of this eminently practical advice, which reflected not only Atwater's aim of keeping the working classes happy on limited incomes in order to avoid social unrest, but also the social concerns of reformers who recognized the fluidity and instability of class markers. A series of articles published in the mid-1890s in the movement's magazine, *New England Kitchen*, expressed concerns about "dishonesty in caste" and urged readers to dress, eat, entertain, furnish their homes, and approach housekeeping with "honesty." The articles repeatedly stressed that people should not attempt to deceive others by adopting the food, clothing, or home décor of another class. In her first article the author Ethel Davis explained that "correct analysis of social position is absolutely necessary to the perfect furnishing of a home . . . No surroundings, no occupation, no circumstances of environment can change the proper classification of a human being in the social world."¹⁰⁷ The notion of honesty in class meant that people should eat in appropriate relation to their actual means, and that a wife should not offer food to guests that might present a deceptive picture of her "husband's position." Give them "sweet-breads and quail if that is what you can afford to supply for your household and them," urged the author, "bread and molasses if that is your alternative."¹⁰⁸

Teaching people to choose meals and menus that reflected their income was but one aspect of how domestic scientists leveraged the discourse of dietary health as a means of identity making and boundary marking for the middle class. Part of the problem facing the middle class was that income was no longer a reliable means of distinguishing the middle class. The manual-nonmanual divide initially provided the foun-

DIETARIES COSTING TEN TO FIFTEEN CENTS 109

TABLE X
DIETARY NO. 1

FOR AVERAGE FAMILY OF SIX, 15 CENTS PER PERSON PER DAY

	Lbs.	Oz.	Gms.	Cost.	Grams.			Cal.
					Prot.	Fat.	Carb.	
<i>Breakfast.</i>								
Baking-powder biscuit.....				\$0.10	72.2	39	447	2491
Ham (lean).....	1		453	.15	81.5	85	1123
Butter.....	1/3	025	.2	30	333
Potatoes.....	2	02	16	.8	138	650
Milk for coffee.....			160	.01	6	7	8	122
Sugar for coffee.....			60	.007	60	246
					0.312	175.94	168	653
								4965
<i>Dinner.</i>								
Beef-shank stew.....	3		1360	0.24	185	53	1251
Potatoes.....	1	01	8	.4	69	325
Turnips.....	1	02	4.5	.5	28	138
Thickening.....		015	7.5	24.7	53	477
Suet pudding:								
Beef-suet.....	1/4	03	220	2040
1 qt. flour.....		028	66	6	428	2056
1 cup molasses.....		02	113	463
Soda, sweet sauce.....		01	10	50	298
					0.373	271	314.6	741
								7048
<i>Supper.</i>								
Milk, 1 pint.....			0.03	15	18	22.7	325
Bread (home-made) and butter.....		10	0	126.5	319	2734
Stewed pears.....		045	4	5	216	962
					0.175	80	149.5	557.7
								4027
Totals:								
Breakfast.....				0.312	176	168	653
Dinner.....				0.373	271	314.6	741
Supper.....				0.175	80	149.5	557.7
					0.86	537	632.1	1951.7
					0.04	16034
					0.90
Per person.....		15	89.5	105.3	325.3
								2672

453.6 grms. = 1 lb.

1 grm. protein and carbohydrates = 4.1 calories.

1 grm. fat = 9.3 calories.

FIGURE 2.5. "Dietary No. 1: For Average Family of Six, 15 Cents per Person per Day." Ellen Richards, *The Cost of Food: A Study of Dietaries* (New York: J. Wiley and Sons, 1901).

TABLE XXIV
DIETARY NO. 5
\$1.00 PER PERSON PER DAY

	Lbs.	Oz.	Gms.	Cost.	Grams.			Cal.
					Prot.	Fat.	Carb.	
<i>Breakfast.</i>								
Strawberries.....	3			.30.40	12	8	83	465
Sugar.....	5.6	159		.018	13	2.5	159	652
Cream of wheat.....		127		.02	6	6x	96.6	472
Cream.....	1.8	230		.15	6	6x	6.5	618
Eggs (9).....	1.8	505		.24	6x	47		836
French rolls (1 dozen).....	1	453		.12	44	24	260	1465
Butter.....	3	84		.12	8	72		700
Coffee.....	1	28.3		.025				
Sugar.....	2	60		.007				
Thick cream.....				.075	3	30.5	60	246
							3.3	309
<i>Luncheon.</i>								
Chicken (broiled).....	4			1.00	268	20		1300
Butter, 2 tbs.*.....		28		.015		24		224
Potato chips.....	0.5			.05	17	80	115	1290
Cold asparagus (salad).....	2			.30	16	1.8	29.9	210
French dressing ($\frac{1}{4}$ cup of oil).....				.08	120.2			1118
Bread.....		200		.02	19	3	108	544
Tea.....	1/6							
Sugar.....	2			.007			60	246
Cherries.....	1	453		.10			66	260
Gingerbread (thin).....		250		.04	16	32	124	852
<i>Dinner.</i>								
Tomato soup.....	2			.10	62.2	10	50.8	370
Halibut, creamed.....				.278	76.4	43	23.3	705
Bread for the whole dinner.....	200			.02	19	3	108	544
Filet of beef, piquant sauce.....	3			1.00	234	252		3300
Potatoes.....	1			.02	8	4	68	315
New beets.....	0.5			.10	4.8	4	17.4	170
Sweetbread and cucumber salad (No. 30), mayonnaise dressing.....				.73	79	194	17.5	2030
Saltines.....	1	28		.025	2.9	122	24	110
Café parfai (home-made).....				.475	12		214	1956
Lady-fingers.....		4		.05	7	11	80	457
Coffee.....	1			.025			60	246
Sugar.....	2			.007				
Olives, relishes, garnishes, etc.....				.35				
Total.....				3.18	498	635.8	663.0	10263
				6.00	980	1161.8	1834.4	22070
Per person.....				1.00	163	193.6	305.7	3678
Less 15 per cent of waste oil, fat, and sugar—on plates, in coffee, etc.....					24	29	46	552
					139	164	259	3126

* tbs. = tablespoonful.

FIGURE 2.6. "Dietary No. 5: \$1.00 per Person per Day." Ellen Richards, *The Cost of Food: A Study of Dietaries* (New York: J. Wiley and Sons, 1901).

dation for the economic distinction between the middle class of brain workers and the working class of laborers. But nonmanual employment no longer guaranteed an income consistent with middle-class lifestyle. In the context of this boundary confusion, domestic scientists promoted dietary advice that reaffirmed the distinction between brain workers and muscle workers. Atwater's work with the "calorimeter" laid the foundation for dietary ideals that differentiated between the needs of people doing different kinds of work. The calorimeter allowed Atwater to measure all the energy that entered in the form of food, drink, and oxygen and all the energy that exited in the form of carbonic acid, water, and "the products of elimination." Atwater also used the calorimeter to investigate the amount of food that was required to sustain the body weight of a subject as he engaged in different kinds of activity. He had subjects perform "severe mental labor" (computing the results of previous experiments and studying a German treatise on physics) and "severe muscular work" (raising and lowering weights for eight hours, three days in a row) in the calorimeter.¹⁰⁹ Atwater explained that he hoped his findings would lead to a better understanding of the "kinds and amounts [of food] which are appropriate for people of different classes and under different circumstances."¹¹⁰ Building on these findings, domestic scientists stressed that good diets needed to reflect not only income but also occupation. As one reformer explained in an 1896 lecture, "The food for the father of the family must be adapted to his employment. The man whose labor is out of doors and muscular rather than mental, will require the larger bulk of food and it may be composed of the kind least easy of digestion. The indoor laborer needs a very different diet."¹¹¹

But the advice went beyond the empirical need for more calories among those doing physically strenuous work, taking into account the taste and lifestyle aspects of class as well. Richards, for example, suggested that brain-workers such as professors, students, doctors, and teachers should be given a "liberal, varied, well-cooked, and, especially, well-flavored" diet. Their food should be "delicately served with all the attractiveness of napery and china," and neatness and suitability of temperature should be carefully attended to. Manual workers such as housekeepers, janitors, nurses, cooks, and maids, on the other hand, should be given hearty food in few courses, and they should never be fed soups or salads. "What we would call heavy food will not harm these vigorous hard workers," wrote Richards.¹¹² She also made it clear, however, that in cases where the two aims conflicted,

maintaining class distinctions was more important than maintaining the manual-mental distinction. She argued, for example, that even when middle- and upper-class people engaged in physical activity, they needed to eat differently from working people who engaged in physical activity; active youth needed more energy than did sedentary brain workers, but that did not mean that the Harvard boat crew should eat the same foods as youths in a logging camp or soldiers in the field. Excessive physical activity required a lot of food energy but, Richards explained, the “form in which the food is served is to be that to which the men are accustomed.” While the soldier could be given a ration of bread, bacon, and beans, Richards claimed, the Harvard boat crew required some “frills,” such as ice cream and strawberry shortcake.¹¹³

Dietary advice protected the distinctions of class with particular vigilance in places where social mingling threatened to obscure social boundaries and hierarchies. The constant intermingling of the classes that resulted from urbanization and industrialization presented challenges to maintaining the distinct identity and status of the middle class.¹¹⁴ In *The Cost of Food* Richards provided rules for eating in the kinds of places where people from different class backgrounds inevitably mixed, such as hospitals, penal institutions, and households with maids. She argued that in hospitals, for example, the different grades of employees should be given different diets that accurately reflected their income, occupation, and habituated preferences. In large hospitals, she explained, the four grades of employees (house officers and heads of departments; nurses and second assistants; engineers and workmen; scrubwomen, janitors, and choremen) should be fed in separate rooms with different hours, menus, and costs.¹¹⁵ Economy was typically Richards’s foremost priority, but she was so concerned about keeping the diets of each group of workers separate that she advised spending more to do so. The same was true for patients, whose diets, she felt, should not be changed by a stay in the hospital. For those with “cultivated tastes,” no expense was to be spared in providing the finest food, but for those “for whom corned beef and cabbage represents a luxury,” Richards advised, “it is not necessary to stimulate an artificial appetite.” While cream, fruit, and other delicacies should be available for paying patients, as well as for doctors and nurses, Richards advised that attendants and other “hearty” workers be forbidden to taste them. She went so far as to suggest that such foods should be kept under lock and key, if necessary, to prevent infractions against the class-based dietary order.¹¹⁶

The advice about eating right that domestic scientists gave American women at the turn of the century reflected a nuanced understanding of the constituent aspects of class and attempted to secure the boundaries of the nascent middle class through a number of strategies that constructed dietary distinctions. These strategies naturalized the differences between the healthy middle class and the unhealthy other, between brain workers and manual workers, between members of the Harvard boat crew and soldiers in the field, which were in fact cultural. They imputed a biological component to class by conflating the physiological and the environmental components of dietary health.¹¹⁷ As the middle class made health a foundation of its character and identity, domestic science provided the dietary beliefs and practices that would also secure the viability of the class, in theory at least, through eating right.

ELLEN RICHARDS passionately championed the social role lessons in eating right might play in the making of a new America held together by a shared set of irrefutable principles, oriented around a commitment to the social good, and populated by good citizens whose domestic habits reinforced the values of Progressivism. In her brazen embrace of lessons in natural law as a way to curb freedom and chasten those who would resist the interventions of government on behalf of the greater good, those of us living a century later can see clearly the links between dietary reform and social reform, dietary ideals and social ideals, that are still with us, although they have become increasingly difficult to discern. Home economists embraced first moral uplift and then citizen training as the aim of dietary reform because to them the dual function of dietary ideals—both as rules about what to eat and as a means of self-making—was self-evident. A century later, scientific nutritional ideals are taken for granted. The basic principles of scientific nutrition were common knowledge by the end of World War I, and though the science has continuously evolved to incorporate new findings and respond to new social concerns, nutrition has remained the prevailing mode of thinking about food value and dietary health. But science has come to be perceived as distinct from values, politics, and morals, which obscures the social content embedded in dietary ideals and the social role played by dietary reform.¹¹⁸

The critic Gyorgy Scrinis refers to the prevailing mode of thinking about food in terms of its nutrient content as the “ideology or paradigm of *nutritionism*.” He argues that nutritionism is naturalized through the

workings of nutrition scientists, dieticians, public-health practitioners, and the food industry, and that it eclipses other modes of understanding and assessing the value of food, such as level of processing, means of agricultural production, sensual properties, and cultural or historical significance.¹¹⁹ But even this trenchant critique, which was popularized by Michael Pollan in his bestselling book *In Defense of Food*, overlooks the ideological work of nutrition that the story of Wilbur Atwater, Ellen Richards, and domestic science reveals.¹²⁰ Their story shows that nutrition is more than just a way of assessing food value, or even delimiting what counts as food value. It's an ideology that governs not just how we think about food, but also how we think about ourselves and other people. Nutrition provides guidelines about how to be a good person and a good citizen, a means of self-making, and a quantifiable moral measure that can be used to assess and compare others. Their story also shows that nutrition and the American middle class emerged together in part through a mutually constitutive process that depended on the construction of a dangerously "unhealthy other." It reminds us that there is no such thing as dietary health apart from social ideals and that dietary assessment is inseparable from a moral hierarchy that is inevitably classed. But their story is just the beginning of the history of modern American dietary reform. In the century or so that followed, while the definitions of both a good diet and a good citizen continued to evolve, dietary advice maintained its ethical function, providing lessons in eating right that connected diet and citizenship. Meanwhile, the scope and purview of dietary reform grew. The first of two major expansions in the overall reach and significance of dietary discourse took place during World War II, as nutritional concerns converged with social anxieties and aspirations to make eating right a wartime duty for every American.



ANXIETY AND ASPIRATION ON THE NUTRITION FRONT

At the height of the mobilization for World War II, President Roosevelt called a three-day conference to address nutrition as a defense problem. Presiding over the conference, Paul McNutt opened with a resounding call for action that captured the urgency and gravitas that impending war brought to dietary health in both its empirical and its ethical aspects. "This," he announced, "is a call to save the American way of life by making it possible for every single person—at every place on the income scale—to achieve maximum health and vigor by alleviating both hollow hunger (of those who have not enough food) and hidden hunger (of those who are malnourished due to ignorance). . . . Good nutrition can make people who seem unproductive or like trouble makers into good, productive members of society." McNutt, who had recently been appointed administrator of the Federal Security Agency and coordinator of Health, Welfare, and Related Defense Activities, went on to explain to the nine hundred invited delegates in attendance that they had been brought together to discuss nutrition for two reasons.¹ One was clearly connected to the empirical aspects of nutrition, which had undergone a significant change since the domestic-science era: "First, new and startling facts about nutrition have become known—facts which are vital to the strength, health, and security of the United States." The other made clear the social importance those nutritional facts had suddenly attained as the nation prepared for war: "Second,