

The Substance of Modernity
Food and the Alimentary Sciences in Eighteenth-Century France

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Reviewed: Emma C. Spary, *Feeding France: New Sciences of Food, 1760-1815*, Cambridge, Cambridge University Press, 2014, 395 p., £65.00.

Westerners obsessed with diet and healthy eating believe they know the nutritional benefits of every bite they take. Few may understand the complex relationship between science, industry and expertise at the base of that belief. A defining mark of modern societies since the end of the nineteenth-century, however, has been the powerful mediating positions chemists and medical practitioners have held between the state, food producers and consumers. Entrenched within government bureaucracies, alimentary experts hold the power to determine what foods are safe, nutritious and healthful for us to eat. Traces of the prescriptive power of these experts can be found in the form of recommended intakes of calories, proteins, carbohydrates, fats and vitamins listed on the packaging of any industrially produced foods. We ignore this counsel - so we are told - at our own risk. Emma Spary's *Feeding France: New Sciences of Food, 1760-1815* (Cambridge: Cambridge University Press, 2014) reminds us that the process through which alimentary experts acquired this tremendous power has a long and complicated history. Emphasizing the "strategies of persuasion" and "self-legitimation" used by practitioners of the natural sciences involved in early industrial food production, Spary brings to light the contested process through which scientists were able to establish themselves as publicly acknowledged experts on matters of nourishment. Spanning from the final years of the *Ancien Régime* to the Revolutionary and Napoleonic periods, *Feeding France* persuasively argues that these were crucial decades, not only for the formation of political modernity, but for establishing the modern patterns of one of the most basic and mundane acts of everyday life - the consumption of food.

The main protagonists of *Feeding France* are Antoine-Alexis Cadet de Vaux (1743-1828) and Antoine-Augustin Parmentier (1737-1813), two chemists who successfully managed to carve out roles as government advisors and public food experts from the *Ancien Régime* to the Napoleonic period. Both men played a central role in a multitude of projects designed to address the problem of subsistence, a pressing issue for the successive regimes across this politically turbulent period. In a series of highly publicized experiments in the 1770s, Cadet de Vaux and Parmentier claimed to have proven that starch and not gluten was the primary nutritive principle in plants. Hence, starchy foods like potatoes, maize, barley and rice could be considered as nourishing to the human body as wheaten bread, the alimentary staple of the French diet. For state administrators in the *Ancien Régime*, who constantly faced the pressure of providing

high-quality wheaten bread to its citizens, these experiments created the potential for resolving the subsistence problem by turning to cheaper surrogates for wheat. Although few wheat-alternative breads found the success amongst consumers that its promoters hoped during this period, alimentary chemists had provided the scientific precedent for toppling bread from its alimentary throne in the "kingdom of bread."

Projects to foist breads made from wheat-alternatives like potatoes and rice on the French public did not die with the *Ancien Régime*. Administrators in the first French Republic, in particular, came to champion the potato as the alimentary ideal for Republican eaters. The search for food-surrogates by administrators, chemists and entrepreneurs in the 1790s also led to the invention of gelatin as a potential substitute for meat. Economic chemists, chief among them Cadet de Vaux, emerged to convince scientists, state administrators and skeptical eaters that the gelatinous matter extracted from bones by chemical and mechanical procedures was as nourishing as meat flesh itself. These debates over the alimentary status of gelatin took place within a highly politicized arena, as epistemic doubts about the nutritive properties of this substance threatened the legitimacy of economic chemists' attempts to resolve persisting problem of food riots and urban poverty in the Republican and Napoleonic period. As in the case of bread, epistemic debates in the field of alimentary science had significant repercussions on political strategies for managing issues of subsistence and food supply.

The reliance of successive government administrations from the final decades of the *Ancien Régime* to the Napoleonic period on public food experts reveals a continuity across the period in administrative techniques for managing issues of subsistence. Yet the emergence of industrialized food production from the first French Republic onwards marked a significant departure from the artisanal practices of food production of the *Ancien Régime*. Subsistence experts in the post-revolutionary period not only advised government administrations on the alimentary qualities of foods, but also increasingly became involved in the development of mechanized processing techniques. The first industrial foods - instant mashed potatoes, gelatin and beet sugar - developed out the multifarious associations between private entrepreneurs, scientific experts and government administrators. Beet-sugar factories cropped up during the Napoleonic period, as cane-sugar - no longer considered a luxury but a necessity by the early nineteenth-century - came in increasingly short supplies with the loss of France's overseas colonies. The success of these enterprises depended on the conjoined efforts of scientists, administrators and capitalist-entrepreneurs: pharmacists and chemists struggled to stabilize the identity of beet-sugar as chemically identical to cane-sugar, and they advised ministers and entrepreneurs on the technical aspects of beet-sugar production, while administrators encouraged the mass-cultivation of beets and supported the organization of beet-sugar refineries.

Despite the increasingly important role that food-experts began to exercise as mediators in matters of subsistence between the state and consumers, Spary reminds us that their authority was nevertheless on shaky ground. Reacting against the increasing encroachment of practitioners of the natural sciences on alimentary matters, writers with royalist sympathies in the post-revolutionary decades constructed a literary field -

gastronomie - that rejected the austere rationalism associated with economic projects of food production sponsored during the *Ancien Régime* and Republican period. Gastronomes and *bon-vivants* heaped suspicion on the regulatory ambitions of technocratic *économistes*, which they associated with the political radicalism and extremism of the Jacobins. Yet the greatest threats to the authority of public food-experts were consumers themselves. Alimentary chemists' claims for the nutritional equivalence of surrogate foods often failed to convince consumers, who relied on the taste and appearance of foods to make judgments about their alimentary properties. Even the most marginalized consumers - invalids, soldiers, mariners and the urban poor - could thwart the projects of food-experts by refusing to consume the surrogates purportedly produced for their own benefit. While food-experts deplored the entrenched habits and preferences of consumers as a bulwark against the public good, they could not afford to ignore the expectations and demands of consumers in their production of alimentary surrogates.

In emphasizing the often conflictual relationships between alimentary experts and consumers, Spary avoids falling into the teleological trap that would make the eventual acquisition of public scientific authority by food experts seem unavoidable. Yet one naturally wonders, given that so many of the techno-scientific projects of food production of the period failed miserably: how much authority did everyday consumers actually grant to food experts? As Spary readily admits, wheat surrogate breads never achieved the success its proponents had hoped, and a host of other products designed for mass-consumption - from grape-sugar to acorn-coffee and potato-pasta - were quickly consigned to oblivion by consumers. Why, then, should we care about the agendas of late eighteenth- and early nineteenth- century public food experts? While the failed projects of alimentary experts in the period are legion, the associations formed between scientists, governmental officials and industrial food producers were far more long lasting. The late eighteenth- and early nineteenth-century, Spary would argue, was a crucial in this respect: it was here that a technocratic vision was born, one in which the needs and desires of consumers could be best addressed by the collaboration between scientific experts, government officials and industrial capitalists.

For alimentary experts, industrial food producers and government officials alike, eighteenth- and early nineteenth-century consumers were the most vulnerable link in the alimentary chain leading from production to consumption. Indeed, they remain so today. The ongoing controversy surrounding the artificial sweetener aspartame (a chemical sugar-surrogate of the late 20th century), for instance, has involved numerous claims by consumers and consumer advocacy groups that the scientific data produced to prove its safety has been falsified. The battle over aspartame - and we might add bovine growth hormones and genetically modified foods - has focused on the supposed complicity of governments, industrial food producers and scientists to knowingly dupe the public into consuming harmful foodstuffs. The state-supported agro-industrial complex (which can be seen as an institutionalization of the more informal relationships formed between late eighteenth-century scientists, entrepreneurs and state officials) continues to be a source of mistrust for consumers. Uncertainty over the nature of the food we consume, itself a product of urbanization and industrialization, and the specialized nature of the scientific expertise required to determine its safety, only serves to compound this mistrust. Far

from feeding that mistrust, Spary's book lets us see it as a natural consequence of the forces that shaped the modern world. A world that pits what we think we know against what science, industry and expertise would have us believe.

Further Reading:

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Watts, Sydney. *Meat Matters: Butchers, Politics and Market Culture in Eighteenth-Century Paris*. Rochester, NY: University of Rochester Press, 2004.

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