



## BOOKS: NUTRITION

## The Food Pushers

Walter Willett

National statistics document an explosive increase in obesity in the United States during the last two decades; its prevalence in adults has increased by more than 50%, and over half of American adults are now overweight or obese. Obesity is only the most conspicuous manifestation of the sorry state of American diets, which are characterized by high amounts of refined starch, sugar, and hydrogenated fats. Other consequences include skyrocketing rates of type 2 diabetes and stagnation in the decline in coronary heart disease incidence. An analysis of the origins of the obesity epidemic and our diets is thus timely, and Marion Nestle's *Food Politics: How the Food Industry Influences Nutrition and Health* is a valuable contribution to this effort.

Nestle, currently a professor in the Department of Nutrition and Food Sciences at New York University, is well positioned to have written this book because she has worked in the U.S. Surgeon General's office, served on dietary guideline committees and advisory committees to the Food and Drug Administration, and acted as a consultant to the food

**Food Politics**  
How the Food  
Industry Influences  
Nutrition and Health  
by Marion Nestle

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industry. Her well-documented book draws together information from many sources, including some that are not easily accessible through usual literature reviews.

A central theme of the book is that the food industry's fundamental goal is to induce the public to eat more, which inevitably contributes to the epidemic of obesity. As Nestle points out, this effort to increase food consumption is appropriate, legal corporate behavior in an unfettered capitalist economy. However, as she documents in great detail, the effort does not merely consist of advertising to informed adults. She describes the industry's behind-the-scenes efforts in Congress, federal agencies, the courts, universities, and professional organizations to limit public access to relevant information and to promote consumption of products designed for profit rather than health.

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**Preferred over the pyramid.** Meat and dairy producers favored this bowl design because they felt it suggested greater equivalence among food groups.

Among the most troublesome topics discussed by Nestle is the dual role of U.S. Department of Agriculture, which both promotes higher consumption of American agriculture products and provides dietary guidance to Americans (primarily through the food pyramid). The inherent conflict of interest is obvious because the USDA defines its primary stakeholders as the groups that represent major producers in the dairy, beef, sugar, and other sectors. In this context, advice to eat less food—either in general or with regard to specific foods—inevitably meets resistance by powerful forces.

The commercial exploitation of children by the food industry, well described by Nestle, is particularly egregious. Recognizing that children are not fully mature with regard to making informed decisions, we control the promotion of alcohol, firearms, and tobacco. Yet we assume that young children can rationally decide about food choices that have important health consequences, and we expose them to intense marketing of products that are largely devoid of nutritional value but replete with calories. Nestle documents in great detail the billions of dollars spent to develop junk foods that are increasingly seductive to children, and the additional billions spent promoting these products. Particularly troublesome are contracts for “pouring rights,” whereby cash-strapped school systems are paid by Coca-Cola or Pepsi for exclusive rights to promote their products intensively within schools. As Nestle describes, companies find such contracts lucrative for current sales but also regard the arrangements as an opportunity to train children to be consumers of their products. Because colas and some other beverages link a

mildly addictive substance (caffeine) with large amounts of sugar, these drinks are likely to be particularly effective means of promoting childhood obesity. If this were not enough, food services in some schools are being replaced by fast food franchises.

Nestle does not leave readers burdened with an array of problems lacking remedies.

She has clearly given considerable thought to ways by which the current failings might be rectified. For example, she suggests that governmental responsibility for dietary advice be transferred from the Department of Agriculture to the Department of Health and Human Services. Given her description of agro-economic influences through Congress, however, placing this responsibility as far from politics as possible—perhaps with the Institute of Medicine—would seem even better. The author makes a strong case for protecting children from exploitation by the food industry; she advocates banning from schools commercials for foods of minimal nutritional value and sales of soft drinks and other junk food. To counter the low levels of physical activity that also contribute to obesity, Nestle favors requiring schools to provide daily opportunities for physical education and sports and expanding development of parks, sidewalks, and bicycle paths to encourage physical activity by all. This will require public investment, but the costs will be small compared with the annual costs of obesity, which are already on the order of \$150 billion and increasing rapidly.

The book contains a wealth of thought and analysis on the ways the food industry often facilitates excessive consumption and poor diets, but the industry is far from monolithic. One could point to many positive examples where healthy products have been successfully promoted. Also, Nestle largely ignores the complicity of the nutrition community itself. She characterizes the message from our field as “consistent but dull” advice to increase consumption of fruits, vegetables, and grains. However, our advice has hardly been consistent. On the basis of unpublished and flawed data, the 1990 U.S. Dietary Guidelines even encouraged midlife weight gain; though this advice was reversed in 1995, it seriously distracted attention from the developing obesity epidemic. And the nutrition community has almost certainly contributed to the obesity problem by conveying the notion that only fat calories lead to weight gain and that grains and other starches can be eaten with impunity. Throughout the book, Nestle repeatedly equates low-fat diets with healthy diets, a conclusion for which there is no scientific support and which may mislead readers. Clearly, real progress can be expected only if nutritionists and policy-makers alike strive to de-

velop and act on sound data rather than beliefs, even well-intended ones.

*Food Politics* is essential reading for anyone seriously interested in addressing the nutritional dilemma facing the United States. Its greatest value lies in the detailed documentation of the ways in which the food industry operates, and nearly everyone will find information that is new and useful. Nestle's account does not make for light reading, but it will certainly contribute to informed discussion and, hopefully, effective actions to reduce the burdens of obesity and related conditions.

#### BOOKS: HISTORY OF SCIENCE

## Consequences of Raising Cane

Jorge Cañizares-Esguerra

Steam-powered three-roller mills, railways, and new chemical processes allowed for the transformation of sugar refining in the late 19th-century Caribbean: wasteful, old colonial *ingenios* were replaced by efficient, modern *centrales*. These changes are all well known, but historians have overlooked the equally important role science played in the transformation of sugar agriculture. The introduction of new varieties of cane, for example, caused a 20% increase in sugar production in Puerto Rico in 1923–1924 alone. Images of islands of modernity amidst oceans of agricultural backwardness have come to dominate our perception of fin-de-siècle Latin America. In *States of Nature*, Stuart McCook offers a timely corrective to this age-old view.

McCook, a historian at the College of New Jersey, persuasively shows that natural history, and botany in particular, had contributed a great deal to the 19th-century export economies of the Spanish Caribbean. Networks of local and foreign botanists and naturalists, for example, surveyed and classified the various national floras, giving plants a “civic status.” The tottering fledgling republics quickly understood that exercising sovereignty included laying claim to the naming of botanical resources. Moreover, naturalists in some places went beyond cataloging and speculating about the economic poten-

tial of newly identified organic assets. In Costa Rica, they managed to create a discourse of national-botanical exceptionalism, which nowadays has become hegemonic as the significance and scope of ecotourism in this small Central American republic grows.

For all the contributions he makes to our understanding of the role of botany in the symbolic consolidation of the Spanish Caribbean, McCook is at his best exploring the impact of agricultural research centers in early 20th-century Puerto Rico and Cuba. These centers—most of which were founded by U.S. institutions (primarily multinational corporations but also Harvard University) and the U.S. government, though often led by Caribbean nationals—were instrumental in creating and developing the science of “tropical agriculture.” This science, in turn, was largely responsible for the wholesale ecological transformation of the region. As tropical agricultural scientists (botanists, mycologists, entomologists, and ecologists) sought to contain the spread of deleterious diseases affecting the sugar cane, they identified the life cycles of vectors, parasites, and viruses. They also developed hybrid canes, which were resistant to these diseases. As an added benefit, the new varieties of cane sometimes made the process of refining easier by providing softer

canes for roller grinders, burning fuel for boilers (thus reducing the problem of deforestation), and richer syrups. But the introduction of novel varieties into the field also created genetic homogeneity, which made the crops susceptible to new diseases. To catch up, scientists then had to develop fresh hybrids, which set off another cycle of the changes.

Scientists in Puerto Rico became incredibly efficient at this process and improved the productivity of the sugar industry manifold. Understandably, they therefore sought to spread the gospel of the new science of tropical agriculture throughout Latin America. In this they were less successful, because other crops such as rubber in Brazil and cacao in Ecuador proved unamenable to manipulation and control. Brazil and Ecuador lost entire industries to crop diseases in the 1920s.

McCook describes not only the rise of the technocratic utopia engendered by the new tropical agriculture, but also its fall. Along with the failure to stem the tide of diseases in crops other than sugar cane came the Great Depression. In the 1930s, Latin Americans found global markets glutted and they faced diminishing prices for their cash crops. The crisis led to new strategies of agricultural development that put less emphasis on sci-

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**Fieldwork for floras.** In the years around 1900, Costa Rican naturalists built extensive botanical collections for the country's Instituto Físico-Geográfico Nacional and National Museum.

entific silver bullets and more on implementing social reform, raising food crops, and introducing import substitution.

This thoughtful study raises as many questions as it answers. McCook, for example, suggests that the science of tropical agriculture in Puerto Rico and Cuba was “creole.” Playing with the polysemic meaning of this term (“hybrid” in the United States, “home-born” in Latin America), McCook pays attention to the local dynamics of the new science. It is clear that as they struggled to create new institutions, foreign and local scientists often had to contend with political instability, unreliable sources of funding, chronic shortage of resources, and even official corruption. But for McCook, “creole” simply signifies institutional development under conditions of adversity. His model of “creolization” is overly negative. He might have considered how the encounter with the local intellectual traditions of the Spanish Caribbean affected the foundational questions and paradigms of the new science, one primarily developed by U.S. scientists. Another topic that might have yielded interesting results is that of the relation between tropical agriculture and “tropical medicine.” How did these two coeval sciences interact in the creation of the imperial construct of the “tropics”? Were there institutional differences between the developments of tropical medicine and tropical agriculture? Such caveats aside, *States of Nature* is a fine and much needed study.

**States of Nature  
Science, Agriculture,  
and Environment  
in the Spanish  
Caribbean,  
1760–1940**

by Stuart McCook

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