

Big Food, Big Agra, and the Research University

Food scientist Marion Nestle talks with *Academe* about conflicts of interest between food companies and academics, the difference between food products and food, and the problem with pomegranates.

Marion Nestle is Paulette Goddard Professor in the Department of Nutrition, Food Studies, and Public Health at New York University. From 1986 to 1988, she was senior nutrition policy adviser in the Department of Health and Human Services, and she was managing editor of the 1988 Surgeon General's Report on Nutrition and Health. Her research examines scientific, economic, and social influences on food choice. Nestle is the author of three prize-winning books: *Food Politics: How the Food Industry Influences Nutrition and Health* (2002; revised edition, 2007), *Safe Food: The Politics of Food Safety* (2003; revised edition, 2010), and *What to Eat* (2006). She has a monthly *Food Matters* column in the San Francisco Chronicle and a daily blog, www.foodpolitics.com. Twitterers can follow her @marionnestle, and she can be reached by e-mail at marion.nestle@nyu.edu.

Cat Warren: This issue of *Academe* is generally devoted to research conflicts of interest across university disciplines. Agriculture and food sciences are obviously not exempt from these problems, but we hear much less about them than we do, for instance, about conflicts of interest in medical research. But you have written at some length on such topics as food-company sponsorship of nutrition research. What are your perceptions about where the general problems lie in the disciplines you're engaged with?

Marion Nestle: In my field, sad to say, conflicts of interest between food companies and academics are rampant but rarely recognized as such. As I document throughout *Food Politics*, soft-drink companies such as Coca-Cola and PepsiCo lose no opportunity to sponsor professional meetings; provide training positions; send free samples and technical materials; and support professional newsletters, teaching materials, and journals. The sponsorship list of any nutrition professional society is likely to contain dozens of food companies, and many university nutrition departments actively seek support from food companies.

Just this year, for example, PepsiCo established an MD-PhD training position at Yale University, and Coca-Cola gave a grant to the American Academy of Family Physicians for Web-based educational materials. My own professional group, the American Society for Nutrition, actually competed to manage the ill-fated Smart Choices labeling program sponsored by those and other beverage

and food-product companies. Despite much evidence to the contrary, academics who accept such funding still tend to believe that it neither does harm nor influences their opinions.

Warren: Despite this lack of recognition, public interest in the food industry has increased dramatically over the past five years, with books, activist Web sites, magazine articles, and documentary films about how our food is produced. But as you've noted, little of that work, as excellent as it is, brings a spotlight to bear on the conflicts of interest between universities and the food-production complex. Why not?

Nestle: Most food advocates have no idea what kind of teaching or sponsorship occurs in colleges of agriculture, nutrition departments, or science departments focused on biotechnology. Aside from their role in teaching undergraduates, universities are perceived by the public as the proverbial ivory towers, immune to societal realities. Agricultural production and training are remote from the experience of most city dwellers. Proponents of sustainable and organic production systems have a difficult time at large, land-grant agricultural universities, but the public rarely hears about their problems.

The travails of the Leopold Center for Sustainable Agriculture at Iowa State leap to mind as an example. I once heard a former dean of the agriculture school there talk about how Iowa State ought to



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be leading the country in sustainable farming practices. When she stepped down, the new dean—on his first day in office—fired the head of the Leopold Center. Since that happened several years ago, the center has been embroiled in endless conflicts over leadership and direction. It and other such places are seen as threats to conventional agribusiness and treated accordingly. Deans of agricultural colleges or schools who want to promote organic, local, and sustainable agriculture in their regions—and there are some—also face substantial opposition. “Alternative” agriculture is perceived as a threat to the entire agricultural enterprise, which, of course, it is.

Warren: As you’ve noted, we’ve had quite a few cases of suppression of critical, public-good research in agriculture and food science, including the attacks on the Leopold Center, for instance, but also attacks on the university researchers who work on the pollution that occurs near large swine and poultry farms and on those researchers who study the possible problems with genetically modified crops. We’ve also had recent cases, where, for instance, a university gets worried about industry backlash and makes a move to suppress speech. Best-selling author Michael Pollan, who writes on organic and sustainable food, had such a problem at two

universities. What are your perceptions of the importance of such high-profile cases?

Nestle: Such incidents have classic chilling effects on critical thinking about conflicts of interest. They make it clear that tenure is a necessary prerequisite for expressing concerns about corporate control of the food supply. Michael Pollan, who is a tenured full professor of journalism at the University of California, Berkeley, and whose books, most notably *The Omnivore’s Dilemma* and *In Defense of Food*, have made him an untouchable superstar, was able to use both incidents as teachable moments—opportunities to explain to the hordes of students and others who come to his lectures precisely how food corporations and their supporters attempt to smother criticism and to control public opinion, as well as to control the food system. He is a journalist, not a scientist or researcher whose work depends on pleasing granting agencies or state legislators responsible for funding.

Warren: While we have clear cases of attacks on researchers, or suppression of speech, we also see more quotidian examples of how industries and corporations help set the research agenda. For instance, the dean of the College of Agricultural and Environmental Sciences at the University of California, Davis, recently estimated that roughly 20 percent of his college’s annual research budget now comes from industry. But federal money isn’t exempt from problematic influences of industry, either. Could you talk a bit about the problems you see in agriculture and food-science funding?

Nestle: When I read research studies involving specific foods or nutrients, I immediately look to see who paid for the study. Sponsorship almost invariably predicts the results of research. David Ludwig and his colleagues demonstrated this phenomenon in studies of the effects of soft drinks on childhood obesity. Independent studies almost invariably find an association between habitual consumption of soft drinks and obesity. By contrast, industry-sponsored studies almost never do.

In food research, as in research on drugs or cigarettes, results are highly likely to favor the sponsor’s interest. The companies are not buying the results, although it sometimes seems that way. Instead, it seems to me that researchers who are willing to accept grants from food companies tend to be less critical about the way they design their studies. I often notice that sponsored studies lack appropriately rigorous controls. One way to understand this is to suggest that scientists who accept corporate sponsorship have internalized the values of the sponsor so thoroughly that they think themselves independent.

Take research on the health benefits of pomegranates, for example. Pomegranates are fruits. All fruits contain antioxidants. Yet the producer of one pomegranate drink has spent millions of dollars to pay researchers to demonstrate that pomegranate juice produces antioxidant effects in the body. Of course pomegranates produce antioxidant effects, but compared to what? I have yet to see a study that compares the antioxidant effects of pomegranates

to those of oranges or other antioxidant-rich fruits. I can't imagine that an independent scientist would want to bother comparing pomegranates to oranges. Both are worth eating. As a rule, corporate funding discourages critical thinking—or promotes uncritical thinking—about the importance of individual foods or nutrients in healthful diets. Sponsored studies have only one purpose—to establish a basis for marketing claims. They are not carried out to promote public health.

Warren: Let's shift from funding and higher-profile cases to quieter restrictions on research. Last year, corn-seed researchers, mostly at land-grant universities, anonymously wrote to the Environmental Protection Agency to protest industry-university agreements that severely restrict their ability to do research on genetically modified seed crops. "These agreements inhibit public scientists from pursuing their mandated role on behalf of the public good unless the research is approved by industry," wrote the scientists, who chose to withhold their names mostly for fear of retaliation from the seed industry. These issues, however, get little attention from the media, and, frankly, protests from research scientists are rare. Could you talk about your perception of how research agendas are set through these mechanisms?

Nestle: Discussions about genetically modified foods have become so polarized that rational debate is no longer possible. The mantra of the food biotechnology industry is that the technology is essential for meeting the food needs of the twenty-first century. Critics argue that hardly any research is aimed at solving Third World food problems, and that instead the purpose of this technology is to control the world's food supply. Other arguments are about productivity, levels of pesticides employed, and safety.

But any of these criticisms, or any concern about Monsanto's aggressive business practices, the industry perceives as an attack on the entire scientific and business enterprise. As I discuss in *Safe Food*, the biotechnology industry brought this impasse on itself, but I still see no sign that it takes public concerns seriously.

I think we need much more public funding of research into genetically modified crops to ensure that genetic modification really does what the industry claims: solve agricultural problems in the developing world. We also need federal regulators to stand up to industry lobbyists who are relentless in opposing labeling, safety, and other kinds of consumer-friendly regulation.

Warren: My perception, being on a land-grant campus, is that our university strongly favors industrial-scale food systems and is less supportive of research and teaching that might challenge current, dominant agricultural practices. Too many food-science departments tend to be occupied with—not to put too ironic a point on it—building a better burrito that can be eaten while you're on the run between home and office. Is this a general problem?

Nestle: Food science these days is precisely about improving the taste, appearance, nutrient content, or—most important—

marketability of food *products*, not foods. This focus is evident in any issue of *Food Technology*, the excellent professional journal of the Institute of Food Technology. I have subscribed to this journal for years in order to keep up with the latest developments in "functional" food products. These are products with added nutrients such as antioxidants, omega-3 fatty acids, and probiotics. Functional foods constitute the fastest-growing segment of the processed-food industry, not least because consumers perceive them to confer special health benefits. As I've already explained, sponsored research almost invariably confirms such benefits. Independent research, however, tends not to. The lack of convincing research is why the European Food Safety Authority has been so reluctant to allow health claims for most functional ingredients, much to the distress of food marketers. Functional foods are about marketing, not science or health.

Warren: What is to be done? Are there any bright spots or best practices at universities?

Nestle: I see many efforts to require disclosure of corporate sponsorship or partnerships in professional journals and on federal committees, and these help. What's needed is much more funding of food and nutrition research from independent sources. Food companies are only interested in studies that will result in favorable information about their products. Basic nutrition science has for decades focused on the effects of single nutrients, because they are easier to study than dietary patterns, and because such studies are fundable. Overall, nutrition has become increasingly complex and individualized, as can be seen from the U.S. Department of Agriculture's enormous and impossibly opaque *Dietary Reference Intakes* and the increasingly lengthy and obfuscating *Dietary Guidelines for Americans*. Genetic approaches to nutrition for individuals get funded, not public-health approaches.

One result of all this is that researchers look to food companies for funding and then convince themselves that it won't influence what they study, or how. Federal officials and the staff of the Institute of Medicine tell me that they have a terrible time finding nutrition and food scientists sufficiently independent of industry affiliations to serve on advisory committees.

I realize that I am in an almost uniquely privileged position—tenured with a hard-money salary at a university that supports my work and considers it to meet faculty expectations for teaching, research, and public service. This privilege comes, I believe, with considerable responsibility. I take this responsibility seriously in my professional writings, but also in my blog, interviews with reporters, my Food Matters column, and even my Twitter account. I see these venues as a means to bring issues of conflict of interest and academic integrity in agriculture, food, nutrition, and public health to the attention of the public as well as to my colleagues and students. ■

This interview was conducted by e-mail and edited for space and content.