

Politics and Meanings of Genetically Modified Foods in the United States, France and Japan

Dissertation Prospectus

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INTRODUCTION

Genetically Modified (GM) foods first hit the market in the United States in 1994. When the first commercial GM food crops arrived in Europe and Japan from the U.S. in 1996, France and Japan had a generally supportive policy framework towards the use of genetically modified organisms (GMOs)¹ in agriculture and there had been very little public controversy about it in either country. Since then, however, approaches to GM foods in the U.S., France and Japan have diverged greatly. In France, public debate about GM food crops emerged in 1996, and the country, which had one of the most supportive policies towards agricultural GMOs in the European Union in 1996, became one of the most vocal opponents by 1999 (Marris 2000). France has had a strong influence on the current stringent policy of the European Union, which has not approved any new GMOs since 1998 and has implemented strict mandatory labeling of GM foods. In Japan, public debate and consumer reaction followed the introduction of GM foods as well, and more cautious policy has been introduced to regulate them, though not as restrictive as the European one. By comparison, the U.S. policy framework has changed little over this period and remains highly supportive of the development and marketing of GM foods. Most strikingly, while the EU has passed legislation specifically to regulate the marketing and labeling of GM foods and the Japanese government has revised existing food safety and labeling laws to deal with GM foods, the U.S. government has generally not considered GM foods as different from traditional crops and thus continues to regulate them in the pre-existing policy framework.

My dissertation seeks to explain these developments. It is based on an observation that definitions of GM foods (e.g., whether they are defined as different from conventional foods) constitute crucial components of policy orientations. It also builds on a sociological insight that nationally different understandings of a core concept (e.g., “citizenship,” “labor”) are of great consequence for political developments surrounding it in each country (Brubaker 1992; Biernacki 1992, 2001). Hence, the dissertation seeks to identify different understandings of GM foods in both policy and public discourse in the United States, France and Japan, and investigate the processes through which these nationally distinct understandings emerged and interacted

¹ The term “GM foods” generally refers to foods that consist of or are made with genetically modified organisms (GMOs). GMOs are any organisms – microorganisms, plants, animals, or fungi – created through the use of genetic engineering techniques, i.e., the transfer of a particular gene from one organism to another in such a way that the gene is incorporated in the recipient's genome. Much of public controversy in recent years over “GMOs” in Europe, the U.S., Japan and elsewhere concerns with the application of genetic engineering in agriculture; it is often specifically about a handful of GM crop plants resistant to insect pests or widely-used herbicides.

with policy developments. In other words, instead of treating “GM foods” as a self-evident category with fixed meanings across time and national contexts, I explore divergent and changing meanings of GM foods and see them as an important factor in policy developments in each country. The dissertation will ask: 1) *How are GM foods defined differently in each country’s policy framework today?*; 2) *What are the important differences in the terms of public debate surrounding GM foods among the three countries today?*; 3) *How have these different understandings of GM foods in both policy and public discourse emerged?*; and 4) *How have these different understandings both shaped, and been shaped by, policy developments?*

While the first two questions are descriptive, I will draw from various theoretical perspectives to address the latter two. Do these national differences in understandings of GM foods and relevant policies originate in national cultural differences? Do they come from different configurations of material interests and politics around them? Or do they reflect different organizational structures of the state, or nationally specific policy legacies? Rather than seeing different approaches as competing hypotheses, I will examine how different factors (e.g., ideas and interests) interact to produce particular outcomes (Campbell 1998). To this end, I will take a historical approach: I will investigate the processes through which policies and public discourse concerning GM foods in the three countries became more delineated and distinct, as key actors – e.g., consumer and environmental activists, industry officials, lawmakers, government officials, scientists – attempted to influence the course of development in their national contexts. In particular, I will explore how key actors mobilized different conceptions of “what GM foods are” and how such rhetorical mobilization interacted with mobilization of material and institutional resources, shaping dominant understanding of GM foods and pertinent policy development. I will also look at the relationship between understandings of GM foods and policy outcomes as possibly interactive: while the definitions of GM foods would certainly be consequential to policy content, policy changes might shape understandings of GM foods.

I will use a variety of data and methods for this study: analysis of journalistic and historical accounts, as well as industry, NGO and governmental documents and publications, to construct historical narratives; content analysis of mass media coverage and of relevant laws, policy statements and policy debates; and intensive interviews with key actors. In particular, content analysis will focus on how GM foods are defined and what are the terms of public debate surrounding them, i.e., how they are framed.

I believe that the dissertation promises intellectual contributions to several fields within and outside sociology. It will contribute to cultural sociology by examining the *processes* through which certain meanings become dominant over others. Despite the growing literature that employs frame analysis, what factors determine which frames prevail over time is still very much unclear (Benford and Snow 2000). The topic of GM foods allows us to investigate how distinct national understandings and responses materialized in a relatively short period of time. The study will also inform political sociology by examining how political actors mobilize cultural resources and how meanings affect policy development. In addition, GM foods constitute a highly political issue that concerns enormous material interests, the role of the state, and global negotiations over the environment and trade. Comparative analysis of different regulatory frameworks on this issue will yield insights into the state-society relations in each country and the relations between the “national” and the “global.” The study also promises contributions to globalization studies, as well as Japanese and French studies, as it will analyze different ways in which Japan and France deal with this global (or most often “American”) commodity.

To my knowledge, no previous research on GM foods employs a multifaceted, systematic national comparative approach like the one suggested for this project. Many studies so far seek either to describe – and at times to explain – developments in one country (e.g., Roy and Joly 2000; De Cheveigne 2002), or comparatively address a narrowly defined aspect of the issue (e.g., Klintman 2002). Nisbet and Lewenstein (2002) content analyze the coverage of biotechnology in the elite US media, but their findings are descriptive rather than explanatory, partly due to their reliance on one kind of data in one country. Vogel and Lynch (2001) seek to explain regulatory differences between the U.S. and Europe and argue that generally more risk averse policies emerged in Europe as more member states developed “greener” civic culture and a series of regulatory failures such as mad cow disease undermined public confidence. Their insights are based on constructed historical narratives, at times anecdotal. The systematic analysis of my dissertation would complement such an approach.

In what follows, I will first describe national differences in more detail, and lay out my research questions and the relevant literatures that inform my research. I will then explain my selection of cases and my research design.

BACKGROUND

Since the late 1990s the issue of GM foods has been drawing substantial public attention in much of Europe. Strong consumer rejection of GM foods because of environmental and health concerns prompted many retailers in Europe to eliminate them from their products. Invoking the precautionary principle, the European Union has not approved any new GMOs since 1998. Under the EU legislation, labeling is required for food with 0.5 percent of accidental presence of GM-derived material, and for food products that do not contain GM-derived protein or DNA if GMOs are used in their production. Here, the *process* (i.e., the use of the genetic modification) is considered a critical attribute of a food product. France has been a driving force behind EU policies restricting the introduction of GMOs. José Bové, a French farmer activist who is considered something of a folk hero for leading an attack on an unfinished McDonald's in 1999, has participated in the destruction of silos filled with GM crops and urged others to follow his lead.

In the U.S., by contrast, GM foods have encountered much less visible opposition. The United States accounts for over two-thirds of all GM crops planted globally,² and in 2001 GM varieties accounted for 68 percent of U.S. soybeans and 26 percent of the corn planted.³ Americans have already been consuming GM foods for years. Here, the regulations are based on the characteristics of the final *product*, not the *process* employed for its production. And if GM foods are shown to be “substantially equivalent” to conventional foods in composition and nutritional value, the government does not distinguish them. Thus comprehensive scientific review for safety is not required for most GM foods. The biotech industry and government officials here even argue that labeling abroad is trade discrimination, and the U.S. has been threatening to take the European moratorium on approving new GMOs to the World Trade Organization. While grassroots movements to oppose GM foods or demand labeling are slowly spreading, it is virtually impossible for consumers to know which foods are GM foods.

Japan has not experienced as much controversy over GM foods as Europe, but it has implemented stricter regulations than the U.S. Existing laws have been revised to regulate GM foods and implement mandatory labeling. Yet unlike Europe, GM plant varieties have been steadily approved in Japan. And the criteria for labeling are much less strict than those of the EU:

² Source: The International Service for the Acquisition of Agri-biotech Applications, “Global Status of Commercialized Transgenic Crops 2001.”

³ Source: USDA National Agricultural Statistical Service, “June 2001 Acreage Report.”

labeling is required only for 24 specific food products when GMOs are among their three main ingredients and exceed 5 percent of their total weights. But even before labeling became required by law in 2001, persistent consumer concerns had led major manufacturers to avoid GMOs and label their soy and corn products as “GM-free.” In a country where soy products abound, this voluntary label was a common sight in any supermarket by 1999.

THE RESEARCH QUESTIONS

The dissertation will ask the following two clusters of questions.

Meanings of GM foods today

The first cluster aims to uncover shared and divergent understandings of GM foods in the U.S., France and Japan in 2002-2003. First of all, how do laws and policies define GM foods? And how do key actors understand them? More specifically, how do they draw a boundary between GM and non-GM foods? What kinds of frames do they invoke in explaining their positions on the issue of GM foods – e.g. is this framed as an issue about food safety, culinary culture, technologies, free trade, or feeding the starving? And how do such understandings of GMOs (i.e., patterns of boundaries between GM and non-GM foods, and distributions and salience of frames) differ among the three countries today? To what extent do these distinct national understandings of GM foods correspond to, or explain, differences in policy definition? To what extent do they account for national policy differences?

Struggles over public definitions of GM foods and policy development

The second cluster of questions explores the mechanisms through which certain understandings of GM foods (uncovered by the first cluster of questions) became dominant over others. It also examines how emerging national understandings of GM foods interacted with policy development. What shaped current understandings of GMOs and policy orientations in each country? Which key actors had what kinds of interests and resources? What did they do and say in order to advance their agendas? How were key actors’ actions and their outcomes shaped by each country’s different institutional arrangements, such as law-making and policy-making procedures (for France, also those in the EU), as well as by nationally distinct sets of frames available to them? And what determined which frames become dominant in each country – e.g., the cultural resonance of each frame, its advocates’ political and economic resources, or more contingent historical events (e.g. mad cow disease, contamination scandals, new scientific

reports)? To what extent have these nationally distinct understandings of GM foods shaped policy development? To what extent, have policy changes affected understandings of GM foods?

THEORETICAL BACKGROUNDS

Meanings of Food and National Cultural Repertoires

One crucial aspect concerning the meanings of GM crops is whether they are considered a substantive break from conventional crops, where scientists systematically crossbreed plants to create new varieties with desirable characteristics. Many people who fear the risks of GMOs and demand strict regulations take a “laissez-faire” approach to traditional agriculture, which bears similar potential risks, e.g., ecological damage, health hazards, and corporate dominance (Charles 2001). Furthermore, the labeling threshold of 0.5 percent or 5 percent is arbitrary, rather than based on scientific findings about the effects of GM foods. If the substantive boundary is not necessarily self-evident, then why is it crucial for some and not for others?

As a tradition of anthropological research shows, food and eating are always imbued with meanings. Douglas (1966) argues that food taboos and pollution fears can serve as part of a symbolic classificatory system that produces a moral order in primitive societies. Others argue that, by largely determining which food is available and how, political economy and relationships of power set the parameters for meanings of particular foods (Mintz 1996). Food and eating have also been studied as a marker of class and status (Veblen 1899; Elias 1939; Bourdieu 1979). Others study alternative eating practices from the perspective of “risk society” (Beck 1992) in which global risks pose dangers larger than ever, thus becoming more central to the organization of society (see also Douglas 1982, 1985, 1992): alternative food choices can be seen as people’s attempt to “bring some control into their lives” (Caplan 1997).

These insights potentially shed light on national differences in the meanings of GM foods. For example, do avoidance of GMOs and fears of GM “contamination,” as in Douglas’s primitive societies, help maintain an order and external boundaries? In other words, is there a component of “boundary work” (Gieryn 1983; Lamont 1992) in the way French opponents to GMOs see them as distinctly “American”?⁴ Or do the opponents simply feel helpless as they face the uncertainty of this new technology and have little control over their food?

At the same time, I will avoid the common pitfalls of seeing meanings of certain objects as a simple manifestation of a society’s underlying moral order or value system. Such an

⁴ See Fassin 1999a, 1999b; Saguy 2000a for examples of French “boundary work” against the U.S.

approach is tempting, since the national differences concerning GM foods seem almost to reflect the oft-cited national stereotypes: the French are proud and stubborn about their culinary traditions and skeptical about new technologies; Americans are less choosy about their food and open to technological advances; and the Japanese, like the French, see food (e.g., rice) as important to their national identity, and are closed-minded to new foreign products. Such explanations resonate with the “national character” approach (e.g., Benedict 1946; Nakane 1970; Inkeles 1979; Lipset 1963), which explains national differences with “national character” that reflects a nation’s value system. This kind of deterministic cultural explanation collapses when applied to the issue of GM foods, over which the strong national distinctions did not always exist. In the mid-1990s, France was a popular test site for GM crops and the French government even petitioned the EU for commercial approval of certain GM corn varieties. In Japan, although various anti-GMO campaigns were launched in 1996, the public opposition was not visible until 1999. In the U.S., Jeremy Rifkin led a high-profile anti-GMO campaign in the early 1990s. In other words, distinct national stances emerged over time, not as a mere reflection of national character or culture, but as an outcome of struggles among different actors in their national contexts.

I draw from the concept of “national cultural repertoire” (Lamont 1992, 2000; Lamont and Thevénot 2000). Cultural analysts have been increasingly adopting the view of culture as more fragmented, often internally inconsistent “toolkit” or “repertoire” (Swidler 1986, 2001) of schemas, scripts, symbols, rituals and world-views, rather than as a coherent value system. In this vein, national cultural differences can be seen as differences in available cultural tools. GM foods provide a productive context for comparing national cultural repertoires, as debates on contested issues disclose available cultural tools (Boltanski and Thevénot 1991; Lamont and Thevénot 2000; Swidler 2001).

Interests, Politics and Institutions

It is possible to see this issue as predominantly an economic and political one, as agricultural products have produced intense trade disputes between Europe and the U.S., as well as between Japan and the U.S. The U.S. is a major producer of GM crops, and France and Japan are known for their protectionist orientation. However, producer interests in these countries are not so clear-cut as to explain the national differences in responses to GM foods. Although Monsanto, the leading developer of GM crops, is American, large agricultural-biotech interests

exist both in Japan and France. The Japanese government has heavily invested in this technology, particularly the development of GM rice, and Aventis, a major biotech firm, was created by a merger between German and French firms. And European farmers did not significantly benefit from import restrictions on GM crops from the U.S., as Europe just turned to other countries for imports (Vogel and Lynch 2001). Multiple actors with different interests exist in each country and it is unlikely that stark differences in approaches to GM foods can be fully explained by differences in “national interests.”

Social scientists have long studied how material interests influence public policy. In particular, the influences of the business community on public policy have been a subject of debate. Marxist perspectives tend to see the state as an instrument of capitalist class, and the structural dependence approach argues that elected officials’ interests in sustaining a good economy force them to implement policies favorable to business (e.g. Lindblom 1977; Block 1977). In contrast, pluralists (Dahl 1956) see the state as a neutral arena where different interests struggle against each other. State-centric theorists (Skocpol 1985; Skocpol and Amenta 1986) see the state as an autonomous entity, whose organizational structure and independent agendas influence policy. Historical institutionalists also argue that institutional arrangements, such as organization of the state, capital and labor, shape political outcomes such as policy (Hall 1986; Steinmo, Thelen and Longstreth 1992). Instead of seeing these different perspectives as mutually exclusive, some studies conceptualize the business community’s unity and influences and state autonomy as variable in degrees over time and across different contexts, and examine how such variation affects politics and policy (Prechel 1990; Smith 1999, 2000). Thus, in order to understand national policy differences concerning GM foods, we need to identify interest configurations, the nature of state-society relationships, the organizational structure of the state, and other institutional arrangements in each country and their changes over time.

In the 1990s, more and more social scientists began treating culture as an important determinant of policy-making, recognizing that culture “shapes both how the goals of public policy are defined and the ‘strategies of action’ (Swidler 1986) employed to reach them” (Burstein 1991; for a review on this new literature on culture and policy, see Campbell 2002). Dobbin (1994) explains striking national differences in 19th-century railway policy by each nation’s dominant cognitive paradigm, i.e., taken-for-granted understandings of what are problems and goals and what works as solutions (also see Hall 1989; Esping-Andersen 1999).

For Dobbin, nationally distinct policy approaches persist, not simply because organizational resources of the state facilitate the adoption of policies similar to existing ones, but also because officially recognized cultural logics persist as they are embedded in institutions and therefore constantly visible and available for new policy-making.

Do national differences in GM food policies correspond to nationally distinct dominant policy paradigms? According to Dobbin (1994), the U.S. policy paradigm assigns authority to markets, while the French one sets technocrats as the principal authority, and this does fit with the case of GM foods policy. However, this again does not account for different positions taken by the French government over time. Moreover, we cannot assume that dominant paradigms automatically determine policy approaches. Dobbin's model is criticized for neglecting actors' agency and different interests (Campbell 1998). To bring such factors into analysis, we need to examine the struggles among key actors to promote their definitions of problems, goals and solutions within their structural and cultural contexts. That is, which actors with what interest struggled over definitions of GM foods in what kinds of structural and cultural opportunities and constraints, and how did the dominant understandings emerge?

Struggles over definition of GM foods: Framing

In examining the processes through which nationally distinct understandings came about, I look at how the issue of GM foods has been framed in multiple ways. The issue can be seen as about attitudes towards new technologies or towards food, or about the French and Japanese protectionism against the dominance of American business. While the biotechnology industry has presented GMOs as a way to "feed the world," environmentalists have framed the issue as a case of corporate greed creating new health and environmental risks. Examining this "production of meaning" is crucial to understanding the national differences at issue here.

In recent years, an increasing variety of social scientific studies have examined how meaning and culture matter significantly to politics (e.g., Gamson 1992; Katzenstein 1996; Putnam 1993). A large sociological literature on social movements employs frame analysis, seeing movement actors as active signifying ("framing") agents (e.g., Snow et al 1986; Snow and Benford 1992; Gamson and Modigliani 1989; Benford and Snow 2000). Some researchers have extended this approach to study how policy issues are framed in the media and pointed to the significance of media frames for public opinion or policy outcomes (Gamson and Modigliani 1989; Kellstedt 1999; Steensland 2001).

The “framing” literature resonates well with Boltanski and Thévenot’s (1991) work. They have identified six “modes of justification” which people use in assessing whether an action or a judgment benefit the common good. Their model parallels Swidler’s (2001) concept of “cultural logics” and Friedland and Alford’s (1991) “institutional logics,” in that they all point to a plurality of semi-autonomous logics that can compete and contradict with each other. Building on Boltanski and Thévenot’s framework, Lamont and Thévenot (2000) undertake comparative research to identify the differences in the U.S. and French national cultural repertoires of these logics. They show that, for instance, market-based justification is more frequently invoked in the U.S. than France across various different contexts. Whereas frame analysis tends to focus on actors’ *instrumental* use of cultural resources, these works on plural logics seek to illuminate a larger cultural structure by looking at constraints on the use of particular logics in particular contexts.⁵ For example, Thévenot, Moody and Lafaye (2000) show how the market logic is used together with other logics in the U.S. by both proponents and opponents of a particular dam project, while in France the market-based arguments and other arguments (e.g., reduction of inequality, environmentalism) are considered mutually exclusive and the former is rarely endorsed as a definitive justification for actors’ positions on a similar project. On the other hand, while research on plural logics usually sees certain dominant logics as given and persistent, frame analysis empirically identifies frames and observes their trends over time, i.e., how they come and go. In particular, inductive analysis of frames over time will help us evaluate the impact of contingent events on struggles over meanings, e.g., how mad cow diseases affected the public debate of GM foods in France.

Both literatures will inform my inquiry into how certain frames become dominant over others as different actors mobilize different frames within the opportunities and constraints of their national contexts. Ferree et al. (2002) call such contexts “discursive opportunity structure,” which is part of the broader political opportunity structure and is shaped by various domestic factors such as political culture, institutional arrangements, and the role and characteristics of mass media. I believe that inquiry into discursive opportunity structures and their changes will help elucidate the larger mechanisms: why and how do certain cultural tools (e.g., frames) become more dominant than others over time?

⁵ See Thévenot, Moody and Lafaye (2000) for this point. An exception is Ferree et al. (2002), which systematically investigates “discursive opportunity structure.”

WHY COMPARE THE U.S., FRANCE AND JAPAN?

These are three world powers that exert enormous political, economic and cultural influences in the world. The U.S. and Japan have been the world's largest economies, and France and the U.S. have long rivaled each other as exporters of ideologies and values that claim universality (Bourdieu 1992; Gordon and Meunier 2001). What these and other First World nations legitimate and institutionalize greatly affects what become the "global standards." How GM foods are understood and regulated in these countries have substantial implications for the future of the global food supply and of humans' relationship to nature, and to food in particular.

Also important are the empirical puzzles of markedly different receptions and policy orientations concerning GM foods in the three countries. And this trilateral comparison will be particularly fruitful because I can draw from two large bodies of comparative work (U.S.-France comparisons and Japan-U.S. comparisons) and avoid pitfalls common to bilateral comparative studies. Often works on bilateral cultural comparison end up with simplistic, reductionist explanations of differences (e.g., "national character" approach).⁶

France, a key player in the European Union, makes an interesting contrast with Japan, as a number of previous works address how these two countries have been dealing with American influences in various spheres. Yet, few researchers have explored Japan-France comparisons. The two countries are both known for their protectionism and insistence on defending their "distinctive" cultures, but France openly shows its opposition to the threat of growing American cultural and economic hegemony, and Japan is relatively acquiescent. Both "Japaneseness" and "Frenchness" are often defined by their differences from America, albeit in different ways. While much of the vast literature on Japanese culture and society (known as "*nihonbunkaron*" and "*nihonjinron*") focuses on the Japanese "uniqueness," which is defined as how the Japanese differ from the West, or the U.S. (e.g. Benedict 1946; Nakane 1970; Vogel 1979; See Befu 1990 for analysis of this literature), the French sometimes look at America as their counter-model when they seek their own models of dealing with new social issues (Fassin 1999a, 1999b; Saguy 2000a, 2000b). Interestingly, while the French perceive fast food as "American" (Fantasia 1995), for the Japanese McDonald's is no longer American (Watson 1997). I will compare how much the French and the Japanese understand and frame GMOs as distinctively "American."

⁶ For instance, it is common to attribute differences between Japan and the U.S. to Japanese group orientation as opposed to U.S. individualism because of the pronounced nature of this contrast, despite the fact that other explanations might justly be invoked (e.g. Nakane 1970; Tsuneyoshi 1992).

DATA AND METHODS

To explore my research questions, I will trace historical developments concerning GM foods in each country and conduct content analysis and in-depth interviews. The trilateral qualitative comparison is ambitious, but the project is workable because the topic is relatively new. The public debates on GM foods intensified after the mid-1990s. My proficiency in English, Japanese and French will allow me to collect and analyze data in three countries. My five-year experience as a journalist for an English-language daily in Japan has equipped me with the skills necessary for productive interviews with various subjects.

Historical Narratives

To understand what happened and how it happened, I am examining journalistic and historical accounts (e.g., newspaper and magazine coverage, books) concerning biotechnology and GM foods, as well as industry, NGO and government documents and publications (e.g., newsletters, press releases, white papers) to construct historical narratives that identify configurations of key actors with different interests and resources and clarify chronological developments surrounding GM foods, such as legislation and policy, scandals, anti-GM food actions, and consumption and production trends. This also gives me ideas about the discursive opportunity structure. Content analysis and interviews will supplement these narratives.

Content Analysis

My data for the content analysis consist of: (1) laws and policy statements (2) mass media coverage and (3) records of official policy debates. The content analysis explores meanings of GM foods today and the history that has produced these meanings. The key question is how certain definitions and frames become dominant. For example, is it the simple and clear frames, the frames advocated by an actor with resources, or frames found in existing institutions, that ascend to the status of nationally shared understandings? I will also examine whether and how certain frames diffused across countries. For instance, how can we explain the increased visibility of the American anti-GM foods movement in the late 1990s? Do these activists use the frames used earlier by their counterparts in France or Japan, or do they have a distinct set of frames they invoke?

Laws and policy statements:

I examine how GM foods are defined and framed in each country's policy frameworks today. In particular, I pay attention to how boundaries between GM and non-GM foods are drawn and how it is explained.

Mass media:

The media are both producers of discourse and “a site on which various social groups, institutions, and ideologies struggle over the definition and construction of social reality” (Gurevitch and Levy 1985, cited in Gamson and Modigliani 1989). The media data are particularly important on issues like that of GM foods, for which the public must rely on the media to develop understandings, as opposed to forming opinions from personal experiences (Gamson 1992). I will pay special attention to the interaction between media discourse and historical events, including policy developments, to explore the relationship.

My main media data consist of the coverage of the GM food issues in *The New York Times*, *Le Monde* and *Asahi Shimbun*. I consider these three newspapers to be most comparable, as they all are leading media for the educated readership, and highly influential on elite opinion formation and policymaking. Using two databases, Nikkei Telecom 21 (for *Asahi Shimbun*) and Lexis-Nexis Academic Universe (for *Le Monde* and *The New York Times*), I have identified a part of the universe of such articles.⁷ The coverage of this issue intensified between 1998 and 2000 in all three newspapers.⁸ I will analyze all the identified articles up to 1990 (since there are few); all the articles in every other year between 1991 and 1997 in *Le Monde* and *Asahi Shimbun*, and randomly selected half of the articles in the same years in *The New York Times*; and randomly selected one-third of the articles each year between 1998 and 2002 in all three newspapers. I will expand this sample to include magazine articles from *Newsweek*, *L'Express* and *Shukan Bunshun*. *Newsweek* is available through Lexis-Nexis Academic Universe after 1975; and *L'Express* articles after 1993 are available on-line from the magazine's website.⁹ Articles from *Shukan Bunshun* are available at Oya Soichi Library in Tokyo.

Following Ferree et al. (2002), I examine both *standing* (who has a voice in the media) and *framing* (how an issue is framed), and their interaction over time. In coding each article, I

⁷ Since these databases only offer full-text articles of *The New York Times* since 1980, *Le Monde* since 1990, and *Asahi Shimbun* since 1985, I will conduct a manual search of relevant articles using indexes.

⁸ My preliminary search shows that the GM food was covered by *The New York Times* in 10 articles in 1985, 52 in 1990, 33 in 1996, 84 in 1998 and 129 in 2000. *Le Monde* had 12 such articles in 1990, 22 in 1996, 71 in 1998 and 235 in 2000. The *Asahi Shimbun* had 8 articles in 1985, 12 in 1990, 14 in 1996, 84 in 1998 and 141 in 2000. As a pilot study, I content analyzed articles from 2000.

⁹ I will contact magazines or conduct a manual search to obtain articles from preceding years.

ask: (1) What are the main topics?; (2) How are GM foods defined?; (3) What frames are used?; and (4) Which actors have a voice? I will also look at the length of each article, its location within the newspaper (e.g., the domestic news, business, or science section) and which frames are unattributed and thus to be considered as those of the journalist. I will analyze the rise and fall of both frames and actors in the media,¹⁰ as well as the patterns among frames at a given time in order to examine cross-national differences both in a snapshot and in processes of change.

Policy debates:

I will examine both standing and framing in policy debates as well. From historical narratives and analysis of policy frameworks, I will identify key policy developments, such as decisions on regulatory oversight and labeling laws, and content analyze official policy debates surrounding them. The data for this consist of the records of Congressional, Parliamentary and Diet deliberations.

Interviews

I will conduct semi-structured, open-ended interviews with key actors in order to address meanings of GM foods today and how they emerged. In particular, I will use interviews to confirm or correct my historical narratives and fill the gaps in them. My sample for interviews will be identified through media analysis and construction of historical narratives. Thus my sample populations will vary in the three countries. After identifying a universe of key actors in each country (most likely, environmental and consumer groups, biotechnology companies, government offices in charge, scientist organizations), I will strategically select those who have been particularly prominent, those who have changed their stance towards GM foods over time, and those who have an international body above their national offices (e.g., Greenpeace). I plan to conduct 10 to 15 interviews for each country, but the actual number of interviews will depend on a full universe of major players and their configurations, which I will identify during the early part of the project.

In addition to verifying my historical narratives, I will construct my interview schedules in order to glean the following questions: (1) How do they draw or not draw a boundary between GM and non-GM foods? (2) What are their positions on the issue of GM foods and how do they explain and justify them? In other words, what kinds of frames do they invoke when they explain

¹⁰ I draw from Steensland's (2001) model of diffusion and representation as two processes by which the prevalence of certain frames change. Diffusion refers to the way a frame diffuses across different groups, and representation refers to the way a frame's salience changes due to changes in the degree of media representation of its advocates.

their positions?; (3) How do they understand the current state of affairs surrounding GM foods (e.g., policy contents, production and consumption), both in their country and abroad?; and (4) How do they perceive the role of the mass media on this issue and how do they deal with the media relations? In-depth interviews will allow me to draw out taken-for-granted cognitive and normative assumptions of an actor in a more subtle way than is possible with media analysis. Interviews will also be potentially helpful in distinguishing between actors' strategic framing and their less self-conscious ideologies.

My analytical approach here is to look at the patterns of the GM/non-GM boundaries, as well as of the distributions and combinations of frames, cross-nationally. What are the dominant understandings of the issue in each country? What are the similarities and differences in the ways in which actors in the three countries understand what GM foods mean and explain their positions on them? Do different actors within a country share similar patterns? If so, how do such national patterns correspond to different policy and public reaction in the three countries? Or, do actors in similar structural positions (e.g., biotech firms, consumer movement groups) across countries have more in common? And how do these findings square with the findings from my media analysis of the recent years?

CONCLUSION

The dissertation inductively inquires how cultural, political and institutional factors interact with each other and thus will not limit its objectives to testing competing hypotheses. However, it will also examine a variety of insights provided by past research. I believe that the multifaceted research design of this project will allow me to contribute to sociological theory-building.

The dissertation also promises broader social contributions by facilitating understandings of policy formation and public discourse surrounding GM foods in three industrialized nations. The application of genetic engineering in food production is a highly contested issue that holds immense implications for the future of the global food supply system and humans' relationship to nature. I believe that insights from this inquiry would prove valuable.

REFERENCES CITED

- Beck, Ulrich. 1992. *Risk Society: Towards a New Modernity*. London; Newbury Park, Calif.: Sage Publications.
- Befu, Harumi. 1990. *Ideorogi to shite no Nihon bunkaron :zoho*. Tokyo: Shiso no Kagakusha.
- Benedict, Ruth. 1946. *The Chrysanthemum and the Sword: Patterns of Japanese Culture*. Boston: Houghton Mifflin.
- Benford, Robert D., and David A. Snow. 2000. "Framing Processes and Social Movements: An Overview and Assessment." *Annual Review of Sociology* 26:611-39.
- Biernacki, Richard. 1992. *The Fabrication of Labor: Germany and Britain, 1640-1914*. Berkeley, CA: University of California Press.
- Biernacki, Richard. 2001. "Labor as an Imagined Commodity." *Politics and Society* 29(2):173-206.
- Block, Fred. 1977. "The Ruling Class Does Not Rule." *Socialist Revolution* 33: 6-28.
- Boltanski, Luc and Laurent Thévenot. 1991. *De la justification: les économies de la grandeur*. Paris: Gallimard.
- Bourdieu, Pierre. 1984. *Distinction: A Social Critique of the Judgement of Taste*. Cambridge, MA: Harvard University Press.
- Bourdieu, Pierre. 1992. "Deux Impérialismes de l'universel." In Christine Fauré and Tom Bishop, *L'Amérique des Français*. Paris: Editions F. Bourin.
- Brubaker, Rogers. *Citizenship and Nationhood in France and Germany*. Cambridge, MA: Harvard University Press.
- Campbell, John. 1998. "Institutional Analysis and the Role of Ideas in Political Economy." *Theory and Society* 27: 377-409, 1998
- Campbell, John. 2002. "Ideas, Politics, and Public Policy." *Annual Review of Sociology* 28:21-38, 2002
- Caplan, Pat (Eds). 1997. *Food, Health and Identity*. London; New York: Routledge.
- Charles, Daniel. 2001. *Lords of the Harvest*. Cambridge, MA: Perseus Publishing.
- Cress, Daniel M., and David A. Snow. 2000. "The Outcomes of Homeless Mobilization: The Influence of Organization, Disruption, Political Mediation, and Framing." *American Journal of Sociology* 105:1063-1104.
- Dahl, Robert A. 1956. *A Preface to Democratic Theory*. Chicago: University of Chicago Press.
- De Cheveigne, Suzanne. 2002. "Biotechnology Policy: Can France Move from Centralized Decision Making to Citizens' Governance?" *Science Communication* 24(2) 162-172.

- Dobbin, Frank. 1994. *Forging Industrial Policy: The United States, Britain, and France in the Railway Age*. New York: Cambridge University Press.
- Douglas, Mary. 1966. *Purity and Danger: An Analysis of the Concept of Pollution and Taboo*. Boston: Routledge & Kegan Paul
- Douglas, Mary. 1985. *Risk Acceptability According to the Social Sciences*. New York : Russell Sage Foundation.
- Douglas, Mary. 1992. *Risk and Blame: Essays in Cultural Theory*. London; New York: Routledge.
- Douglas, Mary, and Aaron Wildavsky. 1982. *Risk and culture: An Essay on the Selection of Technical and Environmental Dangers*. Berkeley: University of California Press.
- Elias, Norbert. 1994. [1939] *The Civilizing Process*. Translated by Edmund Jephcott. Oxford: Basil Blackwell.
- Esping-Anderson, Gosta. 1999. *Social Foundations of Postindustrial Economies*. Oxford: Oxford University Press.
- Fantasia, Rick. 1995. "Fast Food in France." *Theory and Society* 24: 201-43.
- Fassin, Éric. 1999. "The Purloined Gender: American Feminism in a French Mirror" *French Historical Studies*. 22(1)
- Fassin, Eric. 2001. "Same Sex, Different Politics: 'Gay Marriage' Debates in France and the United States." *Public Culture*, 13 (2): 215-232
- Ferree, Myra Marx, William A. Gamson, Jurgen Gerhards and Dieter Rucht. 2002. *Shaping Abortion Discourse: Democracy and the Public Sphere in Germany and the United States*. Cambridge, U.K.: Cambridge University Press.
- Friedland, Roger and Robert Alford. 1991. "Bringing the State Back In: Symbols, Practices, and Institutional Contradictions." In Walter Powell and Paul DiMaggio, eds., *The New Institutionalism in Organizational Analysis*. Chicago: Univ. of Chicago Press.
- Gamson, William, A. 1992. *Talking Politics* New York: Cambridge University Press.
- Gamson William A. and Andre Modigliani. 1989. "Media Discourse and Public Opinion on Nuclear Power: A Constructivist Approach" *American Journal of Sociology* 95 (1):1-37.
- Gieryn, Thomas. 1983. "Boundary-Work and the Demarcation of Science from Non-Science: Strains and Interests in Professional Ideologies of Scientists." *American Sociological Review* 48: 781-795.
- Goffman, Erving. 1974. *Frame Analysis: An Essay on the Organization of Experience*. New York, NY: Penguin Books.
- Gordon, Philip, and Sophie Meunier. 2001. *The French Challenge*. Washington, D.C.: Brookings Institution:

- Gurevitch, Michael, and Mark Levy (Eds). 1985. *Mass Communication Review Yearbook*. Vol. 5. Beverly Hills, CA: Sage.
- Hall, Peter. 1986. *Governing the Economy: The Politics of State Intervention in Britain and France*. New York: Oxford University Press.
- Hall, Peter. 1989. "Conclusion: the Politics of Keynesian Ideas." In *The Political Power of Economic Idea*, ed. Peter Hall. Princeton: Princeton University Press.
- Hall, Peter. 1993. "Policy paradigms, Social Learning, and the State: the Case of Economic Policy-making in Britain." *Comparative Politics* 25(3): 275-296
- Inkeles, Alex. 1979. "Continuity and Change in the American National Character." In *The Third Century: America as a Post-Industrial Society*, ed. Seymour Martin Lipset. Stanford, Calif: Hoover Institution Press.
- Katzenstein, Peter (Eds.). 1996. *The Culture of National Security: Norms and Identity in World Politics*. New York: Columbia University Press.
- Kellstedt, Paul. 2000. "Media Framing and the Dynamics of Racial Policy Preferences." *American Journal of Political Science* 44:239-255.
- Klintman, Mikael. 2002. "The Generically Modified (GM) Food Labelling Controversy: Ideological and Epistemic Crossovers." *Social Studies of Science* 32(1) 71-91.
- Lamont, Michele. 1992. *Money, Morals, and Manners: The Culture of the French and American Upper-Middle Class*. Chicago: University of Chicago Press.
- Lamont, Michèle. 2000. *The Dignity of Working Men: Morality and the Boundaries of Race, Class, and Immigration*. Cambridge, Mass.: Harvard University Press and New York: Russell Sage Foundation.
- Lamont, Michèle, and Laurent Thévenot. 2000. "Introduction: Toward a Renewed Comparative Cultural Sociology." In Michèle Lamont and Laurent Thévenot, eds., *Rethinking Comparative Cultural Sociology: Politics and Repertoires of Evaluation in France and the United States*. Cambridge: Cambridge University Press and Paris: Presses de la Maison des Sciences de l'Homme.
- Lemieux, Cyril. 2001. "New Developments in French Sociology." Unpublished manuscript presented in 2001 at the Culture and Inequality Workshop at the Sociology Dept. in Princeton University.
- Lindblom, Charles E. 1977. *Politics and Markets: The World's Political-Economic System*. New York: Basic Books.
- Lipset, S. M. 1963. *The First New Nation: the United States in Historical and Comparative Perspective*. New York, Basic Books
- Marris, Claire. 2000. "Swings and Roundabouts: French Public Policy on Agricultural GMOs 1996-1999." *Cahiers du C3ED* (2).

- McCarthy, John. 1994. "Activists, Authorities, and Media Framing of Drunk Driving." in *New Social Movements: From Ideology to Identity*, edited by Enrique Larana, Hank Johnston, and Joseph R. Gusfield. Philadelphia, PA: Temple University Press.
- Mintz, Sidney. 1996. *Tasting Food, Tasting Freedom*. Boston: Beacon Press.
- Nakane, Chie. 1970. *Japanese Society*. Berkeley: University of California Press.
- Nisbet, Matthew and Bruce Lewenstein. 2002. "Biotechnology and the American Media: The Policy Process and the Elite Press, 1970 to 1999." *Science Communication* 23(4): 259-391.
- Prechell, Harland. 1990. "Steel and the State: Industry Politics and Business Policy Formation 1940-1989." *American Sociological Review* 55(5): 648-668.
- Putnam, Robert. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.
- Roy, Alexis and Pierre-Benoit Joly. 2000. "France: Broadening Precautionary Expertise?" *Journal of Risk Research* 3(3): 247-254.
- Saguy, Abigail. 2000a. "Defining Sexual Harassment in France and the United States, 1975-1998." Dissertation at Princeton University.
- Saguy, Abigail. 2000b. "Employment Discrimination or Sexual Violence? Defining Sexual Harassment in American and French Law", *Law and Society Review*, 34 (4): 1091-1128
- Skocpol, Theda. 1985. "Bringing the State Back In: Strategies of Analyses in Current Research" in *Bringing the State Back In*, edited by P. Evans, D. Rueschmeyer and T. Skocpol. Cambridge, England: Cambridge University Press.
- Skocpol, Theda and Edwin Amenta. 1986. "States and Social Policies." *Annual Review of Sociology* 12: 131-57.
- Smith, Mark A. 1999. "Public Opinion, Elections, and Representation within a Market Economy: Does the Structural Power of Business Undermine Popular Sovereignty?" *American Journal of Political Science* 43: 843-863.
- Smith, Mark A. 2000. *American Business and Political Power: Public Opinion, Elections and Democracy*. Chicago and London: University of Chicago Press.
- Snow, David, E. Burke Rochford, Steven Worden, and Robert Benford. 1986. "Frame Alignment Processes, Mobilization and Movement Participation." *American Sociological Review* 51:464-81.
- Snow, David A., and Robert D. Benford. 1992. "Master Frames and Cycles of Protest." in *Frontiers of Social Movement Theory*, edited by Aldon D. Morris and Carol McClurg Mueller. New Haven, CT: Yale University Press.
- Steenland, Brian. 2001. "Formal and Substantive Features of Media Discourse: Policy Framing and Guaranteed Income Legislation in the United States." Princeton University: Unpublished manuscript.

- Steinmo, Sven, Kathleen Thelen and Frank Longstreth (eds). 1992. *Structuring Politics: Historical Institutionalism in Comparative Analysis*. Cambridge, MA: Cambridge University Press.
- Swidler, Ann. 1986. "Culture in Action: Symbols and Strategies." *American Sociological Review* 20: 305-309.
- Swidler, Ann. 2001. *Talk of Love: How culture matters*. Chicago: Chicago University Press.
- Thévenot, Laurent, Michael Moody and Claudette Lafaye. 2000. "Forms of Valuing Nature: Arguments and Modes of Justification in French and American Environmental Disputes." In Michèle Lamont and Laurent Thévenot, eds., *Rethinking Comparative Cultural Sociology: Politics and Repertoires of Evaluation in France and the United States*. Cambridge: Cambridge University Press and Paris: Presses de la Maison des Sciences de l'Homme.
- Tsuneyoshi, Ryoko. 1992. *Ningen Keisei no Nichibei Hikaku*. Tokyo: Chuo Koron.
- Veblen, Thorstein. 1899. *The Theory of the Leisure Class: An Economic Study of Institutions*. New York: The Macmillan Company.
- Vogel, David and Diahanna Lynch. 2001. "The Regulation of GMOs in Europe and the United States: A Case-Study of Contemporary European Regulatory Politics." A paper for Council on Foreign Relations (<http://www.cfr.org/>)
- Vogel, Ezra. 1979. *Japan as Number One: Lessons for America*. Cambridge, Mass.: Harvard University Press
- Watson, James L. 1997. *Golden Arches East: McDonald's in East Asia*. Stanford: Stanford University Press.