

It all started with the milk. We heard Vermont farmers—*paysans*—were fighting against genetically modified milk. They'd heard about it, heard it was going to be approved soon, and were fighting it. It's a growth hormone, genetically modified, that makes cows produce more. All *paysans* know that more milk means the end. And so somewhere in 1993, some of us traveled to Vermont to talk to *paysans* there. When we came back, we decided to take up the issue of milk here and oh, did we make a ruckus [*bordel*]. Within just a few months, we had the milk banned Europe wide.

— MARCEL BONITAIRE (personal communication, February 4, 1999)

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## Introduction

### *Creating a New Rationality of Agriculture in a Postindustrial World*



And so it all began with overproduced, spilled milk. In the early 1990s, small dairy farmers in France were dumping milk and protesting price drops linked to overproduction. At the same time, talk about genetically modified organisms (GMOs) skittered through the international dairy world.<sup>1</sup> A new GMO was destined for the dairy industry. A genetically modified hormone would be injected into cows worldwide, increasing production and benefiting large-scale farmers operating industrial dairies. News of the new milk poured through the union of self-identified *paysans* (peasants) from the Confédération Paysanne, France's second-largest agricultural union, composed mainly of smallholders. Many had read about GMOs from agricultural newsletters that reported on farmers in Vermont and ecology groups trying to comprehend a new form of agricultural science, agricultural biotechnology. The *paysans* had even received a few e-mail messages via the union's newly installed Internet connection at its national headquarters just outside Paris.

In 1993 three members of the Confédération Paysanne left their vil-

lages (most never having left the country) to fly to central Vermont to do their homework. In return, local Vermont dairy farmers cheerily received the union members. The farmers offered information and warning about the economic pitfalls of the newly approved genetically modified milk. This milk, they explained, is produced by cows injected with recombinant bovine growth hormone, called r-BGH. The idea of GM milk presented a dismaying prospect to dairy farmers already struggling to survive in an era of overproduction.<sup>2</sup> Fortified with facts and figures, the small contingency of the Confédération Paysanne returned to France. Months after their return, they fought for and won an EU-wide ban on genetically modified milk that remains in place today. Not long after, they won the fight to label all GMO products in Europe.

Like the Confédération Paysanne, Vermont dairy farmers and activists led a campaign against GMOS. While their ultimate goal was to ban genetically modified milk, their initial, more modest objective was to request that the product be labeled. After a two-year struggle during 1994 and 1995, the Vermont Supreme Court ruled in favor of the high-powered dairy lobby. According to the courts, labeling requirements represented an infringement on corporations' freedom of speech (Tokar 1999). While the U.S. Food and Drug Administration approved the milk in 1993, the Vermont Supreme Court set the stage for a de facto no-labeling policy for all GMO products, and it remains in place to this day—uniquely in the United States.<sup>3</sup>

#### A Producer-Led, Anti-GMO Movement: Rediscovering the Confédération Paysanne

I traveled to France to study the movement against GMOS in early 1997. My original goal was to understand why France (unlike other European countries such as Austria, Germany, or the United Kingdom) lacked an ecology movement strong enough to drive a successful mobilization. I was aware that Greenpeace France did organize a small direct action in which activists blocked cargo ships carrying genetically modified foodstuffs before they arrived in Normandy. However, this action garnered little publicity or popular support. I had yet to imagine that French small-scale farmers, or smallholders, might share much in common (on a strategic and cultural level) with those in the Global South. Outside the Global North, producers such as peasant farmers (rather than consumers and ecologists) primarily spearhead movements against GMOS.<sup>4</sup> As I would soon learn, the same would be true

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in France. I had failed to remember the French farmers who traveled to Vermont just a few years before—and who, within months, had enjoyed such success in the European policymaking world.

I was unaware that France, like the Global South, was home to a movement of peasant-identified farmers. Peasants, I thought, no longer existed in Europe. I knew that peasants in Britain were driven to near extinction as early as the fifteenth century because of the enclosures of the commons (Neesen 1993). I assumed incorrectly that French peasants had shared the same fate. While bucolic ideas of French peasants still abound in French marketing, film, and tourism, I thought that for centuries they primarily occupied the world of the French imaginary. Upon my first chance encounter with the *Confédération Paysanne*, I soon learned that the notion of the French peasant—although changed dramatically over time—was still very much alive. Beginning in the 1970s, a set of new *paysan* movements emerged in France, resisting the industrialization of agriculture that had gotten under way following World War II.

Members of the *Confédération Paysanne* who traveled to Vermont in 1993 were at that time already plugged into an international network of farmers and indigenous peoples in nongovernmental organizations (NGOs), many located in the Global South. These southern organizations, associated with biologist-activists such as Vandana Shiva and Devaru Nanjundaswamy of the Karnataka State Farmer's union in India, had been discussing the GMO question since the 1980s. They voiced concerns regarding the impending dominance of GMOs in the international agricultural market. Word had it that companies planned to create patented GMOs in the form of seeds for a variety of commodity foodstuffs, beginning with milk. After targeting global staple crops, such as cotton, corn, canola, and soy, biotechnology companies would move on to create genetically modified versions of wheat and rice, perhaps the most crucial staple crops of all. The predictions of southern organizations proved true. In the 1980s, U.S. multinationals (e.g., Monsanto and Novartis) bought small start-up companies developing genetically modified varieties of staple crops and prepared to commercialize these products within the next decade (Rabinow 1996). If all went well, by 1996 several staple crops would appear globally in the form of genetically modified seed and GMOs processed into foodstuffs (Shiva 1993a).

Biotechnology companies won the right to patent genetically modified seeds in 1981, subsequently preventing farmers from saving or sharing seeds

purchased from these corporations (Shiva 1988). Farmers purchasing GM seeds from companies such as Monsanto are obliged to sign one-time use agreements that legally forbid them from saving or trading seed issued from GM plants. One-time use agreements break a centuries-old tradition in which farmers save, select, and share seeds gleaned from plants during harvest time. Seed saving is not just central to improving seeds and plants suitable for particular microclimates; it is also a crucial form of solidarity practiced among farmers who have collaborated, since the beginning of agriculture, to create site-specific crops for local communities in a spirit of mutualism, rather than private ownership.

With the advent of one-time use agreements, many smallholders and ecologists pondered the global implications of multinationals inserting themselves into so many nodes of the agriculture production line—from milk, seeds, and inputs to trees, fish, and animals. Could agricultural biotechnology render all farmers, both big and small, dependent on the decisions, practices, and monopolizing tactics of multinational corporations? Biotechnology companies such as Monsanto and Novartis pledged that GMOs would increase production. Targeting large-scale industrial farmers as their primary market, biotechnology companies also promised that their products would lower farmers' costs for herbicide and pesticide. This news fell on the dejected ears of international organizations of smallholders. They were already struggling to survive in an age of overproduction and price drops as peasant communities disappeared across the globe.

The Confédération Paysanne offers a distinctive response to this post-industrial condition. At this historical juncture, industrial agriculture forced smallholders to devise novel strategies to maintain economic means and the meaning of their rural and agricultural ways of life. Instead of simply promoting alternative agricultural practices, such as organic or sustainable agriculture (associated with movements in other countries), the Confédération Paysanne promotes a distinct rationality of agriculture that it calls Paysan Agriculture (*agriculteur paysanne*).

#### Postindustrial Agriculture: A Useful Heuristic?

The term *postindustrial agriculture* points to that which flows out of, but is distinct from, industrial agriculture. Postindustrial agriculture is both a consequence and an accompanying condition of industrial agriculture. Even

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though it occupies the same temporal space, postindustrial agriculture is marked by its own distinct features. When most people think about a postindustrial condition, they conjure images of abandoned factory-neighborhoods left behind in cities such as Chicago or Detroit after industry pulled up its roots and moved to the Global South (Raymond 1998; Raymond and Bailey 1997). Or they might envision workers in Malaysia laboring long hours for low pay in electronics factories in free-trade zones with few, if any, services or benefits. Few think “farmer” when they think “postindustrial.” But just as postindustrialization drives factory workers into a state of economic and cultural chaos, postindustrial agriculture also represents a set of challenges for farmers. Smallholders live in an era when industrial agriculture attempts to render their services obsolete. The mere existence of smallholders (and their requests for subsidies in the Global North) is considered a nuisance to farm-policy makers fostering the industrial model.

It is useful to offer a brief, working definition of industrial agriculture. While the book cannot present a comprehensive picture of the industrial model, I offer a broad ten-point set of conditions of industrial agriculture. A useful caveat: single components of the ten-point set are not necessarily integral to an industrial system. Rather, it is the grouping of the ten conditions of industrial agriculture—the ways in which they form a systemic gestalt—that endows industrial agriculture with its distinct function and effects.

### TEN CONDITIONS OF INDUSTRIAL AGRICULTURE

- 1 Intensive farming methods: The concentration of many agricultural products (plant or animal) on a given area of land.
- 2 Extensive farming methods: The production of agricultural products across large plots of land, often up to thousands of acres.
- 3 Chemicalization of farming methods for increasing production: The use of synthetic and petroleum products for controlling weeds, pests, soil productivity (fertilizer), fungi, and so on. Since the 1960s, this model also promotes hybrid and genetic-breeding approaches to create “high-yield” seed varieties to be paired with chemical inputs. In the Global South hybrid seed and chemical packages are central to Green Revolution technologies which were introduced between 1940 and 1970 by UN and other international agencies to enhance agricultural production.

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- 4 Motorized and electronic technologies to increase the speed, productivity, and circulation of agricultural products: The intensive reliance on motorized and electronic machines in plowing, harvesting, spraying, transporting, and so on.
- 5 Monocropping: Replacing a previously diverse model of agricultural production with a model that favors the production of fewer cultivars across vast land areas.
- 6 Subsidies and loans: Granted by government farm policies and private banks, most often to farmers who embrace the industrial features listed above.
- 7 Production of “modern foods” (fast foods, pre-prepared foods, frozen foods, and processed foods): Often seen by many consumers as affordable, convenient, and safe.
- 8 Modern ideal of bigger farms with fewer farmers in rural areas: Often perceived by state bodies and corporations as cost-effective and efficient, relying on fewer workers to pay.
- 9 Modern agricultural discourse promotes industrial model as universally beneficial and inherently progressive: Focus on food productivity and food security in a world in which overpopulation is a rationalizing force behind industrial productivism.
- 10 An instrumental rationality informs practices related to industrial agriculture: In general, a logic of efficiency, profitability, and productivity pervades discourses and practices related to the industrial model.

Industrial agriculture has implications for the kind of agricultural product it yields, the amount of land an individual farmer will use, and the environmental and health effects of farming and food production. It also promotes a reliance on a petroleum-based economy for producing and circulating agricultural goods while reducing the genetic biodiversity of cultivars. State and private bodies promote the industrial model through subsidies and loaning practices. Industrial agriculture subsequently reduces the number of farmers eligible to earn a living wage. The system is normalized by an ongoing appeal to an instrumental rationality that promotes the model as modern, progressive, and inevitable. The industrial model is primarily designed to enhance productivity while lowering production costs. Large-scale farms produce high yields (of fewer crops) by using chemicalized, motorized, and electronic farming methods. Farmers who are able to follow this model re-

ceive far more farm subsidies and bank loans than smallholders who either cannot or will not do so.

Postindustrial agriculture is a set of social, cultural, and economic conditions that flows out of industrial agriculture—these conditions are neither preindustrial nor industrial. To speak of a postindustrial agricultural condition highlights the historical and cultural specificity of the experiences of smallholders worldwide in both contesting and accommodating the industrial model. It also highlights the practices of industrial corporations in creating their own postindustrial strategies, which include agricultural biotechnology, while also appropriating and dominating markets of organic and so-called natural foods.

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POSTINDUSTRIAL AGRICULTURE

- 1 Production of agricultural surpluses in staple crops (such as wheat and corn): The result of a subsidized, chemicalized, intensive, and Fordist method of industrial agricultural production. The production of surpluses is facilitated by UN-driven agricultural policies that concentrated the world grain trade in the Global North, leaving peripheral nations in the Global South to engage in low-profit export-oriented cash cropping (Kasaba and Tabak 1995).
- 2 “Dumping” of surpluses onto the agricultural economies of southern nations: Food materials not destined for the agro-foods industry and retail are sent to the Global South in the form of aid and cheap commodity grains. After just a few dumps, a local agricultural economy in a village in the Global South can be destroyed indefinitely (Wise 2004). This creates a condition of postindustriality for smallholders struggling to survive in southern nations.
- 3 Deregulation of prewar trade policies for increasing profits: Allows powerful institutions such as the United Nations and the World Trade Organization (WTO) to increasingly determine aid, trade, tariff, and import policies worldwide, eroding small-scale agriculture, particularly in the Global South.
- 4 Agricultural biotechnology: Inserted into the industrial chemicalized, motorized, and monocrop model.
- 5 A reduction of biodiversity due to monocropping and the replacement of regional cultivars around the world by multinational corporate seed

- varieties: Local knowledges about the value and preparation of local varieties diminish along with a diverse local food supply.
- 6 Government farm policies and loaning agencies edge smallholders out of farming markets: Rural zones become home to unemployed or underemployed rural dwellers who often relocate to cities.
  - 7 The industrial model creates foods often perceived by consumers as low quality, unsafe, and departing too far from so-called traditional farm products: Increased appetite for artisanal, organic, and traditional haute cuisine foods—particularly in wealthy nations; co-optation of alternate, organic, or local agriculture food discourses and practices by big industrial producers.
  - 8 Fewer farmers leads to neglected rural zones: “Multifunctionality discourse” becomes a way for government agencies to discuss solutions to degraded rural zones regarded as hazardous to local economies, environments, and agro-tourism.
  - 9 Alter-globalization discourses: Promote grassroots organizations composed of peasants, women, the landless, indigenous peoples, the unemployed, and youth. The focus is on food sovereignty, rather than food security. Rather than frame the problem of landlessness and hunger in terms of overpopulation, alter-globalization groups emphasize problems of political underrepresentation in nondemocratic state and private bodies.
  - 10 A solidarity-based rationality informs many aspects of postindustrial agriculture: The rise of international NGOs and grassroots movements composed of smallholders and indigenous peoples signals a collective fight for “people over profit,” community self-determination, and a value of cultural fabrics over productivity and efficiency.

At first glance, many of the postindustrial agricultural conditions appear to be integral to the industrial model. However, many represent the intended consequences of industrial agriculture. Supporters in the United States of the industrial model, for instance, hope for surpluses to emerge from industrialized systems. These surpluses are needed to feed the agro-food industry that use agricultural materials necessary for the production of processed, pre-packaged, frozen, and fast foods. Surpluses are also needed for aid-based organizations seeking to dump relatively inexpensive subsidized foods into the agricultural economies of poor southern nations (Vorley 2004;



McCullough, Pingali, and Stamoulis 2005). Of interest here is the synergism between agricultural surpluses, export agriculture, subsidy policies, and deregulated trade practices. Together, these conditions of postindustrial agriculture work together to complement and support the industrial model while disenfranchising smallholders around the world (Van den Ban 1999).

In the Global North — and increasingly in the Global South — smallholders find it difficult to earn a livable wage by feeding a local or regional population. Instead, large-scale farmers around the world dominate the agricultural domain, working to feed the agro-foods complex and cash-cropping export industries (Pollan 2006, 93). Some large-scale farmers achieve degrees of wealth. Most, however, farm intensively and extensively as possible, hoping to maintain a middle-class lifestyle. Those few who head up agro-foods industries, major food distributors, and agrochemical companies make the biggest profits.

Postindustrial agriculture is a global condition. It affects smallholders in both the Global North and South, albeit in different ways. In the Global North, smallholders such as those in the *Confédération Paysanne* navigate their way around the industrial system, trying to devise strategies to rationalize their own existence. Southern smallholders face a far more dramatic scenario. For decades they have endured the long-lasting effects of land practices associated with UN-generated development schemes, including the Green Revolution. As a result, southern smallholders struggle with problems such as lack of access to tillable lands and waterways for subsistence farming (Kasaba and Tabak 1995). Those fortunate enough to have access to land for small market-oriented ventures face soil erosion and resistant weeds and pests. The problems are often the result of decades of Green Revolution technologies.

Despite these difficulties, powerful institutions often appear disinterested in the plight of smallholders enduring the effects of industrial agriculture. Organizations such as the World Bank and the Gates Foundation still actively promote the Millennium Development Goals. These goals were established by all UN member-states in 2000 with the aim of eradicating extreme poverty and hunger, establishing sustainable agriculture, and attending to the educational and health needs of peoples living in poor countries. Their central strategy has been to reduce the number of farmers engaged in food production. Southern smallholders are thus increasingly headed for landlessness, hunger, and unemployment (Menzel and D'Aluisio 2006). The lucky

few who find wage-earning employment are often obliged to toil in urban industrial manufacturing sectors owned by multinationals. In these contexts, peasants are proletarianized, transformed into workers in an industrial sector that is often dehumanizing, dangerous, and exploitative. Postindustriality thus hits smallholders unevenly. While those in the Global North may receive limited subsidies and degrees of social welfare, southern peasants often face chronic poverty, landlessness, and starvation.

Strikingly, northern smallholders in countries such as France stand in solidarity with southern farmers, attempting to build a movement that can create a viable postindustrial condition for smallholders everywhere. Movements to transcend the industrial model represent an effort to level the global agricultural playing field so that everyone gets a chance to farm, eat, and enjoy a dignified way of life.

### Postindustriality and the Appropriation of Industrial Alternatives

The ubiquity of mass-produced factory-made food catalyzes a popular and romantic desire for niche markets in haute cuisine and artisanal, local, and organic foods. It also generates a desire for nonedible agricultural products such as “natural” cleaning products and clothing made of organic cotton or hemp. Many in this postindustrial desert wander hungrily through any quaint farmers’ market or natural grocery store, searching for an oasis that Michael Pollan calls “Supermarket Pastoral” (2006, 137). Between the 1960s and 1990s, many people disenfranchised by industrial society in the Global North turned to back-to-the land movements. Many became smallholders who produced organic goods for local markets. The entry of these neosmallholders, however, did little to reverse the trend toward the reduction of the number of smallholders generally. There is no balance of power between large and small producers: disempowered organic smallholders still stand on the bottom rung of the economic food chain. Ironically, the idealistic organic smallholder of the 1960s to 1990s prepared a popular appetite for organic foods that is currently satisfied more cheaply by big corporations. Two mega corporations sell most of the fresh organic produce from California today (the state with the largest organic output) (Pollan 2006, 162).

The story of organics in the United States is one of organics gone industrial. From 1998 to 2002, the U.S. Department of Agriculture put in place the National Organic Rule, which set standards for production methods as-

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sociated with organic foods.<sup>5</sup> While some organic growers today fear that these standards will be lowered over time, others fear that raising government standards will render smallholders unable to afford the techniques and methods required for state certification. And yet other small organic growers eschew organic certification all together for economic and political reasons. Resisting government discipline, they forged terms such as *postorganic* and *beyond organic*, discursively establishing the legitimacy of their own non-certified organic foods.

Meanwhile, nodes in the agro-foods complex (including supermarkets such as Whole Foods Market, Safeway, and Small Planet Foods) sell organic products issued by corporations such as Dole, Cascadian Farm, Greenways Organic, and Earthbound Farm. Produce generated by large-scale organic companies is often incorporated into pre-prepared and processed foods for time-conscious consumers. Earthbound, for example, sells precut carrots packaged with single-serve containers of ranch dip dressing. Cascadian Farm (now a subsidiary of General Mills) produces organic frozen TV dinners. Other value-added organic foods include H. J. Heinz's organic ketchup and PepsiCo's Frito-Lay's organic Tostitos and Sun Chips (Ganis 2002).

One might think that organic smallholders might benefit dramatically from big business's interest in organics. Yet while some small-scale producers do manage to stay afloat through direct sales at farmers' markets, farm stands, and restaurant venues, most are barely able to make a viable living as farmers. Most agro-foods corporations and supermarkets buy produce from industrial-scale organics growers because their monocropping and extensive systems produce more of the same product in a shorter amount of time, which is necessary for freezing, processing, and shipping across wide distances. In addition to posing a threat to organic smallholders who are unable to compete in the swelling organics market, industrial organics perpetuates existing environmental and health problems. Industrial organics means that fewer acres and bodies will be exposed to toxic chemicals, but these benefits cannot be offset by the fossil fuels, packaging, and resource-intensive operations required to produce a limited variety of organic crops. In turn, these crops must be distributed by trucks across highways that span vast distances (Ganis 2002). Organics is one of the fastest-growing sectors in the agricultural world. Large-scale organics increasingly edges into the turf of organic smallholders. Organic farmers working on family farms, or in community-supported agriculture programs, continue to struggle to earn a living wage.

Meanwhile, as the popular craving for organic food is on the rise, cultural notions of food quality spur interest in haute cuisine and fine potables. While haute cuisine certainly predates industrial agriculture, there is a growing synergism between mass-produced industrial food and its perceived opposite, the haute cuisine dish produced by the artisan chef. Ironically, the prevalence of the former feeds consumer desire for the latter. Increasingly, worlds of organic food and haute cuisine collide at upscale restaurants where menus tout dishes containing organic or “local” ingredients. Those who built the organic movement in the 1960s could hardly have envisioned a food culture in which organic produce would be offered in venues other than vegetarian low-culture restaurants. Until the 1990s, organic food was largely associated with counterculture hippies occupying a separate epicurean universe from those engaged in upscale food enterprises.

Yet another postindustrial irony: the same corporations that sell fast-flipped burgers in franchised outlets also offer beef bourguignon in their strings of five-star restaurants (Fantasia 2004). Corporations dominate both ends of a class-based food chain. While the wealthy dine on artisanal beef, the masses consume factory-farmed burgers. As the wealthy drown their culinary sorrows in a fine bottle of Côtes du Rhône, big business devours the food market generally.

#### Postindustrial Multifunctionality: Accommodating and Contesting the System

In recent decades, postindustrial smallholders in Europe have gone multifunctional. This means that many have adopted a plurality of coping strategies in the attempt to establish themselves as necessary entities in the rural world (Brouwer 2004). Many smallholders promote the popularity of farm-made, local, or organic foodstuffs using a sensibility associated with pre-industrial wholesomeness — while reifying so-called traditional agricultural practices and lifestyles. Again, only a fraction of these well-intentioned smallholders will earn a livable wage by signing on to multifunctionality schemes.

Agro-tourism is another coping strategy adopted by smallholders throughout the Global North. Many smallholders now offer services ranging from wholesome-looking ice cream stands to petting zoos to country inns on the farm. Such agro-tourism strategies signal smallholders’ attempts to

establish a niche for themselves in the postindustrial agricultural landscape. In addition, European smallholders often receive subsidies for being environmental stewards in rural zones. Many engage in rural public works, including restoring heirloom rural roads, fences, fields, and buildings. Beautifying depopulated rural areas increases the visual appeal of otherwise degraded rural zones for the tourist industry. Smallholders in service to government-subsidized tourist industries thus become quaint symbols of an increasingly romanticized, Disney-fied, and culturally diminished rural world.

Another condition of postindustrial agriculture constitutes what Foucault (1976) calls an explosion of discourses, a proliferation of popular narratives that represent a potent critique of industrial agriculture. These narratives represent the cultural effects of the industrial model. In this way, popular chatter about the quality of various food supplies is in itself a cultural product of the industrial agricultural system. For Anthony Giddens, this chatter could be called an example of reflexive modernity, a moment in which sets of societal actors stand back and gaze up at the industrialized movie screen of their modern lives, considering what they see (1981). Contemporary discourses about food safety or quality are instances of reflexive modernity. In the case of critical food discourse, actors driving and challenging the industrial model benefit from this moment of societal reflexivity. For example, government agents deploy critical food discourse about food safety and quality to bolster claims about the industrial model (Heller 2001a). To guarantee success, they promise to protect the safety and quality of industrial foods, creating and publicizing studies designed to reassure consumers of the viability of their food sources. When government agents make claims about food safety and quality, they tend to emphasize rigorous standards for ensuring that foodstuffs are free of potentially harmful contaminants such as bacteria.

Disenfranchised smallholders also invoke discourses on food quality and safety. Yet, unlike government agents, they do not tend to highlight questions of food contaminants. Instead they attempt to identify themselves with notions of traditional farming methods. In asserting themselves as authentic food experts, smallholders producing organic or local foods challenge the authority of corporations who make similar paternalistic claims about protecting the food base. In this way terms such as *safety* and *quality* become flexible tools to wield in opposing directions to achieve disparate objectives.

Popular discussions about obesity are another opportunity for actors on

both sides of the food debate to make claims about preserving food safety and quality. Smallholders and state bodies invoke discourses on diabetic, insulin-dependent, and sedentary bodies to support their claims about various food-production models. While powerful institutions appeal to biomedical discourses related to diet, they also assert strategies for disciplining the civic body through diet and exercise. Critics of the industrial model deploy discourses on alternative health practices while emphasizing the inherent wholesomeness of nonindustrial foods to strengthen claims against the industrial model. In the United States and in Europe, too few actually make links between obesity and the U.S. farm bill or the European Common Agricultural Policy. In my research, I have been unable to find popular articles in national newspapers or magazines that speak about how government agricultural policies shore up an agro-foods industry that churns out foodstuffs containing high contents of fat, salt, a range of food additives, and high-fructose corn syrup. In turn, few media outlets publicly discuss the fact that since the agro-foods industry began to gain power, the price of fresh produce or nonprocessed foods in general has risen dramatically. A farm bill that supports commodity corn growers ends up producing a lot of cheap corn that is incorporated into relatively inexpensive processed and fast food. Instead of pointing to state food policy, the popular media focuses on individual consumers who are blamed for eating too much and exercising too little. In addition to discourses on food quality and safety, another key illustration of postindustrial agriculture is agricultural biotechnology. Agricultural biotechnology is a method of producing seeds, plants, and animal injections that have been genetically engineered to possess particular traits deemed valuable by various producers. While this technology builds upon the industrial model, it departs from it as well. Agricultural biotechnology creates an agricultural product whose objective is related to, yet independent from, narratives about agricultural productivity. There is no data to suggest that GMOs increase production generally. There is evidence—despite many corporations' claims—that increased food production does not necessarily lead to an abatement of global hunger. Scientific consensus maintains that agricultural biotechnology allows large-scale farmers to save money on herbicides, pesticides, and antifungal or antidisease inputs. Global hunger is well understood to result from wars and food policies associated with national governments and supranational trade bodies (Menzel and D'Aluisio 2006).

Agricultural biotechnology is designed to increase profits of agro-

chemical companies. Biotechnology companies sell their patented packages of genetically modified seed only when paired with their own chemical inputs. These seed and chemical kits oblige farmers to purchase the same brand of inputs such as herbicides, pesticides, and fungicides each year from the very companies that provide their patented genetically modified seed (Shiva 1993b). U.S. agricultural biotechnology companies establish agro-chemicals and patented seeds as key sites for capital accumulation. In so doing, they join other entrepreneurial efforts to fill the economic crater in the United States associated with deindustrialization. The logic embedded in seed patents extends throughout the postindustrial food chain. The privatization of public water sources, for example, by multinationals is actively reshaping the agricultural landscape (Shiva 2002). Increasingly, potable water sources are bought and sold by private corporations. Rivers are diverted to provide services for relatively distant urban dwellers and consumers who can afford bottled water. Meanwhile, subsistence smallholders struggle to provide irrigation for their own crops.

As Foucault suggests, where there is domination, there is resistance. Integral to the postindustrial agricultural condition is the emergence of new alliances between heterogeneous sets of actors challenging industrial agriculture and the social and ecological effects of the postindustrial condition. Since the 1970s we have seen a rise of both international and local grassroots organizations resisting GMOS, free trade, and a neoliberal system that exploits land, food, and natural resources as commodities. These groups do more than reject a system deemed damaging; they also promote a new kind of society. Groups like the Confédération Paysanne call for a new world built out of a different logic — one that is neither preindustrial nor industrial. During the past decade, many groups have rejected the term *antiglobalization*. Activists may see the term as too often associated with xenophobic and nationalist right-wing critics of globalization. Activists also dismiss the term because it suggests a mere rejection of globalization, rather than prompting a discussion of alternative modalities to the neoliberal model of global economic and political systems. In its stead, many seeking to build a new kind of world use the term *alter-globalization*. It implies the idea of substantive alternatives to neoliberal globalization that could help restore ecological and social justice to the world. This book seeks to understand these movements, examining actors' understandings of the problems and solutions associated with the postindustrial condition.

The Relationship between Industrial and Postindustrial Agriculture

In addressing the temporal dimension of postindustriality, we must recall that even though postindustrial agriculture chronologically follows the industrial approach, it neither fully negates nor replaces industrial agriculture. The industrial plantation model is enjoying robust success in both the Global North and South. Peppered throughout the global industrial model are sets of postindustrial smallholders, each attempting to establish a rationality and means for their own existence. In turn, postindustriality is often a contemporary complement to industriality, sometimes even giving a boost to industrial agriculture. As mentioned earlier, industrial agriculture is currently capturing and profiting from the alternative strategies of postindustrial smallholders. For instance, retailers in the United States such as Whole Foods Market, Safeway, and Stop and Shop often highlight a few baskets containing foods promoted as local, organic, or artisanal. In so doing, they give consumers the impression that foods with low-petroleum global footprints constitute a significant component of the industrial organics enterprise.

There is no single postindustrial agricultural condition. As Akhil Gupta (1998) points out, in the case of the postcolonial condition, there is no monolithic condition of postindustriality. The postindustrial condition is also actively reconfigured, appropriated, and resisted by sets of actors in site-specific cultural settings. For instance, in some cultural contexts, smallholders choose to discontinue farming, selling off or ceasing to rent small tracts of lands. Larger industrialized producers subsequently buy up these lands in order to become even more extensive. In other cases, smallholders continue farming despite the hardships. Each smallholder has his or her own way of enduring stress, poverty, and overwork in a degraded and depopulated rural sphere. Still others farm while simultaneously resisting the system. These actors join unions or farmers' organizations that support their attempt to create a new rationality of agriculture that legitimizes and revitalizes new roles and practices of the smallholder. In turn, powerful institutions have varying responses to postindustriality. Some agro-chemical corporations turn to agricultural biotechnology as a way to increase profits drawn from food-production systems. Other corporations appropriate alternatives produced by smallholders who are critical of the industrial model. And some firms move into what I refer to as the public perception industry, making



profits by hiring social scientists to monitor and shape consumer behavior related to discourses of so-called high-risk, safe, local, or quality foods.

To speak of a postindustrial condition is to point to a milieu in which the industrial and that which flows from it meet. The dynamic matrix formed by this juncture engenders a terrain composed of heterogeneous sets of powerful and disempowered actors, institutions, food-related discourses, landscapes, foodstuffs, and bodies. To speak of a postindustrial agricultural condition is to articulate the overlapping cultures constituting a world in which actors promote, contest, appropriate, and accommodate both industrial and postindustrial agricultural conditions.

### Postindustrial Agriculture: The Confédération Paysanne

Refusing to completely capitulate to the discipline of states, corporations, and supranational agencies such as the WTO, the Confédération Paysanne's strategy represents instances of both adaptation and refusal. Many individuals within the union accommodate the dominant system in an attempt to survive economically. Some union members are willing to adopt a multi-functional role in the rural world, receiving humble subsidies to improve the aesthetic value of rural zones. Others directly confront the neoliberal farm policy that flourishes under late capitalism, asserting their right to produce food. What is particularly striking about the members of the Confédération Paysanne is that few adopt one narrow strategy. Most members simultaneously accommodate and challenge the system of industrial agriculture that tyrannizes them. Equally remarkable is how the union questions the rationality underlying industrial capitalism itself (Wallerstein 1984). I use the union's campaign against GMOS as a lens through which to analyze the complex strategies the Confédération Paysanne deploys in order to achieve its goals.

While consumer-driven movements tend to propel food controversies in the Global North, in France, producers take the lead. For instance, in the United Kingdom, Australia, the United States, Japan, and Northern Europe, ecology and consumer groups primarily direct controversies over food safety against mad cow disease, *E. coli*, and pesticide use. Many smallholders in the United States and Europe actively resist the industrial model. Yet they rarely possess the cultural clout to inform policymaking bodies. France is perhaps

the only country in the Global North where the fight is successfully led by producers rather than nonfarming citizens.

French farmers historically constitute a politically conservative sector marked by an insular and parochial sensibility (Hervieu 1993). But due to an eclectic collision in the 1970s of antimilitarism, Gandhian philosophy, anarcho-syndicalism, and Catholic Marxism, the Confédération Paysanne grew from a series of new paysan movements that break with this conservative tendency. Members of the new paysan movements forged a new empowering identity by redefining the pejorative term *paysan*—a term historically associated with ideas of ignorance and backwardness. The new paysan movements redefined the paysan as a worker-identified smallholder standing in solidarity with other laborers around the world struggling to protect their livelihoods. For those active in these movements, agriculture was more than an economic activity. It was a culturally meaningful way of life. According to the new paysans, this life is threatened by industrial agriculture, which is perceived as a destructive set of practices embedded in a logic of instrumentalism rather than *solidarité* (solidarity).

The Confédération Paysanne was born out of a fusion of groups that comprised the new paysan movements. Since its inception in 1987, the Confédération Paysanne has indeed proven that there is no monolithic post-industrial condition. The Confédération Paysanne offers a distinctive instance of postindustrial agriculture. In the last decade, the Confédération Paysanne has developed a vision of agriculture that is central to a broader discourse on alter-globalization.<sup>6</sup> Alter-globalization represents an alternate rationality of industrial capital, based on a fusion of Gandhian philosophy and values of solidarity, internationalism, and quality of life for the world's peoples, partly inspired by the peasant farmers in the Zapatista movement in Chiapas, Mexico. The Confédération Paysanne adopted the phrase coined by the Zapatistas, *Another world is possible*. As the phrase suggests, its proponents promote alternatives to the dominant industrial neoliberal capitalist system. Alter-globalization activists reject neoliberal globalization based on a rationality of private accumulation, self-interest, and global capitalism.

The Confédération Paysanne's story can best be understood within the context of contemporary social movements actively displacing categories of modernity, progress, and development (Alvarez 2000; Escobar 2005, 344; Smith et al. 1997). The Confédération Paysanne, as well as its supporters and

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allies, represent new sets of actors, identities, and discourses currently reshaping how social scientists interpret the forces driving social and political resistance today.

### The Early Phase of the French Anti-GMO Movement: A Debate about Risk

When I arrived in France way back in March 1997, I found to my surprise that the anti-GMO debate had begun to gain a bit of momentum—being driven initially by French ecology and consumer groups that, despite their efforts, still failed to gain significant popular support. During this time, the controversy was framed in scientific terms, focusing primarily on the risks and benefits associated with the technology. The French debate about genetically modified foods did not yet include a discussion of what I called at the time “social issues,” such as farmers’ critiques of corporate control of agriculture.

The first big story about this new discursive entity, now called GMOs, was published the November before my arrival in an issue of *Libération* (France’s second-largest newspaper). On the cover was a photograph of an innocuous pile of soybeans sprawled under the caption “Alert au soja fou” (Watch out for mad soy) (*Libération*, November 27, 1996). During the next few months, newsstands in Paris were increasingly filled with articles covering the GMO controversy. Of the many that I collected, one still stands out. The article appeared in a March edition of the popular science magazine *Eureka* (1997). On the cover was the double image of a pig with a yellow spiral swirling from the top of its head, suggesting a dizzy or crazed animal. The cover title read, “Agriculture: Has It Gone Mad? The Great Fear of Genetically Modified Food” (1997). Most articles I collected during this period delivered the same discourse: GMOs were either scientifically risky or misinterpreted as risky by an irrational public. While the pendulum swung from risky to not risky, all articles highlighted narratives about GMO-related risk. Such discussions were in turn linked to recent food scares, such as mad cow, which had peaked in France in 1994. As promised, the GMOs arriving in France (and throughout Europe) in the fall of 1996 were genetically modified versions of staple crops such as corn, soy, and canola. These crops constituted what the industry called the “first generation” of GMOs, which offered two main types of resistant varieties that were primarily developed by U.S.-based corporations during the 1980s and early 1990s. Bt crops, the first variety, are geneti-

cally modified to resist a particular beetle (a common agricultural pest).<sup>7</sup> The other, known as the Round-Up Ready variety, is engineered to resist, or tolerate, heavy doses of Monsanto's popular herbicide Round-Up. Two issues were the focus of this popular controversy. First, GMOs provided benefits to farmers, rather than consumers. Second, a range of actors claimed that Bt and Round-Up Ready GMOs presented a series of understudied environmental and health risks.

During this period, many science and industry agents with whom I spoke openly lamented the fact that the first generation of GMOs had not appeared before the second. According to these actors, once French consumers understood the clear benefits of GMOs, they would accept the new foods without hesitation. In order to divert attention from the risks associated with the first generation, French industry officials and scientists tried to generate excitement about the immanent release of the second. According to these actors, this yet-to-emerge generation of GMOs would provide benefits to consumers, pleasing them with impressive results. It has been many years since 1997, and the second generation has yet to materialize. To date, there are no GMOs on the market that offer improved taste or enhanced nutritional, pharmacological, or aesthetic value. Nor does it appear that a second generation will appear at any time on the biotechnology horizon.

But early in the French debate, the second generation remained in the minds of science and industry officials as an immanent inevitability. Consequently, many political and scientific leaders attributed public concern over GMOs to problems associated with a set of foods aimed at pleasing farmers rather than consumers. Many also linked popular concern regarding GMOs to the media. For many science, industry, and political officials, it was the media that had overreported news about politicians' concerns over GMOs. In so doing, the media had unduly confused the masses. Indeed, the French government had made a series of contradictory decisions—widely publicized—in regard to the risks associated with three varieties of genetically modified Novartis corn (Heller 2002, 2004). The government's confusion regarding these three varieties suggested a general ambivalence regarding GMOs. Should France join the biotechnology race so as not to be surpassed by the United States? Or were GMOs just a trend? If the latter was true, why should the government unnecessarily upset various public constituencies, such as consumers' groups?

Here's how the government's ambivalence played itself out: First, Swiss-

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based Novartis had enlisted a French science body, the *Commissi e de G nie Biomoleculaire* (Committee on Biomolecular Genetics), to test the Bt corn. At stake was the scientific risk associated with one particular strain of Novartis corn that contained antibiotic resistance markers (used in producing the Bt corn). The antibiotic resistance markers in turn raised public concern: if humans ate corn containing the antibiotic resistance markers, would they become resistant to antibiotics? Novartis had chosen the *Commissi e de G nie Biomoleculaire* due to France’s previous supportive stance in regard to the technology. As expected, the committee at once recommended the corn for approval. Next, Prime Minister Alain Jupp  surprised everyone. In March of 1997, he rejected the committee’s approval. What is more, he banned all three varieties for cultivation on French soil, stating that they presented potential environmental risks. Finally, incoming Prime Minister Lionel Jospin spun the whole thing around again. He shocked everyone by overturning Jupp ’s decision. Jospin’s move was all the more baffling because his Socialist Party had won the election partly due to its alliance with the French Green Party, which was purportedly against GMOs. This display of governmental inconsistency created considerable commotion among those in ecology, farmers,’ and consumers’ organizations. Increasingly, they were growing critical of the technology.

For me, all of this proved ethnographically fascinating. Actors on both sides of the controversy (activists, the media, and public officials) invoked narratives about scientific risk to bolster their particular claims about GMOs. They focused on issues of antibiotic resistance, food allergenicity, and other risks such as gene flow or increased weed and pest resistance. While proponents downplayed risks, critics emphasized them. What they shared was a common language of risk. Risk discourse played (and continues to play) a potent role in the GMO debate in France. The potency of scientific risk — a form of science hegemony — and the later power of counterhegemonic discourses that surface in this story are central to this book (Gramsci and Hoare 1971; Laclau and Mouffe 1985). Risk discourse also plays a key role in GMO debates around the world. As Raymond Williams suggests, language does not just reflect historical processes. Linguistic narratives also produce various social realities as actors invent new terms and transfer old terms into new domains (1976, 12). Williams’s notion of “keywords” is particularly useful in tracing the emergence of terms such as *risk* that emerge within specific historical junctures. Keywords such as *risk* function in semantic clusters

of interrelated words that emerge at particular times and in places through “networks of usage,” relying on each other to create new sets of meanings (Williams 1976, 9). In the case of the GMO debate in France, *risk* emerges as such a keyword, clustered together with other terms such as *expert public*, *benefits*, and *progress*. In my attempt to understand *risk* and other related keywords, I examine them in the context of networks of usage, and how particular keywords reinforce and support others.

Beyond Riskocentrism:  
The Confédération Paysanne Politicizes the Debate

The Confédération Paysanne is one of the few organizations in the Global North to present a producer-oriented discourse on GMOs. In addition, they are unique in advancing a position that is critical of GMOs from the start. From the beginning of their anti-GMO campaign, the union went beyond a “riskocentric” perspective by discussing social, political, and economic problems associated with the technology. Since I first learned about the Confédération Paysanne in Vermont when teaching environmental philosophy and politics at the Institute for Social Ecology, I wanted to discover more about this union of radical self-identified paysans. Due to a happy accident, I bumped into the Confédération Paysanne in March 1997 at the Salon de l’Agriculture—just days after my arrival in France. Despite overwhelming jet lag, I ambled over to the Salon de l’Agriculture, a rare and fascinating event not to be missed. The salon is France’s version of a world’s fair of agriculture held annually for almost twenty years, just at the edge of Paris. Over four days the Salon de l’Agriculture celebrates the latest techniques, wares, and products of French agriculture. In addition, the salon offers up-to-date scientific displays of agro-technologies and endless booths staffed by various political, industrial, agricultural, ecology, and consumer organizations. Thousands of French citizens from all over the country—farmers and non-farmers—make their annual pilgrimage to the salon. Some wear suits and high heels to dine in makeshift cafés, sampling new wines, cheeses, and pâtés from various parts of the country. Others dress in jeans and pullover sweaters, leaning over the rails of prefab fences to dreamily gaze at the best of French livestock. All of this takes place inside an ultra-modern facility spanning more than twenty buildings.

That year, the salon’s central theme was GMOs. In addition to a series of

conferences and workshops on the subject, a number of organizations distributed pamphlets with their positions on the technology. I spent several days at the salon, gliding from booth to booth, collecting various organizations' GMO literature and chatting with organizational representatives. After only a few hours of data collecting, it was clear to me that the GMO narratives of various organizations focused on risk. For instance, the largest agricultural union of industrial farmers in France, the Fédération Nationale des Syndicats Exploitants Agriculteurs (National Federation of Agricultural Holders Unions), featured a discussion of the risks and benefits of the technology. Organizations such as consumer or environmental tended to emphasize only the risks (not benefits) associated with the technology. These organizations mainly discussed GMO-related problems of food security or potential environmental hazards.

Then I arrived at the Confédération Paysanne's booth. Gazing upward at the union's bright yellow banner dangling over the stall, I wondered whether this was the union I'd heard about in Vermont. Mary Agnes Fouchet, a national representative for Confédération Paysanne working the union's booth that day, welcomed me, handing me a leaflet discussing the union's GMO policy. While the leaflet featured the usual list of GMO-related risks, it also located GMOs within the broader context of industrial agriculture, discussing the potential social and economic impacts of GMOs on smallholders around the world. The tone of the writing was at once humanistic and *solidaire* (a truly untranslatable term akin to the English terms *solidarity*, *solidarity based*, and *cooperative*). Fouchet seemed more like a political activist than a union representative. Other union representatives, like those of the Fédération Nationale des Syndicats Exploitants Agriculteurs (FNSEA), were dressed in pressed suits and skirts, while Fouchet wore jeans and a simple button-down plaid blouse. Within minutes of talking to Fouchet, I was thrilled to determine that the Confédération Paysanne was indeed the union that had traveled to the United States just three years earlier to learn about genetically modified milk.

A few weeks after the Salon de l'Agriculture, I took the train to Etampes (seventy kilometers outside Paris) to spend the day with Fouchet, dining together in her friend's delectable restaurant and touring the small farm she inherited from her father where she grew sugar beets, sunflowers, and canola. As is the case with most interviews in this book, my discussions with Fouchet were conducted in French. The words of the people I speak with

are my own translation from French. Fouchet was the only adult child in her family (she has one younger brother and three younger sisters) who had chosen to take up the farming life. “If I hadn’t taken over my father’s and uncle’s fields, we would have had to sell them to a bigger farm,” she explained. “I just couldn’t do that. I’d feel defeated” (personal communication, April 12, 1997). As is often the case, adult children of French small farmers are increasingly unable to assume financial responsibility for maintaining the farms of retired relatives, and they have to sell lands to large-scale producers, thus contributing to the overall disappearance of smallholders.

When I asked her when she first heard about GMOS, Fouchet explained that she had attended a meeting in 1995 at her local chamber of agriculture. In France, the national chamber of agriculture has representative and administrative functions on the regional level. In France, agricultural policy is translated into practice on the local level through the country’s many chambers of agriculture. It is common, for instance, for new agricultural policies or techniques to be introduced to farmers by their local chambers. Dominated by the FNSEA (which to this day occupies the majority of the chamber’s seats), the chamber of agriculture has for decades been oriented toward the promotion of industrial agriculture, or large-scale agri-business. It is in this context that Fouchet understood the potential implications of GMOS:

I knew right away at this meeting that GMOS were not for paysans. They were just for the [FNSEA]. They were trying to get us all excited about GMOS, saying that they’d help us save on chemical inputs, use less pesticide, for example. They said we’d save money. But no one was asking what the paysans really wanted. We were more concerned about problems of drought. . . . When there’s little rainfall, like this year, the large-scale farmers can afford to just dig down deeper and take all the water for themselves, which just worsens the water shortage. The large-scale farmers care only about themselves. GMOS are for the large-scale farmers; they are just more of the same mentality. (Personal communication, April 12, 1997)

For Fouchet, GMOS belonged to a “mentality” of large-scale agribusiness, an instrumental and individualistic way of thinking that focuses on reducing production costs and allegedly solving such problems as water shortage by promoting costly and consequently economically exclusive farming practices. According to Fouchet, this mentality was based on a principle of self-interest for large-scale farmers who “cared only about themselves,” rather



than holding a principle of *solidarité*. After encountering Fouchet, I became even more interested in this union of paysan farmers that was to become the primary player in the debate to consistently promote a politicized rationality of GMOS.

### Instrumental versus Solidarity-Based Rationalities of GMOS

Throughout my attempt to understand this story, I have negotiated boundaries between *emic* and *etic*, attempting to describe two contrasting rationalities that surface in actors' narratives.<sup>8</sup> My goal has been to maintain both theoretical clarity and degrees of authenticity regarding the perceived realities of actors on the ground. I point to a tension between two (often overlapping) worldviews: those presented by actors in the Confédération Paysanne (and other alter-globalization organizations) and those proposed by actors in powerful institutions, such as multinational corporations, science bodies, government agencies, and supranational agencies (e.g., the International Monetary Fund, the World Bank, and the World Trade Organization). Such agencies tend to advance an instrumental logic of efficiency, profitability, risk, and hierarchy. In contrast, groups such as the Confédération Paysanne often advance an alternate solidarity-based rationality linked to their concept of alter-globalization.

The idea of risk — rather than notions of general harm or danger — has a special history in the West. The concept of risk first emerged as merchant capitalists determined whether or not to gamble on financing oceanic voyages of cargo ships. Eventually merchant capitalists appealed to statistics to calculate the chance of disaster (and ensuing financial loss) and began selling the first forms of insurance to shipmasters (Ewald 1991). Industrial capitalists further developed notions and practices of statistics-based insurance-driven risk. Their objective was to calculate the chance that workers would lose limbs or die in industrial accidents. Thus the notion of gambling, chance, and statistical calculation form the foundation for the first insurance policies based on a worldview that measures human lives in terms of dollars. Over time, notions of potential or acceptable risk have become taken for granted. How many of us accept — without thinking — the assumption that life in contemporary society is inevitably rife with sets of capital-driven dangers? We normalize these profit-driven dangers by calling them risks, seeing them as integral to the development of technology or economic progress. Whether

it's the risk of dying in an automobile accident (in a flimsily built but affordable car) or falling ill due to an industrial-driven pollutant, we tend to see these risks as unstoppable and necessary features of everyday life.

It is not that various sectors of the public are unaware that corporations could dramatically improve safety and lessen the chances of harm to citizens (driving cars or breathing air, for example). The reality is that many accept the fact that most corporations choose not to improve safety in order to lower the cost of production. Many inhabitants of industrial societies perceive corporations to be unchangeable and thus become docile and passive when facing those that place public health and environments in jeopardy. When citizens do take overt action against corporations, by demanding improved safety standards and so on, it is more the exception than the rule. The Confédération Paysanne's alter-globalization discourse represents a diversion to this docile and passive trend to accept the instrumental logic that values profits over the well-being of peoples and natures. The union throws a wrench into the instrumental logic of risk discourse, refusing dehumanizing notions of acceptable risk associated with GMOS. Moreover, the Confédération Paysanne rejects the calculative and rationalizing logic that normalizes this way of viewing both human and nonhuman life. The Confédération Paysanne is attempting to redefine, reconfigure, and resist values and practices associated not only with industrial-productivist agriculture but with instrumentalism itself.

In searching for terminology to describe these two contrasting rationalities, I found epistemological insight in the work of Murray Bookchin — insights that are in turn traceable to Max Weber's concerns with the rationalization of life, work, and religion. Even though he was a later theorist of modernity, Bookchin was an environmental and political philosopher concerned with forms of reason that have risen to prominence under late capitalism. Bookchin's work draws from Frankfurt School theorists such as Max Horkheimer (1947) to develop a theory of the individualizing and calculative rationality driving the culture of late capitalism. For Horkheimer there exists within the late-modern period a tension between subjective and objective reason (1947, 16). While the former addresses an individualistic, relativistic, and instrumental rationality concerned with market-based efficiency, the latter considers questions of ethical versus unethical, or just versus unjust. Elaborating on Horkheimer, Bookchin uses the terms *instrumental* and *ethical reason* to depict these two contrasting rationalities.

Drawing in turn from Bookchin and other theorists of modernity (Sayer 1991), I use the term *instrumental rationality* to describe the market-driven calculative approach to agriculture that surfaced in actors' agriculture-related narratives in the French debate. I have chosen, however, not to use Bookchin's term *ethical reason* to distinguish between what is instrumental and what is social-ethical in content. Instead, I deploy the term *rationality of solidarity* to linguistically approximate the French meaning of *solidarité*, a concept that implies an untranslatable and unquantifiable humanistic concern with maintaining the integrity of social fabrics. By invoking rationalities of solidarity, I attempt to parse out the cooperative dimension of ethical concerns found in actors' narratives in science policymaking forums (Levidow and Carr 1997, 2009; Wynne 1992). As sociologist Brian Wynne suggests, science policymaking forums often instrumentalize and individualize questions of solidarity-based ethics, emptying the concept of political and humanistic content.

For example, in bioethics panels on GMOs in the United States and Europe, the term *ethical* is often used to point to individuals' particular religious concerns related to GMOs. GMOs that might contain genes from pigs (or other animals) that violate kosher or halal criteria are often considered ethical issues. Other ethical considerations taken up by bioethics bodies are religious concerns that GMOs represent man's attempt to play God with nature. Yet other ethical questions focus on the right of individual consumers to know and choose what they are eating. Other experts in bioethics, such as James Dargie of the Food and Agriculture Organization of the United Nations, frame ethics in productive terms, asserting that world hunger represents an ethical mandate to produce GMOs. Such claims are undermined as Dargie (2001) himself admits there is no reliable data to assert that agricultural biotechnology generally enhances productivity — or that world hunger is caused by an overall problem of productivity.

The term *solidarity-based rationalities* blurs the fabricated distinction between economic and ethical issues in policymaking circles. The solidarity-based dimension of economic issues related to GMOs often slips between the epistemological cracks of science and government bodies seeking to establish legitimate categories for evaluating GMOs. In my research of the French case, I found that actors' economic narratives often included solidarity-based ethical judgments regarding the economic implications of GMOs for peoples globally. For instance, while policymakers may categorize monetary

impacts of GMOs on farmers in the Global South as economic issues (thus segregating them out of ethical discussions), I will define such economic concerns as solidarity-based issues, implying a humanist-ethical dimension surrounding the fates of peasants and indigenous actors in the Global South.

### Overlap and Contradiction: Instrumental and Solidaire Rationalities

Instrumental and solidarity-based rationalities are useful heuristics for pointing to the identifiable and contrasting styles of thinking that surface in the French GMO debate. However, it is worth noting that these rationalities are not mutually exclusive, and they do not correspond to neat economic categories such as “capitalist” and “noncapitalist.” The two rationalities share areas of overlap. For instance, there is often a dimension of solidarity in discussions of GMO-related risk, despite the instrumental origins of risk discourse historically. Although risk discourse tends to reduce the GMO question to instrumental and calculative concerns, such as protecting corporate assets and images, actors’ discussions of GMO-related risk often reflect humanitarian concerns regarding public health and environmental well-being. And just as there is often a solidarity side to instrumental rationalities of risk, there is an instrumental dimension to solidarity-based rationalities. For instance, the *Confédération Paysanne* appeals to solidarity-based notions when invoking the “precaution principle” (an international environmental principle that has become central to discourses on global risk management). In turn, actors in the *Confédération Paysanne* often adopt instrumentalized notions of agricultural quality that reduce food quality to technical terms to promote a solidarity-based model of agriculture.

A key question about the relationship between these rationalities and capitalism by way of analogy: is an instrumental rationality to capitalism as a solidarity-based rationality is to a moral economy? In other words, is instrumentalism an inherent feature of the capitalist system and of no other area of social life? And is solidarity a mark of an economic modality that lies outside profit-driven capitalist markets? The answer is that it is not that simple. To begin, most capitalist activity is indeed marked by a logic of instrumentalism. Many theorists of capitalism recognize the ways in which capitalism reduces peoples, natures, and things to commodities, emphasizing means over ends (Bookchin 1971; Wallerstein 1984; Sayer 1991). Capitalism entails the rationalization of human beings, subsuming all things under a calculus of

exchange value. However, while all capitalism is instrumental, not all instrumental activity occurs within capitalist frameworks. An instrumental rationality marked the human time line, allowing our species to use principles of efficiency and regularization to guide a range of technological endeavors. Such principles are perfectly suitable to projects such as architecture and agriculture and to the design of instruments that could be of great use within capitalist or noncapitalist societies. A cultural problem arises when a logic meant for bridge building, for instance, is extended to qualitative realms of everyday life, displacing a logic of sociality.

Those familiar with anticapitalist revolutions that brought us societies such as the former Soviet Union, China, and Cuba are all too aware of how an instrumental rationality can be highly compatible with anticapitalist pursuits. The atrocities of Stalin, for instance, which reduced people to things to be eliminated via massacre, is a harrowing instance of anticapitalism gone terribly instrumental. In so many cases, we can see how the means-ends thinking of any communist or socialist dictator of purportedly mutualistic societies can go terribly awry, using instrumental tactics to “efficiently” govern, punish, and enforce social control. Just as instrumentality can thrive among the most anticapitalist, capitalist enterprises often exploit principles of human solidarity. Many megacorporations throughout the world invoke metaphors of sports teams and families to enhance genuine sentiments of belonging and company loyalty among employees (Ong 1987). On Walmart’s website, under a subject heading titled “Diversity,” the site’s copy reads: “At Walmart, we believe that business wins when *everyone matters*, and that the true strength of diversity is unleashed when *each associate is encouraged to reach their full potential*. Diversity then becomes the foundation for an *inclusive, sustainable* business that embraces and *respects differences*, develops our associates, serves our customers, *partners with our communities* and builds upon an inclusive supplier base” (emphasis mine). The narrative becomes striking when one takes note that Walmart has generated decades-long scandals related to their union prevention, workplace sexism, and generally low salaries and poor working conditions. By clustering together keywords such as *everyone matters*, *full potential*, *inclusive*, *sustainable*, *respect*, *partners*, and *communities*, marketing agents mimic a rationality of solidarity they know people in local communities favor.

As seen in the Walmart case, solidarity-based narratives can be quite compatible with a procapitalist stance. While some members of progressive or-

ganizations do put forth an explicitly anticapitalist vision, many others do not identify as anticapitalist. While critiquing neoliberal forms of capitalism, groups such as the *Confédération Paysanne* often promote capitalistic social democracies as part of their alter-globalization vision. Their objective is to re-empower individual states against supranational institutions, reorganizing the capitalist system in such a way that it more equitably meets the needs of citizens and environment (Gibson-Graham 2006). Of interest in this book is the encroachment of an instrumental market logic into cultural realms such as agriculture. Of note too is the way in which this logic eclipses a solidarity-based approach to food production. The prominence of instrumental logics of investment and efficiency in communal and even familial contexts speaks of a broader cultural condition in which actors increasingly see themselves in market-driven terms. At stake here is the question of how an instrumental approach is ferried into nearly all realms of social and cultural life.

### When a Solidarity-Based Rationality of Agriculture Goes Public

There is a dynamic tension between instrumental and solidarity-based rationalities that circulates through the GMO debate in France. I trace the cultural forces that bring actors in the *Confédération Paysanne* to mute their solidarity-based rationalities of GMOs from public forums (particularly in the first phase of the debate). I am also interested in exploring how and why—at particular times—actors publicly and successfully promote solidarity-based rationality of GMOs and of agriculture generally. In 1999 *Confédération Paysanne*'s solidarity-based rationality of GMOs indeed went national. In 1997 the union's fledgling anti-GMO campaign relied heavily on risk, invoking the expertise of scientists to support claims against the technology. Subsequently, a series of events in August 1999 brought about a shift in the style and public receptivity of the *Confédération Paysanne*'s GMO discourse. During the summer of 1999, José Bové had spearheaded a series of direct actions known as crop pulls. During such an event, a group of farmers and other activists enter a field containing GM plants. Sometimes, activists trounce through the fields, breaking plant stems as they go. At other crop pulls, activists collect garbage bags of GM plants, later dumping the bags deemed contaminants before the local police station.

After a summer of crop pulls, the local judge of Bové's district was fed up.

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And this is why Bové and other members of the union got an unusually high sentence for participating in an anti-McDonald's action that August. In this action Bové and three hundred activists symbolically dismantled a McDonald's construction site in his town of Millau in southern France. While national and international media depicted Bové as "destroying the building" (*New York Times*, xxx xx, 1999), the farmers themselves describe their actions in modest terms, admitting to prying off several tiles from the building's roof in addition to toppling a McDonald's construction sign. The majority of the day featured family-style picnics on the grounds of the building site while Bové and other farmers were interviewed by local press about the rather low-profile action.

In addition to anti-GMO activism, anti-McDonald's actions constituted Bové's second passion. This particular McDonald's action was in retaliation against President Clinton and the WTO. In an attempt to punish Europe for refusing imported U.S. hormone-treated beef, the United States placed a heavy surtax on such French exports as Roquefort cheese. As a producer of ewe's milk (used in creating Roquefort), Bové and the other farmers decided to take symbolic action against Clinton and the WTO, which had legitimized and administrated Clinton's sanctions. After being arrested for the McDonald's action and refusing bail, Bové remained in jail for three weeks, being catapulted to national and international stardom for taking a public stance against McDonald's and ultimately against neoliberal forms of globalization. Suddenly renowned for the McDonald's rather than the GMO issue, Bové seized the opportunity to advance both causes. Through Bové's discourse, GMOs became a symbol, like McDonald's, of neoliberalism, a homogenized global culture, and the commodification of life and culture.

In particular, GMOs became a symbol of *la malbouffe*, a slang term Bové uses that has been translated imperfectly into English as "junk food." In his book that became a national best-seller in France, Bové describes *la malbouffe* as pointing to a food-related problem of culture and health. The text, *Le monde n'est pas une marchandise: Des paysans contre la malbouffe* (The world isn't merchandise: Peasants against junk food) was translated into twenty-seven languages (the English title is *The World Is Not for Sale: Farmers against Junk Food*) and launched a publishing career for Bové that continues today. For Bové, GMOs were yet another instance of the rationalization of food, along with McDonald's, hormones, and pesticides residues. As an instance of *la malbouffe*, GMOs represent the reduction of food to a

culturally standardized and technically dangerous entity. In popularizing the term *la malbouffe*, Bové expressed the solidarity-based, as well as technical or instrumental, dimensions of GMOs as a scientific entity. GMOs no longer stood for a lofty product of science to be evaluated exclusively by scientists. They now symbolized food, agriculture, and culture, thus falling within the jurisdiction of paysan expertise. In bringing together issues of culture, health, quality, and safety, Bové synthesized an instrumental and solidarity-based rationality of food, agriculture, and science.

After 1999, Bové's alter-globalization discourse became quite palpable in the media. Bové's overlapping identities — anti-GMO and alter-globalization activist — allowed notions of globalization and GMOs to be linked together in public consciousness. The broadening of the GMO debate beyond a problem of calculable risk to include wider issues of neoliberal globalization signaled a shift in the loci of expertise. For the first time in the debate, paysan farmers, as well as scientists, could speak with cultural authority about GMOs. I trace the cultural forces that facilitated the public radicalization of the French GMO debate. I examine the conditions through which actors began to speak publicly about GMOs from a solidarity-based, rather than exclusively instrumental, perspective. In pointing to the transformation of the debate in France, I refer to it as a broadening rather than as a complete shift. Confédération Paysanne's articles on GMOs after the events in 1999 still rely heavily on risk narratives. What is significant is the extent to which public discussion began to also include an alter-globalization perspective. The Confédération Paysanne did not put an end to risk discourse. Rather, it disrupted its primacy, destabilizing the discursive center of gravity that risk had exclusively enjoyed.

It is also important to note the implicitness of the Confédération Paysanne's discursive challenge. Throughout my research, I was continually struck by an absence among actors of what could be called discursive self-consciousness. Science hegemony induces degrees of conformity to particular dominant discursive orders. Actors in the Confédération Paysanne were often unaware of both their reliance on risk discourses and the extent to which their solidarity-based rationalities of GMOs displaced risk's primacy in the public sphere. Nevertheless, actors' discursive maneuvers, particularly those of Bové and the Confédération Paysanne, broadened understandings of what may count as expertise for technoscience practice and policymaking in debates about science in the future.



TOWARD A MULTISITED ETHNOGRAPHY

In recent decades, those engaged in the anthropology of modernity have reconfigured the ethnographic site. Researchers have been conducting research in multiple locations, and among heterogeneous communities, with varying degrees of power. In such contexts, anthropologists have found that they must negotiate relationships in complex fields of power. Historically, anthropologists have studied down, which means examining the cultural practices of peoples who have less power than they. But since the 1980s, anthropologists are increasingly studying up, exploring the cultural practices of peoples working within powerful institutions. Studying up allows anthropologists to convey the complexities of power as it circulates through regional, national, and international institutions (e.g., corporations, scientific laboratories, governmental agencies) as well as expert scientific institutions (Nader 1969). For ethnographers interested in contemporary local changes in culture and society, single-sited research can no longer be easily located in a world-system perspective (Marcus 1995; Tsing 2005).

Anthropologists conducting dynamic multisited ethnographies, such as Aihwa Ong (1987), Rayna Rapp (1999), and Emily Martin (1994), have redefined what counts as a field of research. Drawing from their works, I aim for a panoramic and simultaneous view of the French GMO debate. In this spirit, I also draw from Donna Haraway, whose notion of situated knowledges acknowledges that in order to know a thing, one must understand its history. For Haraway, objects of study are always embedded in particular locations within existing fields of power (Haraway 1991). I try to render transparent the heterogeneous networks of peoples, places, and things through which GMOs circulate. GMOs are never insular or universal scientific entities; they represent cultural objects, discourses, and practices that are always contextualized within specific social and political domains. Haraway's insights about situated knowledge are tightly linked to discourses about the need for multisited ethnographies in world systems. To contextualize objects of inquiry that are inherently emergent, circuitous, and mercurial, one must follow objects as they move in and across various societal arenas. The most richly situated knowledges arise from studies of the multiple contexts inhabited by those objects we seek to understand.

During my first phase of research in 1997, I created a preliminary map of the GMO controversy, identifying six sets of key actors playing a central role

in shaping the debate, including scientists, farmers, consumer groups, environmental groups, industry officials, and government agents. Over time, the same usual suspects began to reappear with increasing frequency at public conferences, television shows, and newspaper articles, making Paris seem like a relatively small town. There was indeed an identifiable yet small network of key actors and organizations, almost exclusively based in Paris, that gradually came into view as I made my way from forum to forum, quickly trying to follow a debate in the making. As I came to learn, it is indeed often a small number of highly active individuals (and institutions), rather than hoards or masses, that drive public debates or controversies.

In my attempt to conceptualize the broader networks in which these individuals worked and functioned, I have drawn from the actor-network theory (ANT) developed by Bruno Latour (1983, 1988a, 1998), Michel Callon (1986b), and John Law (1987). For these theorists, heterogeneous association of actors (human and nonhuman) constitute the institutions, information flows, and tools that together form the sociopolitical field. Even though I invoke these theorists, this ethnography is not a formal actor-network study. I draw from actor-network theory primarily to convey the webs of relationships that exist among the many actors, institutions, GMOS, and other non-human entities that animated the French debate.

Over time, I came to understand GMOS not as an isolatable scientific or commercial entity. Instead, I saw GMOS as an uneven and heterogeneous network of all of the people, organisms, tools, and policies that produced them in laboratories, marketed them throughout the world, forged policy about them in government buildings, and contested them in fields and streets. The network concept unbinds the ethnographic site, revealing it as a truly amorphous, continually shifting, and borderless entity. For me, the idea of a network lifted the burden I would have carried had I actually thought I could convey the totality of a public debate. The more I studied the controversy, the more I understood that I would only be able to capture a small piece of a boundless entity. I knew that I was merely squinting out at a great jigsaw puzzle, one whose myriad shining pieces were continually repositioning themselves into increasingly baffling yet meaningful configurations. While the number of individuals actively constituting this jigsaw puzzle was relatively small, the number and scale of associated institutions proved to be quite overwhelming ethnographically. Instead of scattering myself too thin, I decided to focus primarily on two sets of actors in the broader GMO net-

## Introduction

work: farmers from the Confédération Paysanne and scientists from the Institute National de Recherche Agricole (French National Institute of Agricultural Research). In addition, I focused my attention on key individual actors within consumer, environmental, industrial, and governmental settings. For the purposes of this book, however, I focus mainly on the Confédération Paysanne. Its story is rich, dynamic, and exceptional, so it stands out as a key narrative within the French GMO network.

During this period of French (and international agricultural policymaking), articulations among agriculture, global capital, and farm policy have come under tremendous public scrutiny. Recent agricultural scandals, such as mad cow disease, along with growing concerns among the French public regarding pesticide use, hormone-treated meat, and pollution, have created a climate in which the French public has begun raising questions about agriculture and food quality generally (Heller 2006). The Confédération Paysanne has been actively addressing these questions in an interesting way.

### PRIMARY SITE: THE CONFÉDÉRATION PAYSANNE

The Confédération Paysanne headquarters are in Bagnolet, a suburb minutes from Paris. At the headquarters, I conducted many formal interviews with *salariés* (staff members who are not paysans) and paysan representatives. I also attended organizational meetings, with a focus on following the working group compiling a report on GMOs for the French Conseil Économique et Social (French Economic and Social Council). This latter project brought me into contact with a range of actors from industrial, governmental, and scientific bodies that were interviewed by the Confédération Paysanne working group composing the report. At the French Conseil Économique et Social I was able to observe some of the dynamics and tensions between Confédération Paysanne and the FNSEA farmers who serve on the council.

I also attended many public conferences within Paris and villages outside the city, where Confédération Paysanne actors spoke publicly about GMOs. In these forums I observed and compared the public discourse of Confédération Paysanne with narratives attained through more private conversations with Confédération Paysanne actors. In addition, I spent many weekends visiting the farms and families of Confédération Paysanne farmers throughout the country who generously welcomed me into their homes, providing me with the opportunity to develop an appreciation for the concrete realities

of small farmers, the multiple stressors and commitments they bear in trying to maintain a paysan way of life. In rain, frost, and shine, I marched with the Confédération Paysanne during demonstrations in Paris that, in addition to addressing GMOS, took on issues ranging from Europe's Politique Agricole Commune (Common Agricultural Policy) to the privatization of Third World water by the French-based multinational Vivendi. Attended by paysans from across the country, these demonstrations gave me insight into the different concerns and perspectives of actors in different geographical and agricultural zones.

In the fall of 1999, Bové invited me to join a delegation of Confédération Paysanne activists on a ten-day excursion that went first to Washington, D.C., to meet with farmers from the National Family Farm Coalition and then to the WTO meetings in Seattle. This journey allowed me to witness Bové and Confédération Paysanne spokesperson François Dufour as they began to develop and negotiate a new and central position and discourse within an emerging alter-globalization movement.

### Conclusion

The French case is more than a story of a group of activists challenging the primacy of science hegemony. It is also a story about how a solidarity-based rationality of agriculture—and of the world—gained ascendancy, shifting the discursive terrain to make it more conducive to actors' articulating in public a broader and more complex appreciation of GMOS. While the French case demystifies scientific expertise, it also celebrates emergent forms of knowledge, such as paysan savoir faire. In so doing, actors in this story are broadening understandings of what counts for expertise in debates about science, agriculture, and the global economy in years to come.