

The Genetic Contamination of Mexican Nationalism: Biotechnology and Cultural Politics

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I certify that all material in this thesis which is not my own
work has been identified and that no material has
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degree by this or any other University.

Signature: 

4.2.14

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Abstract

This thesis interrogates the relationship between Mexican nationalism, maize agriculture and contemporary technoscience. My aim is to unlock a phenomenon that can at times take the shape of a reactive nationalism, while positioning itself as a defense of maize agriculture. Since 1999, a growing coalition of Mexican and international activists has denounced the transgenic "contamination" of Mexican maize agriculture. In the process, activists have identified transgenic maize as the instrument of a foreign assault on a sovereign entity, namely the nation itself – which "native maize" symbolizes in a very tangible way. Rather than being positioned as a mere instrument of foreign powers, in my argument agricultural biotechnology is seen as a non-deterministic event that calls for a critical assessment of national narratives around agriculture, science, technology and technoscience. In addition to developing such a critical assessment, I set out to explore the ethical and political promises of refiguring the activist use of the term "contamination" so that the latter is understood to pertain genetically to identity itself, including the maize-based identity that some Mexicans invoke in their nationalistic opposition to transgenic maize. Drawing on specific contributions from post-Marxist political theory, media and cultural studies and feminist technoscience, I position "genetic contamination" as a critical and creative alternative to the reproduction of nationalist identifications. An acknowledgment of the ineradicability of antagonism, a rigorous attention to contextual specificities and a materialist commitment to the pursuit of democracy in the technoscientific world all inform my engagement with the nationalist narratives in the context of technoscience, understood here as "a form of life, a generative matrix" (Haraway, *Modest_Witness* 50).

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Introduction

What might be learned from personal and political pollution?

(Haraway, *Modest_Witness* 174)

A broad consensus exists in Mexico today that ancient agriculture was a pioneering form of biotechnology. Maize, for instance, is a crop plant developed by ancient Mesoamerican farmers through the domestication of a wild grass called *teocintle* (or *teosinte*). Yet controversy keeps growing around the differences between this kind of biotechnology, which survives in the subsistence practices of small-scale farmers, and genetic engineering, which is performed by scientific experts in the service of a powerful transnational industry. In this thesis I explore the tension between these different practices of biotechnology as a vital issue in technoscience. By technoscience I mean not just the actual inseparability of knowledge production from capitalist industry in the contemporary world (Lyotard). I also understand it philosophically as a complex set of challenges that confront the whole world with the need to develop "something like an *ethico-onto-epistemology* – an appreciation of the intertwining of ethics, knowing, and being" (Barad, *Meeting the Universe* 185). My exploration of biotechnology debates attempts to develop an ethico-onto-epistem-ological appreciation of the current predicament of a nation embodied in multiple ways by maize agriculture.

As a center of origin and genetic diversification of maize, Mexico is regarded today as being under threat of full-scale contamination by transgenic maize, a biotechnological product first imported as food into Mexico from the United States and more recently sown in experimental fields prior to its commercial release. "Contamination" is a term used by opponents of transgenic maize in order to assert that, once transgenic and native maize cross-fertilize, transgenes will prevail and displace "native maize" to the point of extinction. When in 2001 scientists found transgenes in maize plants from the Mexican state of Oaxaca, an anti-GM movement was born which quickly became articulated in terms of a defense of cultural identity and national sovereignty. An intuitive scepticism I felt about the nationalist rhetoric of this movement led to a series of

questions that eventually developed into the argument of this thesis: What is at stake, ethically and politically, when a biotechnological product is figured as a threat to national sovereignty? In what ways is reactive nationalism problematic in the context of Mexican debates around maize agriculture and biotechnology? Is it possible to develop an alternative response to the very real threats of corporate-led biotechnology that is critical, creative and ethically responsible? What can the theoretical trajectories of media and cultural studies contribute to such a project? In this thesis I approach these questions through a careful reading of texts concerning the history and current status of Mexico as a national project precariously founded on the modern political narratives that are being rendered vulnerable today, among other factors, by technoscientific capitalism.

At first sight, Mexican opposition to transgenic maize appears as just another example of popular resistance against neoliberal globalization. It is, after all, no secret that biotechnological products such as transgenic maize are designed to aid the expansion of profit-driven agro-industry, entailing a very real threat to independent, subsistence-oriented agriculture. Since 1982, neoliberal policies have progressively eliminated the Mexican state's commitment to land redistribution and to local economies. Medium and small-scale Mexican businesses collapsed as soon as they were exposed, in 1994, to international competition under the North American Free Trade Agreement (NAFTA). As Mexico became dependent on imports of heavily subsidized, cheap maize from the US, maize re-emerged as "the symbol of nationalism and the country's political and cultural resistance" (Antal, Baker and Verschoor 2). Unsurprisingly, the Mexican defense of maize quickly became a popular subject among Northern academics studying the impact of neoliberalism globally. Empirical research has been extensive, and various critical perspectives have been deployed in the analysis of the Mexican debates on maize biotechnology, from actor-network sociology (Verschoor) and international political economy (McAfee) to Gramscian theory of science as culture (Wainwright and Mercer), science and technology studies (Kinchy) and cultural anthropology (Fitting). Drawing on the above listed research and on my own prior philosophical training, I found myself preoccupied by the seeming absence of an adequate method that could authorize the kind of open-ended interrogation of contemporary Mexican nationalism that I wanted to pursue. Such a concern was made even more acute by an increasing awareness

(as I researched the topic) of the vital issues at stake in the Mexican biotechnology debates.

Issues of life and death such as global economic war and environmental racism would seem to demand first and foremost a realistic empirical investigation of the defense of maize in Mexico. I nevertheless kept on wondering what I could contribute to agricultural and biotechnological debates by drawing on a background and orientation that have been, and continue to be, distinctively non-empirical and non-scientific. From a post-foundational philosophical perspective, the problem I still find in "empiricism first" approaches is that they more often than not tend to leave nationalism unquestioned or frame it implicitly as a rational or at least reasonable position in the face of global capitalism. At the risk of sounding melodramatic, I have persisted in eschewing the empiricist blackmailing attempts of my metaphysical superego. Drawing inspiration from Donna Haraway's injunction to change the stories we live by, I have set out to interrogate the stories that some Mexicans tell about "us" as we try to elaborate a critical relation with neoliberal technoscience. This thesis has therefore evolved as a theoretical experiment in situated knowledges, that is, as an attempt to "become answerable for what we learn how to see" (Haraway, "Situated Knowledges" 583).

It was an invocation of national history that first drew my attention to the Mexican defense of maize. In October 2009, Greenpeace staged a theatrical protest in which activists covered emblematic monuments in Mexico City with black mourning cloths and placards. Over the statues of the national Heroes of Independence one could read phrases such as "Our maize first, traitors!" The traitors in question were Mexican legislators who had allegedly betrayed the nation by ending a ten-year moratorium on the experimental sowing of transgenic maize in Mexico. When I read about this protest, I thought that Greenpeace's rhetorical strategy struck all the right cords in a country that extracts its sense of national identity *not so much from the love of traditional agriculture* as from a deep sense of injury in the face of external powers. The vast majority of contemporary Mexican citizens now live in urban areas and feed themselves with industrial products, yet it seemed likely that many of them would identify themselves as the victims of traitors who were selling "our maize" to a foreign enemy. My spontaneous reaction at the time was to ask myself, rather skeptically, whether the nationalist rhetoric was faithful to the reality of contemporary Mexican life as I had experienced it so

far. Encouraged by my then recent introduction to technoscience studies during an MA in Digital Media at Goldsmiths College, I decided to transform such a spontaneous skepticism about Mexican nationalism into an academic research enterprise in which I could test my own inclination for philosophical approaches. My question thus became formulated as to whether a nationalist rhetorical strategy, relying as it did on modern political narratives, could responsibly face up to the challenges that technoscience posed to human beings.

In this thesis I use the term "cultural politics of biotechnology" to refer to my exploration of the ethical and political implications of a deconstructive approach to national identity in the context of debates around transgenic maize in Mexico. Without claiming that my work consists in "a deconstruction of Mexican nationalism," I find it important to acknowledge deconstruction not just as a vague philosophical inspiration but rather, more fundamentally, as a constitutive orientation of my work on Mexican biotechnology debates. By contrast with familiar research methods aiming to produce accurate representations of the world, deconstruction seeks an "opening to freedom, responsibility, decision, ethics and politics" (Derrida, "Before the Law" 200). My interrogation of nationalism and biotechnology in Mexico is indeed orientated towards an opening of ethical and political questions – as opposed to unproblematic assertions or positive answers that seem more acceptable for an established academic discipline. If we think of deconstruction as "a name for experience itself, which is always experience of the other" (Derrida, *Echographies* 11), the first implication is that nothing familiar or reassuring can result from it. I would therefore ask: What remains unthought in the Mexican biotechnology debates, from an ethical and political perspective?

One crucial premise of thinkers attuned to deconstruction is the notion that identity, as being in time, can only be constituted precariously in relation to time itself. In this sense, Derrida argued that "the at-home has always been tormented by the other, by the guest, by the threat of expropriation. It is constituted only in this threat" (Derrida, *Echographies* 79). It is the radical threat of temporality that in my view constitutes the unthought in the Mexican debates around transgenic maize. It is also what I attempt to think through by means of a semantic displacement of "contamination." I want to suggest that the Mexican nation has always been "contaminated" or rendered vulnerable by its own constitutive temporality. However, I do not mean by this that the "genetic contamination" of

Mexican nationalism is a fundamental truth that can be verified empirically or transcendently. I want to position it instead as a deconstructive myth, the acknowledgment of which might actually help to diversify both the content and the orientation of the Mexican biotechnology debates. If conceived as a sort of genetic engineering at the philosophical level, the aim of my "contaminating" intervention would be to release cultural myth-making from cultural nationalism in order to create conditions for the emergence of more critical and more creative engagements with technoscience understood as "a form of life, a generative matrix" (Haraway, *Modest_Witness* 50). As the following overview of chapters already suggests, maize biotechnology is a multi-dimensional, non-deterministic process in which the biocultural origin of maize appears to be as important as it is impossible to grasp.

The search for the origin of maize is ongoing, yet the dominant scientific theory holds that it was in the Mexican Balsas River Valley, between 12,000 and 7,500 years ago, that the wild grass *teosinte* (*Z. mays parviglumis*) first "mutated" into maize (*Zea mays mays*) (Buckler and Stevens 81). While the genetic difference between the two plants is very small, its phenotypic expression is as dramatic as the significance that maize acquired in the biocultural history of the Americas. Unlike *teosinte*, maize produces large, nutritious and abundant seeds that can be stored for long periods of time. Unlike those of *teosinte*, the seeds of maize grow tightly packed together in the ear and are prevented by the husk from dispersing into the air. This characteristic makes maize dependent on human cultivation, and it is one of the reasons why scientists agree on at least one point, namely, that maize originated through the domestication of *teosinte* by pre-Columbian farmers (Bennetzen et al.). Ever since the first domestication of *teosinte*, farmers throughout the American continent have been selecting and sharing seeds from different plants in order to produce virtually endless varieties of maize. In pre-Columbian societies maize symbolized fertility and the substance of human beings; it provided articulation between human beings and the cosmos as well as symbolic legitimation to political power (Florescano 36). After the conquest of the Aztec empire by the Spaniards (1519-1521), maize remained the staple food of the colonized majorities, bearing a stigma that lasted well beyond the colonial era (1535-1821). It was in fact only 20 years after the Mexican Revolution (1910-1920) that the Mexican government officially acknowledged the nutritional

and cultural value of maize. Ever since, maize has been officially celebrated in Mexico through a rhetoric of cultural nationalism.

In Chapter I, *Maize in Mexican Cultural Politics: A Critical Review*, I review the cultural politics of maize, from its historic role in modern narratives of national identity to the technoscientific conjuncture in which it is being reclaimed by *campesinos*¹ in alliance with scientists and environmental activists. In this conjuncture, it seems easy to justify nationalist rhetoric as the way to demand retribution for centuries of cultural colonialism. In my account of Mexican cultural politics, however, I develop a more critical position about the use of nationalism as a means of cultural decolonization. One of the main arguments I develop is that the nationalist celebration of maize is historically indissociable from the devaluation of maize agriculture as a culturally specific form of biotechnology. Under the modernizing imperative of Mexican revolutionary nationalism, maize was transformed into a standardized consumer item that would perform effectively as a homogenizing metaphor for a "developing" capitalist nation. In the same process, peasants and rural life in general were figured nostalgically as folkloric remnants of "underdevelopment." Through the developmental discourse and the Green Revolution (Escobar, *Encountering Development*; Saldaña-Portillo), Mexican nationalism in fact undermined the vitality of maize agriculture, its diversity and its public valorization as a culturally specific form of biotechnology. Thus, far from simply or transparently celebrating maize as biocultural legacy, Mexican nationalism operated, as historian Jeffrey Pilcher has pointed out, as "a means of transforming elements of lower class and ethnic culture into symbols of unity for an authoritarian regime" (*Que Vivan* 124). My critical history of maize nationalism poses the question of whether and how it would be possible for Mexican nationalism to reconfigure itself as part of a democratic agenda. I argue

¹ In Mexico, the term *campesino* refers not just to a small-scale or subsistence-oriented farmer, but also to a political category within the narratives of the Mexican Revolution. As I explain in Chapters I and II, the Revolution attempted to de-indigenize and de-politicize *campesinos* by reducing them to modern economic subjects, that is, commercial farmers. Its success was limited, and the term *campesino* is still widely used in Mexico to refer to a revolutionary subject, either in a cultural sense (as communitarian indigenous *campesinos*) or in a liberal political sense (as members of the National *Campesina* Confederation, more often classified as *mestizos*). Even though the term *campesino* is generally not offensive or pejorative in the Mexican context, I use the English term "peasant" as a translation of *campesino* throughout this thesis. I do this following most of the English documents dealing with rural issues in Mexico; yet I find it important to clarify from the start that in Mexico *campesinos* have a very public existence and are not ashamed of being called *campesinos*. Therefore, any negative connotation carried by the current usage of "peasant" in English does not apply in my own use of the term.

that such a possibility was indeed activated towards the end of the 1980s by nothing less than neoliberal globalization.

Only since the neoliberal turn have indigenous peasants been refigured as "experimenters" and "improvers" of biological resources to be economically exploited as well as protected by the Mexican nation. In 1988, Mexican anthropologist Arturo Warman wrote that maize was the result of "...a prolonged effort that required the interest and the passion of thousand of anonymous agricultural experimenters over dozens of generations" (33). A high-ranking official of Mexico's neoliberal government (1989-1994), Warman also asserted that maize was "a unique resource for the construction of a new reality, for change and social transformation" (234). The core of this transformation turned out to be neoliberalism, defined by philosopher Wendy Brown as a political rationality that makes the market into "the organizing and regulative principle of the state and society" (*Edgework* 41). In Mexico, the neoliberal policies that Warman helped to craft included an end to constitutional restrictions on land commodification and the North American Free Trade Agreement, which eliminated tariffs on industrial imports, including food imports. Exposed to international competition, Mexican businesses collapsed, while the country became dependent on heavily subsidized, cheaper maize from the US. The devastating effects of neoliberalism probably shocked Warman and everyone else who had entertained wild expectations of "progress" and "development" through world commerce. Whereas an important trend in the academic literature has been to foreground the series of catastrophes that neoliberalism brought to Mexico and the world, I want to focus on the rebirth of cultural politics that neoliberalism *also* brought about. Only in the neoliberal era did indigenous peasants take to the stage in popular and academic discourse as an active part of the present rather than a negligible "problem" from the past. While the Zapatista insurrection of 1994 has justly taken most of the credit for this change, I suggest in my critical review of maize nationalism that there is another ingredient to it which is distinctively neoliberal and even technoscientific; hence I call this political shift a "technoscientific mutation" in Mexican cultural politics.

In *Life as Surplus*, Melinda Cooper argues that contemporary industrial biotechnology is "inseparable from the rise of neoliberalism as the dominant political philosophy of our time" (19). While neoliberalism makes capitalism into "the organizing and regulative principle of the state and society" (Brown, *Edgework*

41), biotechnology extends such a principle to life itself qua “the specific power of life activity of cells, molecules, and genes” (Thacker 40). Yet feminist critics of technoscience such as Sarah Franklin and Donna Haraway have highlighted the ambivalent potential of technoscientific practices such as biotechnology. While the latter indeed signals a dangerous penetration of capitalism into the core of life itself, it simultaneously provokes a welcome re-politicization of everything previously associated with “nature.” For instance, it provokes a reaction against “the separation of expert knowledge from mere opinion as the legitimizing knowledge for ways of life” (Haraway, *Modest_Witness* 23). From this perspective, transgenic maize appears not just as an instrument of capitalist corporations but also as a breeding ground for a more democratic life in technoscience. In view of the complex threats posed by neoliberal capitalism, Mexican farmers of diverse provenances formed a coalition with environmental activists and urban scientists in a crusade against the transgenic “contamination” of “Mexican” maize varieties. If their struggle amounts to more than reactive nationalism, this is because it involves a critical revalorization of the technical knowledges of small-scale maize farmers. Since I am interested in theorizing this re-valorization as a potential challenge posed to Mexican nationalism, my initial questions become more precise in this chapter: What is the role of nationalism in the Mexican defense of maize? Is nationalism a necessary component or a structural aspect of such a defense? How can we better understand its role, its potential advantages and its limitations?

In Chapter II, *A Theoretical Approach to Mexican Nationalism*, I argue that the deconstructive turn in political philosophy and cultural theory can help us to interpret the historical trajectory of Mexican nationalism in a way that allows us to imagine how such a nationalism might be reconfigured in more or less democratic directions in the present technoscientific conjuncture. Theories of nationalism have oscillated between explaining the nation as an ideological function of capitalist nation-states and positing it as a necessary expression of specific cultures (Torfing 192). While ideology and material conditions are both important aspects of nationalism, postcolonial theorist Homi Bhabha has argued that unless they incorporate a deconstructive perspective, they will tend to fix or totalize a sign that is “always multi-accentual and Janus-faced” (3). In other words, they will end up asserting, like nationalism itself, an impossible unity of the nation as a symbolic

force. From Bhabha's perspective, what matters are not self-consciously held political ideologies but larger cultural systems out of which the nation comes into being as a transitional narrative (19). As a narrative, Bhabha explains, the nation lives in the ambivalence between histories that speak of a national "origin" and a social temporality that upsets the "totalization," or fixation, of such histories. In Chapter II I explore the larger cultural systems that have nurtured the transitional narrative of Mexican nationalism. My necessarily partial account of such systems relies on the work of Mexican and non-Mexican historians, such as Claudio Lomnitz and Edmundo O'Gorman. I have chosen to foreground these two historians on the basis of their critical orientation, which resonates strongly with the basic insights of deconstructive philosophy. Through a post-Marxist interpretation of the history of Mexican nationalism as recounted by Claudio Lomnitz and Edmundo O'Gorman, I prepare the ground for a more targeted discussion, in subsequent chapters, of the cultural politics of biotechnology in contemporary Mexico.

Drawing on Ernesto Laclau's political elaboration of poststructuralist philosophy, Lacanian psychoanalysis and Gramscian hegemony, I interpret the history of Mexican nationalism as a series of attempts to overcome what Laclau calls "structural dislocation" (*New Reflections* 63). Structural dislocation follows from the ontological postulate that "the real (...) is in the ultimate instance temporal" (42). From a psychoanalytic perspective, the temporality of being is a traumatic fact in response to which the subject emerges as an attempt, always already failed, to overcome dislocation. The nationalist defense of maize in Mexico can be interpreted as a political response to the threats of neoliberal globalization, but it can simultaneously be interpreted as a subjective attempt to overcome the "structural dislocation" that is merely exposed by an economic conjuncture. Activist discourse would attempt to "suture" this more fundamental dislocation through "the constitution of a new space of representation" (61), which would be nothing but the myth of maize as the origin and condition of possibility of the Mexican nation. From Laclau's strategic vantage point, maize does need to articulate a unifying myth of political identity in order to effectively take part in the actual contest for the definition of Mexican social life. However, the deconstructive and psychoanalytic components of his theory also warn us that any identitarian myth remains precarious in the face of structural dislocation. Moreover, it is just as important,

ethically and politically, to remember the precariousness of identitarian myths in order to avoid the neutralization of a social movement's democratic potential. This is indeed why I am interested in what a deconstructive or anti-essentialist political theory can contribute to the analysis and evaluation of Mexican nationalism in the current technoscientific conjuncture.

Laclau contends that contemporary capitalism has fully exposed “the contingent and precarious nature of any objectivity” (*New Reflections* 4). In the case of Mexico, the nation is literally dependent on both food imports and remittances sent by former peasants who are now migrant workers in the U.S. Oil reserves are in decline, and the national tourist industry has been hit by unfavorable global reconfigurations, such as the biologization of global security and the state's inability to contain the social and economic power of transnational organized crime. When in 2008 Stratfor Global Intelligence popularized the image of Mexico as a “failed state,” the Mexican population had long realized how contingent and precarious the Mexican nation indeed was. In 2003, the Mexican Director of Popular and Indigenous Cultures, Griselda Galicia, stated that maize was of national interest at a time when there was an “urgent need” to reimagine “a national project that satisfies all” (Esteva, Marielle and Galicia 9). Taken literally, such a project would require the satisfaction of a series of empirical demands, including a definitive ban on transgenic crops, the economic protection of Mexican agriculture and the cultural promotion of local food and traditions. Taken metaphorically, the project would signal “a [desired] fullness that cannot be granted by the reality of the present” (Laclau, *New Reflections* 63). While overcoming structural dislocation is by definition impossible in a post-Marxist framework, Laclau accords decisive importance to the metaphorical content of empirical demands. It is in order to articulate such necessarily heterogeneous and conjunctural demands that the metaphorical content constitutes itself into a new space of representation, or a myth of political identity. Whether maize mythology will be able to achieve the necessary strength to re-define social life in Mexico remains an open question. All we know, as Griselda Galicia put it in *Sin Maíz No hay País*, is that maize is a “central protagonist of the future that comes close to us simultaneously as hope and uncertainty” (Esteva, Marielle and Galicia 10).

Despite being experienced as traumatic capitalist dislocation opens new opportunities for a radical politics that stem from a “new liberty gained in relation to

the object” (Laclau, *New Reflections* 4). The post-Marxist project of radical democracy, for example, is premised on a recognition of “the historicity of being” and of the “purely human and discursive nature of truth” (Laclau *New Reflections* 4). It is therefore a project that points beyond the routine liberal procedure of extending new rights to new subjects and towards “an all-embracing subversion of the space of representability in general, which is the same as the subversion of spatiality itself” (79). What would this imply for the Mexican defense of maize? In line with my overall argument in this thesis, I argue that the project of radical democracy necessitates a renunciation of nationalism as an objective or truthful position. Yet in view of the tangible social, political, economic and environmental devastation that neoliberalism has caused in Latin American nations since the 1980s, some Latin American scholars have publicly lamented the demise of national identity as a political category (Sarlo). In their view, the demise was promoted by cultural studies – including post-Marxism and deconstruction – as a Northern academic discipline that they see as complicit with neocolonial capitalism. As a critical rejoinder to these diagnoses, I end Chapter II with a reflection on whether nationalism is really necessary for the construction of a democratic project that counters neocolonial capitalism. Can Laclau's political analysis provide a definitive answer to this question?

Not just Latin American critics of globalization but also cultural and political theorists outside Latin America have observed a problematic inclination in Laclauian post-Marxism to present itself as a “sutured” political theory above and beyond the “dislocation” that it detects in everything else (Valentine; Bowman). Others have cautioned against the potential authoritarianism that might be implicit in Laclau's tendency to reduce the field of politics to a logical formula (Arditi, “Populism is Hegemony...”). A mere rehearsal of Laclauian formulae would indeed make it hard to see how anything new might emerge from my critical engagement with biotechnology debates, or “how new social and political articulations could be wrought from the subversion of the natural attitude in which we live” (Butler, “Restaging the Universal” 26). Whereas the post-Marxist theory of hegemony serves well its analytic and diagnostic purpose in Chapter II, from Chapter III onwards I try to illuminate the more pluralistic orientation of cultural studies as an interventional practice that is also informed by deconstructive philosophy (Hall and Birchall; Bowman; Gilbert, *Anticapitalism and Culture*).

In "What is Deconstruction?" Nicholas Royle argues that it is only in a "stupidly formalistic" sense that deconstruction operates as a procedure or a method of critical analysis (5). A more rigorous approach, he suggests, would start by focusing on the performative capacity of language to produce effects beyond representation (8). Cultural studies has been described in a performative sense as an anti-disciplinary project in which "readings reach from within artefacts to the paradigms that govern their interpretation and beyond these paradigms to the structures of disciplinary power that support them" (qtd. in Bowman 64). Rather than merely representing popular cultures, cultural studies has challenged the paradigms that govern what gets to count as "culture" in specific contexts and with specific political implications. In close spirit, feminist theorists of technoscience have drawn attention to the material import of epistemic boundary-making practices in technoscience (Haraway, "Situated Knowledges" 595). Echoing Martin Heidegger's proto-performative account of technology as world-making rather than a set of tools ("The Question Concerning Technology"), Donna Haraway invites us to consider contemporary technosciences in non-instrumental fashion, as "ways of life, social orders, practices of visualization" ("Situated Knowledges" 587). Her feminist "no-nonsense commitment to faithful accounts of a 'real' world" (579), however, allows her to eschew Heidegger's metaphysical nostalgia of pre-modern worlds and affirm contemporary technoscience as "a form of life, a practice, a culture, a generative matrix" (50). Can cultural studies, in alliance with post-Marxism and feminist studies of technoscience, contribute anything to the Mexican biotechnology debates, beyond a purely negative or purely celebratory representational critique of the relationship between the nation and biotechnology?

Under the dominant orientation of technoscience, the success and legitimacy of nation-states seems to reside in their ability to exploit knowledge and life in order to compete in the global market. In Chapter III, *Revolutionary Science Meets Biotechnology*, I develop a critique of Mexican nationalism's historical response to such a capitalist imperative. Through an examination of the recent emergence of the "science policy" discourse in Mexico, I draw attention to the false polarization between a nationalist opposition to, and a nationalist celebration of, technoscientific links between national science and corporate business. If I challenge the nationalist subject-position at both ends of the polarity, this is because I see a problem with the wider cultural narrative that both of them fail to

address. Both nationalist rejection and nationalist celebration of technoscience fail to question not just the universality and superiority of "Western" science and technology (Harding) but also its instrumental role in the attainment of national "development" and sovereignty. The failure to challenge scientific rationalism, universalism, humanism and instrumentalism amounts, I argue, to an uncritical relation with the metaphysical legacy of Western colonialism.

As a point of contrast with mainstream or official narratives of national progress through Western science and technology, I draw attention in Chapter III to the work of Mexican historians and philosophers of science who have in recent years explicitly and systematically challenged the metaphysical legacy of revolutionary nationalism. Among other contemporary phenomena, they have studied the singular trajectories of "local knowledges" on the basis of a sociocultural understanding of science (Gorbach and López). In my argument, such work constitutes a creative political engagement with technoscience in Mexico. Its politicality, however, does not consist in stepping outside of the university or another learned institution to speak in the name of the oppressed. While in certain circumstances such a step might seem the right way to intervene politically, my argument is that a radical questioning of interpretive paradigms within the university already constitutes a highly consequential political act. As the neoliberal reorganization of social labor renders the divisions between "mental" and "manual" labor increasingly untenable (de Bary 6), we might take the opportunity to expose the metaphysical structure of such divisions and clear the way for renewed political articulations across traditional academic boundaries. To contest the dominant framing of biotechnology chiefly in terms of "the genetic informationalisation of life itself" (Kember 236), for example, appears as a destabilization of what counts as the proper experience and practice of biotechnology inside and outside academia. This is a necessary condition, I argue, for a critical imagination and a viable practice of different forms of biotechnology – including media and cultural studies as one among multiple forms of technoscientific practice.

What, then, can media and cultural studies contribute to the analysis of biotechnology debates in Mexico? If it seems strange to assert that media and cultural studies *is* a kind of biotechnology, it might seem less so to assert that food practices are indeed biotechnologies *and* directly relevant to media and cultural

studies. In Chapter IV, *The People of Maize and the Technoscience of Culture*, I analyze the story of cultural activism that led to the recent inscription of Traditional Mexican Cuisine in UNESCO's List of Intangible Cultural Heritage (2010). That is, having expanded the field of biotechnology studies through an understanding of technoscience as a sociocultural process, I turn my attention from science policy to cultural policy. For Mexican defenders of maize, intangible cultural heritage became a key platform via which to articulate and expand their cause through international organizations such as UNESCO. In my account of intangible heritage discourse, I figure it as the institutionalized offspring of a "postmodern" critique of cultural essentialisms on the one hand and contemporary neoliberal rationality on the other. Intangible heritage appears as a paradigmatic embodiment of the ambiguous operations of technoscience, where the boundaries between science, culture and industry seem to have collapsed forever. In my reading of the "nomination files" and other texts composed by Mexican activists involved in the promotion of "Traditional Mexican Cuisine," I suggest that the success of the activist enterprise depended on a contamination of activist discourse by the technoscience of culture. I disagree with activists who see this process as a dead end for Mexican cuisine, highlighting instead the political productivity of "contamination" as an inescapable condition in technoscience. In Chapter IV I understand "contamination" through the lens of the technoscientific genealogy of intangible heritage and as the non-totalizable or temporal terrain on which activists deployed their efforts at hegemonizing their cause. In the story of "Traditional Mexican Cuisine," precisely at the moment when everybody seemed to converge around the urgency to preserve maize as the essence of Mexican identity, multiple disagreements cropped up regarding what exactly the preservation was to involve. The disagreement precluded the desired totalization of the national text. However, I argue that coming to terms with the impossibility of totalization is what contaminated life is all about. It is not an apocalypse, I argue, and it continues to be vital for activists to deploy contamination subversively within the ongoing "gastronomification" and "heritagization" of Mexican indigenous cuisines.

In *Anticapitalism and Culture*, Jeremy Gilbert undertakes an exemplary demonstration of how cultural studies can be relevant to the strategic and tactical concerns of social movements. Already in Chapter IV, but even more so in Chapter V, *The Genetic Contamination of Mexican Nationalism*, I borrow and

adapt Gilbert's arguments to my own critique of reactive nationalism and oppositional thinking in the Mexican defense of maize. My overall line of argument in this last chapter points towards an affirmative re-figuration of the term that activists denounce as their enemy, namely, "genetic contamination." Opponents of transgenic organisms speak of contamination as the cause of an apocalyptic scenario. While I give serious attention to the many reasons why such a term is associated with an invasion by corporate biotechnology, I also place the term in the philosophical context of anti-essentialism in order to try to imagine different possibilities for the thinking and doing of biotechnology in Mexico. In this vein, I understand my own textual intervention, which is performed through a close reading of theoretical, scientific, activist and corporate texts, as a deliberate "contamination" of emancipatory narratives that risk falling into the objectivist traps of the metaphysical tradition (Derrida, "Structure, Sign..."). This is not meant to imply that human politics, and particularly the discursive dimension of human politics, is all that matters in the Mexican debates on biotechnology, as some recent critiques of "textual approaches" in general seem to suggest (Coole and Frost). Some versions of "new materialist" scholarship would seem indeed to underestimate the critical value of textuality in the analysis of phenomena such as the Mexican defense of maize. My criticism of "new materialisms" in Chapter V is motivated less by a desire to dismiss such concerns and more by an attempt to keep open the question whether textual approaches can effectively intervene in the ethical and political controversies sparked by technological novelty. While I agree that capitalism threatens both human and nonhuman lives in a way that clearly exceeds the scope of a "merely human" cultural politics, I want to argue that the lessons of textuality are important for both the Mexican defenders of maize and for contemporary materialist thinkers. Their importance resides in particular philosophical insights with regard to the impossibility of a pure, uncontaminated state of being.

My adoption of the trope of genetic contamination seeks to undermine naturalized representations of "Mexican nature" and "Mexican culture" as pre-given entities by drawing attention to the ethico-onto-epistemological framework of the Mexican biotechnology debates. Yet the aim of my critical reading of textual interventions in the Mexican biotechnology debates is not simply to expose their metaphysical assumptions. I also want to foreground the dynamism, indeterminacy

and nonhuman agency of the maize-human complex understood as a material process that includes but is not exhausted by language and texts. From a perspective such as Haraway's, the textual figuration of the origin and diversification is not merely a linguistic representation that must be described as true or false. More fundamentally, it is a contested plan for the construction and maintenance of material boundaries ("The Biopolitics..." 204). Alongside the feminist insistence on the agentic materiality of boundary-making practices (Haraway, "Cyborg Manifesto"; Barad, *Meeting the Universe Halfway*), the more recent elaborations of deconstructive philosophy inform "genetic contamination" as a trope within critical, post-foundational materialism. In *Technics and Time I*, the philosopher Bernard Stiegler argues that the being of the human being is to be outside of itself, or rather in a process of exteriorization in which the human and the nonhuman are technically compounded and indissociable (158-163). Taking inspiration from Stiegler's philosophical anthropology, "genetic contamination" seeks to foreground the idea that Mexican maize-beings are "without qualities, without predestination: they must invent, realize, produce qualities, [but] nothing indicates that, once produced, these qualities will bring about humanity (...) they may rather become those of technics" (194). Rather than figuring maize and the human as individual agents interacting with each other or "civilizing" each other, "genetic contamination" locates their shared agency in the unstable relations through which they constitute each other as they both take part in a wider technical process which it is impossible to calculate or appropriate as a whole or once and for all. Such a process *is* the world understood as "a doing, a congealing of agency" (Barad, "Posthumanist Performativity" 822) and therefore it includes everything I address throughout my thesis: agricultural histories, cultural nationalism, academic research disciplines and anti-disciplines, psychoanalysis, science policy, cultural policy, popular gastronomies, tourism, democratic struggles, political disappointment and "the deepest personal and collective experiences of embodiment, vulnerability, power, and mortality" (Haraway, "The Biopolitics..." 204).

As a critical rejoinder to the some recent calls for "more empirical approaches" to materiality, I argue that the point at which material processes threaten to annihilate our traditional conception of agency as a property of individual human beings (or individual crops) is not something that we discover by

invoking empirical facts or data. Witnessing and investigating empirical causes and effects might be indispensable for human survival, yet the point at which we humans transform our ethical relation to the nonhuman (including the nonhuman in us) involves a deeper and perhaps unconscious aspect of our being that I locate in deconstruction as an “experience of the other” (Derrida, *Echographies* 11). In this vein, agential realist Karen Barad, who would otherwise sympathize with “new materialist” demands of empirical evidences, declares that “ethicality entails non-coincidence with oneself” (“Quantum Entanglements” 265). It is in this experience, neither empirical nor transcendental, that I locate the bioethical promise of an acknowledgment of genetic contamination in the Mexican defense of maize.

Chapter I

Maize in Mexican Cultural Politics: A Critical Review

Introduction: What Kind of Biotechnology?

The greatest difference between corn and maize (...) lies in the symbolic freight that each word carries. If north of Mexico, European immigrants built an industrial kingdom and a global empire on the economic power of corn, in Mesoamerica the Olmec a thousand years before Christ founded a complete universe – a language, calendar, mythos, and cosmos – on the symbolic power of maize. If the one culture diminished a staple food to merchandise, the other sanctified it as divine (Fussell, "Translating Maize into Corn" 58).

In an essay titled "The Western Redeemer and His Technical Fantasies," Mexican historian Guy Rozat complained that most colonial and post-colonial accounts depicted pre-Columbian societies as fundamentally "lacking" technical skills and achievements. Among the typical assumptions made by those who identified themselves with "the Western redeemer" was the notion that pre-Columbian technology was structurally impossible due to an alleged unfamiliarity with the wheel and a failure to cast iron weapons. Denouncing both the historical inaccuracy and the absurdity of this notion, Rozat pointed to maize agriculture as a paradigmatic example of pre-Columbian technology. Yet he took great care to stress that this is not a "technology" in the modern European sense of the term, that is, in the sense of dominating, exploiting or enslaving Nature in the service of Man. In the geographic area known as Mesoamerica, covering Southern Mexico and Central America, maize had been cultivated for millennia according to the principles of the *milpa*, a method of mixed cropping that operates cyclically with minimum labour and input requirements. Yet in order to understand the technical sophistication of pre-Columbian maize agriculture, it was necessary to challenge the capitalist framework of "the Western redeemer." As Rozat explained:

Maize is a Mesoamerican “invention,” everybody knows this very well, in the sense that it does not appear spontaneously in nature and human care is needed so that the ridiculously small wild grass [*teosinte*] can turn into that biological monster that is the corn on the cob. Thus, while the pre-Columbians achieved this invention as a kind of “social security” plant, the problem for these communities – who certainly did not participate in the curse of labor, presented itself thus: we need a plant that requires little labor (both in land preparation and throughout growing), that gives high yield, that can adapt to many climates and every kind of soil and, finally, that produces a fruit that can be stored for a long time and be prepared in various ways. The result of their centuries-long investigation is maize, a plant that then and now has demonstrated its extraordinary capacity to adapt to every soil and latitude; endowed with a multi-factor plasticity which has permitted nearly every local community –from Nicaragua to Labrador – to possess its own varieties of maize adapted to their own climatological and soil conditions (294).

What is striking about Rozat's argument is that the survival of indigenous peoples after the European invasion was made possible by a technically successful refusal of the “curse of labour.” American food writer Betty Fussell has made a very similar point in her study of the English translation of maize into “corn.” In the colonial world “corn” signified grain of all kinds, including grains of salt as in “corned beef” (Fussell, “Translating Maize into Corn” 42). According to Fussell, such a translation carried with it the mindset of British colonizers, for whom agriculture was about the exploitation of the land for the maximization of profit. Judging what they saw as insufficient exploitation of the land, colonizers decided to take over indigenous territory. Once in possession of it, they harnessed indigenous labor in order to produce and exchange “corn” in the market according to principles of abstract equivalence. Fussell suggests that it was the Western understanding of agriculture as “a closed and fixed system” governed by principles of abstract equivalence that led colonizers to misunderstand indigenous agriculture. Pre-Columbian techniques such as slash-and-burn, inter-cropping and crop-rotating methods were dismissed because agriculture was thought to be “planting fields with crops to feed flocks to supply fields with manure for more crops” (54). Such techniques were designed to foster the subsistence of small communities rather than the growth of profit. They were premised on on

adaptation to a dynamic, open-ended ecological environment, including unpredictable weather and multiple forms of nonhuman life. Whereas the capitalist mindset prevails in the contemporary assessment of small-scale agriculture (including the Mesoamerican *milpa*) as less technological than industrial agriculture, it was in fact the technological sophistication of pre-Columbian agricultural methods that allowed indigenous and mestizo majorities to survive centuries of colonial and neo-colonial capitalism in Mexico. Biotechnical practices such as *milpa* agriculture gave Mesoamerican societies and their colonized descendants healthy and diverse diets, especially compared to the diet of most Europeans of the early modern period. Since such societies could actually boast thousands of vegetable and animal species in their culinary repertoire, it seems significant today that they accorded maize such a privileged role in their symbolic organization.

Starting with the representational work of the Olmecas, a civilization that flourished between 1500 BC and 300 BC alongside the Gulf of Mexico, maize acquired three characteristic functions that would endure throughout successive Mesoamerican cultures: maize symbolized fertility and the substance of human beings; it articulated human beings and the cosmos, and it gave symbolic legitimation to political power (Florescano 36). The Mayan saga *Popol Vuh* famously recounts that the gods first tried to create human beings with wood and soil, yet the creatures resulting from those experiments could not think or feel, that is, they could not remember their creators. For this reason they were destroyed, and human beings were only born when the gods, after patient and careful deliberation, decided to use maize to make their flesh and blood. Divine creators, including the god of maize, were depicted as adult men and women related to each other in heterosexual lines of kinship (Florescano). According to early colonial records, it was the Aztec god Cintéotl who generated the different crops out of his (human) body parts, with maize growing out of his nails (López-Austin). However, it was a Promethean-like figure named Quetzalcóatl who took maize as a gift for human beings, so that they could survive and flourish through its cultivation. The harvest of maize cobs was understood as a beheading of Cintéotl, whose life, like that of maize, was governed by cyclical death and resurrection. A historian enthusiastic about food culture in contemporary Mexico, Jeffrey Pilcher

has described the Aztec practice that horrified the Spaniards when they first arrived to Mesoamerica in the 16th century in somewhat romantic terms:

(...) before farmers could cultivate maize, priests had to fertilize the soil with sacrificial victims. The flesh of young warriors revitalized the fields and their free-flowing blood assured steady rains. [Obviously, people] did not see this relationship in scientific terms of decomposing bodies providing nutrients to the soil (...) [rather, t]heir perception was much more direct: corn really was "our sustenance, our flesh." They called babies "maize blossoms," young girls were "tender green ears," and a warrior in his prime represented "Lord Corn Cob" (*Que Vivan* 17).

It seems pertinent to introduce here some kind of a prophylactic against a potential romanticization of pre-Columbian societies, which I detect in Pilcher's description of human sacrifice. Such an extreme identification between Mesoamerican human beings and maize surely made sense in the context of that particular cosmogony. Whereas Pilcher focuses on the "tender" aspects of the cosmogony, one need not forget that at the time of the Aztecs, the symbolic appropriation of maize by the ruling classes was in the service of their imperial war and its accompanying territorial expansion. It was no accident that the cob, the most popular figure for representing the god of maize, had lent its shape to both agricultural tools and weapons of war. Aztec warriors and priests based their theocratic hegemony on claiming privileged access to the highest virtue of the god of maize, namely, that of resurrection. Maize agriculture, in other words, was always already a *technical and political* phenomenon, rather than something that existed in a pure or uncontaminated state of cultural purity.² To say this is not just to raise a merely factual point with regard to the ancient societies. Rather, this statement forms a central part of the argument I want to make in relation to the contemporary defense of maize. In due course I shall explain how I understand the technicity and politicality of maize agriculture in terms of "genetic contamination." For the time being it seems enough to observe that Pilcher's professional

² I do not mean by this that Western concepts of politics and technology should be applied in retrospective to Mesoamerican societies. I want to claim precisely the opposite: we should be careful not to assume that the separation between the cultural, the technical and the political which came to dominate Western modernity (including Mexican modernity via American neo-colonialism) is also applicable to ancient Mesoamerican societies.

enthusiasm about Mexican food³ leads him at times to establish romantic continuities between Aztec practices and contemporary maize nationalism, in a gesture that construes both the Aztec past and Mexican modernity in a rather benign way.

Even though the vast majority of contemporary Mexicans live in urban areas and do not directly participate in agriculture, many of them regard themselves as privileged heirs of maize. Since the plant does indeed remain a staple of the Mexican diet, we often hear it said about Mexicans that maize “provides the essence of their identity” (Pilcher, *Que Vivan* 11). In this chapter I explore the ethical and political problems behind using maize as such a signifier of human identity in general, and of national identity in particular. Nationalism, I argue, tends to construe unproblematic continuities between the plant's significance for Mesoamerican societies, the hegemonic role of maize in modern narratives of "national development" and contemporary "native maize" as a signifier of resistance to corporate biotechnology. If there is anything that can unify these contingent actualizations of the relationship between maize and human beings, it is perhaps the framing of maize as an object of dispute among particular human groups. Through my critical review of contemporary accounts of the link between maize and Mexican identity, I want to prepare the ground for the more general argument that there is an ethico-political promise in thinking both maize and Mexican identity otherwise, that is, as *nothing but technical inventiveness in the face of death*. In other words, I attempt to argue in different ways throughout this thesis that a recognition of the technical and political status (or what I call, in the last chapter, the "genetic contamination") of maize (agri)culture is indispensable to articulate the contemporary defense of "native maize" with a (bio)ethics of radical democracy.

³ Pilcher's historical account of Mexico's food culture is titled *Que vivan los tamales!* ("Long live Mexican maize dumplings!")

The Place of Maize in Narratives of National Identity

It will give me great pleasure to see the geneticists imprisoning your noble
organs with cellophane papers.
They will force you to be more generous.
But even in the hands of scientists you are a troublesome and traitorous plant.
Only science, with all of its power, is capable of chaining you a bit.
And you will have to go back to being the slave of man.
(A Mexican poem, qted. in Pilcher, *Que Vivan* 114)

Since the defeat of the Aztec empire by the Spaniards (1519-1521), throughout the colonial centuries of New Spain (1535-1821), and for most of Mexico's national history (1821-present), maize bore the stigma of defeat. As the European staple, wheat, became a sign of superior status in New Spain, maize remained the province of impoverished and increasingly racialized majorities. Wheat farms employing forced indigenous labour served as the foundation for colonial usurpation of indigenous lands in Mesoamerica. The evangelization of indigenous peoples by Catholic missionaries included constant encouragement to replace maize with wheat, the only authorized grain for the Holy Communion. After the first colonial century, 9 out of every 10 people in New Spain had died due to the negative impact of the conquest on the indigenous population's capacity to produce their own food (Esteva, Marielle and Galicia 19). Yet against the odds, maize agriculture survived. By contrast with European wheat agriculture and European stockbreeding, maize did not require complex equipment or too much space for cultivation and consumption (Warman 20). The colonized were able to keep themselves and maize alive because the technical legacy of pre-Columbian agriculture was based on adaptation to the changing, and for the most part adverse, ecological conditions.

Following Independence from Spain in 1821, Mexican Creole elites defined national culture in strictly European terms. All maize products were excluded from the national cuisine, reflecting the continuing exclusion of the lower classes from citizenship, particularly those of indigenous descent. Such an association of maize with racialized poverty was rearticulated, towards the end of the 19th century, in response to the troubling developments in the European scientific discourse.

Against Social Darwinism, which postulated a biological inferiority of non-European populations, nationalist intellectuals argued that the real cause of Mexican “backwardness” was nutritional rather than hereditary, and that it was located in the population's consumption of maize (Pilcher, *Que Vivan* 78). Taking heed of these ideas, dictator Porfirio Díaz (1876-1911) launched a series of campaigns to educate poor women about the importance, for national progress, of eating wheat bread instead of maize tortillas. Thus maize became a target for modern state biopolitics, a scientifically oriented regime that seeks to exert “(...) a positive influence on life, that endeavors to administer, optimize, and multiply it, subjecting it to precise controls and comprehensive regulations” (qtd. in Thacker 23). The biopolitical attempt to replace maize with wheat lasted well beyond the Mexican Revolution (1910-1920), a bloody civil war that put an end to Díaz's regime. The winning factions of this war set out to rebuild the Mexican nation around a cultural politics called “revolutionary nationalism.” Revolutionary elites used cultural nationalism as a way to create consensus around an imperative to modernize through industrialization and urbanization, neither of which could be achieved if the vast majority of the people lived and worked in small, isolated communities.

Mexican historian Guillermo Palacios recounts that post-revolutionary elites insisted from the beginning that rural inhabitants must produce for urban markets and not for local consumption. Their initial project was to create, by means of rural education, a new class of entrepreneurial farmers who would assimilate the new technical knowledge and the behavior appropriate to contemporary economies (Palacios 321). Urban educationalists went out to the countryside in order to teach rural peoples the Spanish language and the consumption of wheat bread, on the assumption that “our customs and lifestyle (...) are unquestionably superior to theirs” (Pilcher *Que Vivan* 91). At the same time, a new class of professional agronomists learned to apply genetics and chemistry to produce high-yield varieties of maize, fertilizers and pesticides (Esteva, “Hosting the Otherness”). Yet, given the state's privileging of large-scale, intensive agriculture, both rural teachers and agronomists failed to accomplish their initial project of producing a mass of entrepreneurial farmers. Most rural dwellers ended up migrating to the cities in order to engage in waged labor. In time, as Mexican society became increasingly urban and consumer-oriented in the mid-twentieth century, it became imperative

that the state should reallocate the symbolic emphasis it originally gave to the countryside (Joseph, Rubinstein and Zolov 11). It was in the context of this transformation that maize was welcomed by nationalism. Whereas for centuries a tiny elite of Creoles and European immigrants had judged the rural life of the majorities as barbaric and "Indian," working class Mexicans of the post-revolutionary era would finally boast about urban modernity and embrace, at the same time, a rural culture that had been conveniently mesticized and mainstreamed (11). In his fascinating examination of this phenomenon, Pilcher recounts:

[t]amales and other *antojitos*, once deemed fit only for the "lower orders," provided the subject for entire volumes. [Authors] recognized indigenous contributions in the name *mole*, which came from the Nahuatl "molli," meaning sauce, rather than the Spanish "moler," to grind. Maize also lost the former stigma of its Indian origins and came to be seen as the most civilized of the world's grains because its tough outer husk allowed it to reproduce only with human assistance. In the early 1950s, one newspaper announced the end of antagonisms between corn and wheat, explaining that sociologists no longer considered the European grain essential to Mexico's development. A leading nutritionist, Alfredo Ramos Espinosa, formulated the simple equation that people who ate only corn were Indians, those who only ate wheat were Spaniards, while Mexicans were fortunate enough to eat both grains (*Que Vivan* 131).

The emergence of "Mexican cuisine" in the twentieth century seems indissociable from the biopolitical project of industrial capitalism, which required the production of urban subjectivities positioned in a particular way in relation to a rural "past." As Pilcher points out, cultural nationalism was "a means of transforming elements of lower class and ethnic culture into symbols of unity for an authoritarian regime" (*Que Vivan* 124). A very similar point was made by Mexican sociologist Roger Bartra, who was perhaps the first to critically examine the ideological role of the nostalgic myths of peasant heroes and of "lost" paradisiacal countrysides that proliferated in the writings of post-revolutionary intellectuals. He argued that a construction of peasants as melancholic beings in fact supported the normalization of a society subjected to brutal processes of modernization. What makes Bartra's work especially relevant for my argument is that he focused on

Mexican agrarian myths as embedded in “a modern network of cultural and political mediations” (19). In order to intervene critically in this network, Bartra organized his study, titled *The Cage of Melancholy*, around the peculiar figure of the *axolotl*, an amphibian endemic to the lakes surrounding Mexico City. Taking as his starting point an anthropological understanding of modernity, he proposed to emulate the techniques of the “savage mind” described by Lévi-Strauss in order to understand, in an ironic way, the biological properties of the *axolotl* “as signs, as a message that is transmitted to Mexicans in order to instruct them on their condition, their origin, and their future” (8).

In *The Country and the City*, Raymond Williams proposed to understand the age-old contrast between the country and the city in terms of a “structure of feeling,” which, depending on the perspective adopted within a specific context, conveys a particular kind of “reaction to the fact of change” (48). Melancholy, Bartra argued, could only arise from an urban experience of solitude, that of the post-revolutionary intellectual, who then projected the sentiment onto rural inhabitants.⁴ While the literary corpus of an urban elite might seem too narrow today as a window into the cultural politics of the Mexican nation, it is worth remembering that at a time still dominated by a reductionist kind of political economy, Bartra's work was innovative in taking seriously the role of cultural narratives in creating hegemony, or political consensus, around an oppressive regime. According to Bartra's reading of post-revolutionary literature, the intellectual's gaze fixed the peasant as an apathetic or melancholic being, one belonging to the past (*Cage of Melancholy* 49-50). Since this was a past “in which present and past are confused in order to exclude the future” (18), Bartra's argument suggests that the postrevolutionary reaction to the fact of change was a highly conservative one. Yet for Bartra what is really at stake in any figuration of national identity (including his own *axolotl* metaphor) is not how people are, but how they are dominated. He writes: “...the Mexican character is an artificial entelechy. It exists principally in the books and speeches that describe or exalt it, and it is possible to find there traces of the original: a powerful nationalist will bound to the unification and institutionalization of the capitalist state” (3).

⁴ Bartra explains: “(...) the modern form of solitude is generalized as a feeling of isolation with respect to the *Other*. Given this feeling, the suffering caused by solitude is frequently transferred to the *Other*: the solitude of neighbors, of peasants, of the savages of the Third World” (Bartra R., *Cage of Melancholy* 38).

Among the characteristics of the *axolotl* that Bartra uses as metaphors of post-revolutionary subjectivity, he foregrounds its “mysterious dual nature (larval/salamander) and its repressed potential for metamorphosis” (7). Through a series of humorous vignettes featuring the *axolotl* and interspersed with literary analyses of “the Mexican character,” Bartra argues that the post-revolutionary “structure of feeling” is thoroughly modern, in the sense that it is construed as a tension between “the dynamic, active subject, involving the idea of metamorphosis and change, the notion of the questioning Self” on the one hand and “the passive and hidden Other, the melancholy and static object” on the other (9). Yet what this “repressed potential for metamorphosis” is ultimately about in Bartra’s playful mix of sociology and literature is the unification and institutionalization of a capitalist state.

Scholars working more recently in the tradition of cultural studies (Joseph, Rubinstein and Zolov) have avoided reducing cultural artifacts to mere ideology in the service of capitalism, and have looked instead for a subversive potential in the popular appropriation of such artifacts. Since the 1980s, social and cultural research has tried to understand commodification by addressing the social relations, assumptions and struggles related to meaning and power that create a situation in which a thing is or is not treated as a commodity (Joseph, Rubinstein and Zolov 49). Today, a critical cultural history would involve showing how capitalist hegemony is currently “shaped, resisted, and ultimately negotiated by a multitude of actors and interests,” and how “*lo mexicano* [comes] to serve counterhegemonic impulses as well as regime projects” (Joseph, Rubinstein and Zolov 8). In this spirit, Pilcher concludes his own history of Mexican food with an assertion that the nationalist celebration of maize “owed as much to capitalist development as to a search for *lo mexicano*” (*Que Vivan* 133). By contrast, anthropologists Lind and Barham recently analyzed the social history of the maize tortilla with the purpose of exemplifying that the struggle for meaning plays a primary role in commodification processes.

By dividing the social history of maize tortillas into four distinct “epochs,” Lind and Barham seek to bring “a finer degree of analysis to the question of how everyday food practices connect us to broader market-oriented assumptions about living in society” (48). Drawing on Margaret Radin’s work on commodification, Lind and Barham understand commodification as a “worldview” that depends on the

degree to which the monetary principle of abstract equivalence has come to dominate the more complex social processes (49-50). For commodification to become a “worldview” it must first cross “a threshold or sacred boundary” imposed by “the human perception that certain aspects of our lived experience should be set apart and protected” from it (51). Food often embodies such a sacred boundary because, as Lind and Barham explain, it “is itself a powerful metaphor that blurs the boundaries between ‘things’ and persons, linking nature, human survival, health, culture and livelihood” (51). The first epoch in Lind and Barham's social history of the tortilla is described as a cultural situation in which the role of woman is that of “a gatekeeper to the inside meanings of culture, the family, the home, and the meal” (54). In this setting, the preparation of tortillas begins with maize kernels typically grown and harvested by men. Once at home, the kernels are *nixtamalized*⁵ and ground by women on a three-legged *metate*, or grinding stone. The resulting dough is then shaped by hand into flat disks that are cooked for less than a minute on each side on a *comal*, or griddle, placed over three stones encircling the fire. Each time a woman kneels in front of the *metate* to work the *nixtamal*, she is said to reenact a cosmogonic story. The three stones of the *comal* symbolize the “three hearthstones of creation” placed by the Mesoamerican gods on the center of the earth, while maize dough is called by its indigenous names which signify “our flesh” – hence Lind and Barham's understanding that “maize and the people who consume it are joined in one continuum of divine creation” (53).

In the second epoch, Europeans invade Mesoamerica and subject the people's flesh to commodification processes. Progressively assimilated into the political economy of colonialism, maize becomes the food of the world's poor. Wherever it goes it is given new names, often reflecting the attitudes “of fungibility and commensurability” with which Europeans approached the newly discovered grain (54). After centuries of localized resistance to the commodification processes

⁵ The *nixtamalization* of maize kernels is a Mesoamerican technique that consists in boiling the kernels in an alkaline solution (usually limewater) prior to their grinding. Since the technique makes available the amino acids that raw maize lacks (niacin, tryptophan, and lysine), Mesoamerican peoples never developed nutritional diseases, such as *pellagra*, associated with high consumption of maize in other contexts. In combination with beans and chilli, *nixtamalized* maize provided a complete, high-quality dietary basis that protected Mesoamerican people from malnutrition up until the arrival of industrial food, which has resulted in a much publicized epidemic of obesity and diabetes among the Mexican population.

imposed by European colonialism, the third epoch inaugurates a new kind of “sacredness” for maize. That is, in this epoch maize is longer just the food of the poor; rather, it is a symbol of modern national identity under a capitalist regime. According to Lind and Barham, welfare policies implemented after the Mexican Revolution (1910-1921) reinforced the idea that maize was somehow special and even incommensurable with the other food commodities. In order to negotiate with the new urban populations, the post-revolutionary Mexican state embraced maize as a protected agricultural product and a subsidized urban consumer item (Ochoa).⁶ It offered price supports and marketing assistance to maize farmers as a way of encouraging them to supply urban consumers.⁷ Alongside the traditional gender roles associated with maize agriculture, the pre-Columbian “sacredness” of maize was largely transferred from the stone and hearth of the peasant household to the link between urban populations and their modern rulers (Lind and Barham 55). Both a network of small tortilla factories and a large industry of maize products developed under the aegis of welfare programs that subsidized maize. The first large, state-owned factories were established in 1949 as Molinos Azteca (Maseca) and Maíz Industrializado (Minsa). They collaborated for more than a decade until they arrived at a maize-based flour that could be transformed into dough with just the addition of water (Pilcher, "Taco Bell" 72). By the 1970s, Maseca flour accounted for 5% of the maize consumed in Mexico. Sales grew steadily over the next two decades until Maseca alone held 27% of the national market, yet the subsidy on maize supplied to small-scale *tortillerías* slowed the firm's expansion (72).

A third epoch started when Mexico defaulted on its external debt in 1982 and joined the global turn to neoliberalism.⁸ As a consequence of the debt crisis,

⁶ Ochoa examines the rise and fall of government intervention in the economy of basic foods in Mexico, which lasted from the 1930s to the 1980s and included subsidies for farmers, a chain of over 20,000 retail stores and numerous food processing plants to stock the stores with low-cost foods. These state interventions were not ad hoc, Ochoa argues, but were closely intertwined with political, social, and economic goals, which were internally contradictory (1).

⁷ The Mexican government also owned factories to process and sell basic foods such as sugar and cooking oil. In the final stage of this integration, just prior to the debt crisis of 1982, the Mexican government introduced CONASUPO, a system of local shops in poor areas (Friedmann 44).

⁸ Harriet Friedmann explains that the debt crisis started with a grain deal between the US and the Soviet Union which removed so much food from world markets that prices tripled between 1972 and 1974. The resulting “food crisis” coincided with the tripling of oil prices. Western banks that wanted to capitalize on the profits made by oil-exporting countries pressed Third World countries to borrow that money regardless of how they would use it or of the likelihood of repayment. Governing elites of such nations took the money as a way to avoid dealing with structural economic issues,

the Mexican state withdrew much of its support for small and medium-scale agriculture. Social programs started distributing small amounts of cash instead of maize, and the government sold the parastatal company Minsa to Maseca. Roberto González Barrera, owner of Maseca-Gruma who was locally known as “the tortilla king,” became the world’s leading producer of maize flour and a Forbes billionaire. When in 1999 the subsidies were finally eliminated, small-scale maize producers were unable to compete with the large producers. Large producers quickly cornered an estimated 80% of the domestic tortilla market, three quarters of which were claimed by Maseca (Pilcher, “Taco Bell” 72). It is precisely in the context of a globalizing capitalist hegemony that Lind and Barham ask us to situate the contemporary valorization of traditional foods, particularly the aspects of them that are considered “sacred.” Their own position, however, is not so much about dogmatically re-asserting the “sacredness” of Mesoamerican maize culture as it is about asking how contemporary struggles for the meaning of maize culture can contest its all-pervasive commodification. Their concluding example, however, suggests to me that there can hardly be a straightforward answer to such a question.

In February 2001, Mission Foods, a division of Maseca-Gruma and the largest tortilla manufacturer in the US, partnered with Disneyland to build an “authentic tortilla factory attraction.” As Lind and Barham describe it, the attraction’s tour started with the ancient Mayans and their “primitive stone ground methods” and led straight to the modern techniques that rely on industrial corn flour. Visitors were shown an actual tortilla production line, at the end of which they were invited to sample fresh tortillas from the conveyor belt (57). While industrialized ready-made foods might be attractive in the context of urban time constraints, they move us one step closer to commodification as worldview (57).⁹ For Lind and Barham, the problem with this worldview is that it ignores “the social, economic and cultural contexts in which Mexicans exist” (56). For instance, the majority of tomato workers in Mexico cannot afford to buy the fruit they pick and pack for US and Canadian markets. They cannot produce their own food either.

such as low productivity. In 1982, less than ten years after the food and oil crises, Mexico defaulted on its loan payment and Mexico’s debt crisis was officially on (45).

⁹ Wraps are the modern descendants of the tortilla and are made of wheat flour, which is more popular outside Mexico because it lends itself better to additives and flavors such as tomato basil, pesto garlic, blueberry, and so forth. They can be stuffed with anything and thus live up to the standards of the global social order, namely: versatility and convenience.

Moreover, they increasingly face the world as individual competitors for low-paid jobs. Women can be hired more cheaply than men, and young people more cheaply than women. Labor organization is undermined and everyone's economic wellbeing is deteriorated (Friedmann 52). While this is clearly a problem of political economy, the status of commodification as a worldview indicates that such a problem has a cultural dimension which must be addressed, and this is where my own question comes in: will a renewed cultural nationalism be able to contest, effectively and radically, the unrelenting ideological expansion of neoliberal capitalism?

Pilcher concludes his cultural history of Mexican food by suggesting that modern maize nationalism meant that popular sectors of Mexican society had finally achieved their place in the national culture (*Que Vivan* 133). In a more recent article, however, he condemns the international valorization of "peasant cuisines" as a "postmodern apocalypse," and calls into question the reasons why Mexico has done so well through the Slow Food movement ("Taco Bell" 77).¹⁰ Founded in Italy in 1986 as an ecogastronomic crusade against the global rise of fast food, Slow Food supports projects in which private organizations and independent scientists help small farmers create brands for artisanal products. By reviving the prestige of artisanal techniques of local food production through technoscientific "certification" and branding, Slow Food helps indigenous subjects position themselves in regional and international markets. In Pilcher's view, Slow Food instrumentalizes the Western logic of fascination with the native, that is, a logic of consumption of an exoticized and folklorized "other."¹¹ The logic in question would divert Mexican popular struggles towards "middle-class agendas with little relevance to the needs of common people" (75).

Even though the logic of exoticization and folklorization of the countryside was already at work in Mexican revolutionary nationalism, Pilcher's judgment of the Slow Food phenomenon is far more severe and pessimistic. His earlier work

¹⁰ In the first four years, Mexicans received five out of fifty nominations, worth €3,500 each, and three out of twenty jury prizes, providing an additional €7,500. The first prize, in 2000, went to Raúl Manuel Antonio, from Rancho Grande, Oaxaca, for establishing an indigenous vanilla-growing cooperative to supplement the incomes of small coffee producers. In 2003, the jury honored historian José Iturriaga de la Fuente for organizing a fifty-four-volume series documenting Mexico's regional and indigenous cuisines (Pilcher, "Taco Bell" 75).

¹¹ With a touch of contempt, Pilcher says that "it is unclear how much of [Slow Food's] attention is due to [Mexico's] rich culinary heritage and how much to the Zapatista rebellion in Chiapas", since "stylish, balaclava-clad guerrillas held particular fascination for the Italian left" ("Taco Bell" 75).

had bent towards emphasizing the role of popular agency *within* a capitalist regime, while his more recent essay on the “postmodern apocalypse” of peasant cuisines concludes rather categorically that “the fate of the tortilla resulted more from questions of political economy than of consumer choice” (Pilcher, “Taco Bell” 71). Yet Pilcher's initial vindication of Mexican food nationalism was based precisely in the power of urban consumption to generate cultural valorization as well as political hegemony and, from that particular point of view, the role of contemporary organizations such as Slow Food is arguably more ambiguous than Pilcher seems willing to consider. Without downplaying the ideological aspects of the “gastronomification” of peasant cuisines, in Chapter IV of this thesis I pay attention to how a particular section of the Mexican defense of maize has attempted to harness the growing popularity of artisanal food production in order to gain support for its cause from cultural organizations such as UNESCO. In my analysis of this phenomenon, I take heed of Richard Wilk's caution against describing food culture through linear narratives leading up to a single point in the present (“From Wild Weeds” 18), that is, to capitalism conceived as a single monolithic system.

The global spread of corporate capitalism has drawn attention to the fact that food production and consumption everywhere are linked to imaginaries of place and tradition that must now negotiate with the technoscientific discourse. For example, a 2007 special issue of *American Anthropologist* focused specifically on how the discursive opposition between technoscience and artisanal know-how mediates food production and consumption in paradoxical ways. A number of case studies –including American *foie gras*, French cheeses and Georgian beer – illustrate the widespread tendency to oppose local or “traditional” ingredients and techniques on the one hand, and technoscientific “risk control” and “food safety” measurements for mass-produced food commodities on the other. What contributors to the special issue of *American Anthropologist* highlight, however, is the fact that most artisanal foods are in fact deeply imbricated in global industrial production processes, including technoscientific testing for risks and safety (Heath and Meneley 594). In the case of American *foie gras*, artisanal producers even invoke technoscientific discourses to defend their techniques from the accusations of animal rights activists. They insist that force-feeding is “safe” for geese because such animals have a physiological capacity to fatten their own livers in preparation

for migration. While industrial producers could well endorse the same argument, artisanal producers have succeeded in differentiating themselves from the industry by invoking culture, locality and sustainability. Through a combination of cultural and technoscientific arguments, they have attracted a level of consumer support that surpasses the popularity of animal rights activists (594). This and other examples show that the deployment of tradition and identity can be deeply imbricated in processes of globalization and industrial standardization (596).¹² Therefore, rather than uncritically re-position revolutionary nationalism as a genuine alternative to global capitalism, in this thesis I want to think about how technoscientific "mutations" within the national imaginary might open (necessarily ambiguous) opportunities for cultural struggle. In the world of technoscience, as Wilk points out, people usually do find "ways to *decommodify* food, to make it personal, meaningful, cultural, and social" (20). To recognize such a fact need not render us blind to the paradoxical ways in which the very acts that decommodify - for instance, "identifying a food as part of an inalienable *heritage*" -re-commodify it for "high-end gourmets and cultural theorists" (20).

What kind of approach would be useful in order to understand the complex imbrication of the defense of Mexican maize with technoscientific globalization? Even though the institutionalization of cultural studies has come to be regarded by its critics as complicit with the triumph of capitalism, Jeremy Gilbert has argued that cultural studies remains informed "by a resolutely political critique of capitalism, individualism, patriarchy, colonialism and hierarchy in general" (*Anticapitalism* 66).¹³ Among the various trends in cultural studies that Gilbert considers in his book *Anticapitalism and Culture*, I am most interested in anti-essentialism, which he defines as a position that "refuses to acknowledge any essential absolute, final, objective reality to social and political identities" (51). As

¹² As an instance of the modernizing drive that capitalism installs in "peripheral" countries, the branding of beer in post-socialist Georgia uses traditional landscapes as a symbolic legitimation for the use of technoscience at the level of production. In the case of olive oil, while current regulations of the International Olive Oil Council mandate specific technoscientific standards for grading an oil as "extra virgin," artisanal techniques are more than ever invoked as markers of distinction of a high-status commodity (Heath and Meneley 599).

¹³ Cultural studies, Gilbert reminds us, was born from the British New Left's attempt to understand the political aftermath of 1968. While the new social movements eventually succeeded in challenging cultural hierarchies, global capitalism proved better than the traditional Left at accommodating their pluralist demands. As a result, such demands were transmogrified into a cult of individualism that remains hegemonic today. In the British context, early practitioners of cultural studies tried to understand the electoral triumph of Margaret Thatcher in terms of the Left's failure to move beyond their exclusive emphasis on class-based identity.

Gilbert explains, anti-essentialism was decisive for cultural studies to transform militant ideology critique into more nuanced forms of cultural analysis, including a theorization of agency in the realm of popular culture. More precisely, the legacies of anti-essentialism were “an unwillingness to oversimplify, to assume that power relationships operate across simple binary divides” and an “attentiveness to complexity as an important dimension of any effective political analysis” (138). It seems to me that the question of whether a renewed cultural nationalism would be able to contest, effectively and radically, the unrelenting expansion of neoliberal capitalism calls for a more profound interrogation of the complex workings of maize-based nationalism. By taking account of the multidirectionality of power relations and of the subversive potentials in consumer pleasures, cultural studies also develops a critical force that will hopefully be capable of interrogating the different forms of violence at work in consumerist definitions of nationhood.

The Nation in Political Economy: A Cultural Problematic?

To reveal the original meaning of an act (...) is to reveal the moment of its radical contingency – in other words, to reinsert it in the system of real historic options that were discarded (...) (Laclau, *New Reflections* 34).

According to cultural historian Arthur Schmidt, there are two dominant interpretations of Mexico's trajectory from the economic model of import-substitution industrialization (1940-1982) to neoliberalism (1982-present) (25). The “Revolution to Evolution” interpretation derives from the ideological legacy of the Mexican Revolution coupled with the post-World War II development policies coming from the United States. Such policies were part of a strategy launched by the US in the process of consolidating its global hegemony. The henceforth called “developing world”¹⁴ was merely a means for expanding and deepening markets for US products, for the investment of its surplus capital, and for securing its access to cheap raw materials. Given their fear of Soviet expansion, anticolonial struggles in Asia and Africa, and growing nationalisms in Latin America, American

¹⁴ Only since the 1950s have the free industrialized nations, the Communist industrialized nations, and the poor, nonindustrialized nations, constituted the “First,” “Second,” and “Third World” respectively. After the demise of the Second, the notions of First and Third worlds continued to articulate the dominant regime of geopolitical representation (Escobar, *Encountering Development* 31).

economists described the Mexican experience as “a preferred solution for the hemispheric problem of change and development” which “had much to offer the world” (25). The whole world's faith in Western science and technology as a means of economic progress also played a role in shaping "development" as a friendly face of US capitalist expansion. Thus, the dominant “Revolution to Evolution” narrative emphasized Mexico's political stability and material progress, as well as the new patterns of friendship and cooperation with U.S. administrations and social scientists during the Cold War.

By the 1970s, an alternative “Revolution to Demolition” narrative had emerged which interpreted Mexico's “Golden Age” of capitalist development as a betrayal of revolutionary ideals. New cultural historians of the Mexican nation (Joseph, Rubinstein and Zolov) tend to agree with this “Revolution to Demolition” narrative, yet they try to rectify the latter's underestimation of popular agency *within* capitalism – for instance, through “consumer choice.” An important source of my own approach to food nationalism in Mexico, Pilcher's work is ambiguously aligned with the project of new cultural historians. In order to eschew Pilcher's relapse into economic reductionism and moralistic condemnation of contemporary cultural consumption (which leads him to uncritically vindicate earlier forms Mexican nationalism), I want to construct a more nuanced account of the imbrication of the Mexican defense of maize, international political economy *and* the cultural legacy of European colonialism. Here I follow the road cleared by Arturo Escobar, who has argued that it is necessary to approach political economy not as an objective domain of facts but rather as a “socially constructed” domain that can be both analyzed and transformed. In his important book *Encountering Development* Escobar investigates “development” as a domain of thought and action created by the modern framework informing development studies, policies and practices, with the aim of understanding why

...so many countries started to see themselves as underdeveloped in the early post-World War II period, how “to develop” became a fundamental problem for them, and how, finally, they embarked upon the task of “un-underdeveloping” themselves by subjecting their societies to increasingly systematic, detailed, and comprehensive interventions (6).

In order to theorize "development" as a domain of thought and action, Escobar draws on Foucault's theory of biopolitics, according to which "populations" emerged in 19th-century discourse as biological entities in need of scientific management. Such an epistemic event also marked the emergence of "the social" as a new domain that included "the poor" in a special category or class. In order to examine the racializing workings of development, Escobar draws on Edward Said's (Foucauldian) theory of orientalism, according to which the scopic regime of modernity framed non-Western societies in 19th century exhibitions as a particular kind of spectacle. In biopolitical and orientalist fashion, post-war development discourse framed the "Third World" as "usually dark and lacking in historical agency, as if waiting for the (white) Western hand to help subjects along and not infrequently hungry, illiterate, needy, and oppressed by its own stubbornness, lack of initiative, and traditions" (8). In this regard, it is interesting to note that several decades before World War II, the Mexican revolutionary gaze had already "discovered" peasants and decided their fate. Indeed, the modernizing project that started before the ascent of U.S.-led developmentalism already suggests the discursive continuities between the modern history of biopolitics and orientalism and the economic paradigms that would come to dominate Mexican development after World War II.

It was specifically during the political and ideological consolidation of the Mexican postrevolutionary regime (1921-1940) that the peasantry came to be constructed as a national problem, one of a primarily cultural nature that was to be tackled by rural education. In his analysis of *El Maestro Rural* [The Rural Teacher], a magazine edited by the Ministry of Public Education (SEP), Mexican historian Guillermo Palacios describes the construction of "the peasant problem" as the urbanites' discovery of a whole new universe of knowledge, and indeed a whole new way of *looking at themselves*. He writes: "It was as if there had been a sudden unfolding of 'national reality', a new dimension, as if the reflection of a double could be seen in the light of a recently discovered perspective" (321). Rural inhabitants came into clear focus only to be asked to learn "our customs and lifestyles, which are unquestionably superior to theirs" (Pilcher, *Que Vivan* 91). Apathy, passivity, ignorance and backwardness are only a few in a long list of rural stereotypes which are by no means exclusive to the Mexican context but which in fact reflect the biopolitical and orientalist legacy of modern Western colonialism.

As a set of theories, policies and practices, development would merely reinforce the revolutionary project to “map people into certain coordinates of control” not only to discipline them but more fundamentally in order “to transform the conditions under which they live into a productive, normalized social environment: in short, to create modernity” (Escobar, *Encountering Development* 156). Situating Mexican nationalism in this larger cultural (and, I dare say, *philosophical*) context can help us to avoid maintaining the simple oppositions between economy and culture, or the popular sectors and the middle classes.

In *The Revolutionary Imagination of the Americas*, María José Saldaña-Portillo demonstrates that Latin American revolutionary movements were “captured” by the discourse of development. Like Escobar, Saldaña-Portillo conceives such a discourse as a “regime of subjection” that re-articulated and re-deployed the logics and structures of colonialism (21). In Saldaña-Portillo’s view, both developmentalism and revolutionary nationalism tried to push subaltern populations into modernity on the basis of “a theory of human perfectibility that was itself a legacy of the various raced and gendered subject formations animating colonialism” (7). In the Mexican case, post-revolutionary elites formulated the “Indian problem” on the basis of the assumption that “Indians” were incapable of generating modernity by themselves (210). Only *mestizos*, or Mexicans of “mixed blood,” could construct a modern nation-state by harnessing indigenous labour and redirecting its energies against a “pure-blooded foreign class” (paradoxically, the American friends of “development”). *Mestizo* nationalism aimed at the constitution of a homogeneous citizenry that would be “an agent of transformation in his own right, one who is highly ethical, mobile, progressive, risk taking, and masculinist, regardless of whether [it] is a man or a woman, an adult or a child” (Saldaña-Portillo 9). In other words, Mexican nationalism itself was already driven, at the discursive level, by “a particular rendition of fully modern masculinity as the basis for full citizenship in either a developed or a revolutionary society” (43). Since it incorporates an analysis of how gender and race are produced through economic narratives, Saldaña-Portillo’s perspective seems to me much more sophisticated than Pilcher’s moralistic condemnation of transnational middle-classes. Moreover, Saldaña-Portillo’s analysis identifies the problem of domination in the constitution of nationalist subjectivity as such. I want to argue that it also allows us to construct a singular approach to current debates around maize

biotechnology in the context of the deeper articulations between revolutionary nationalism and global capitalism.

In his cultural analysis of the Green Revolution, Escobar emphasizes the role of assumptions regarding science, progress and the economy, as well as the authorial stances of “a father/savior talking with selfless condescension to a child/native” (*Encountering Development* 159). As part the of the American global “war on poverty,” the Green Revolution came to Mexico in order to increase agricultural production through the use of high-yield seeds in combination with chemical fertilizers and pesticides. Since the 1920s Mexican agronomists had been working on raising output in wheat farms, yet their research achieved only modest results before the arrival, in 1943, of a team of American scientists supported by the Rockefeller Foundation. Dr. Norman Borlaug, a graduate of the Iowa Agricultural College, developed hybrid wheat varieties resistant to stem rust, a parasite that had long plagued Mexican farmers. By crossing seeds gathered from several different countries, Bourlaug developed a highly resistant strain, Lerma Red, which alleviated stem rust but attracted other parasites, thus requiring heavier use of pesticides. Dr. Bourlaug asserted that “in provoking rapid economic and social changes (...) [the Green Revolution] was (...) displacing an attitude of despair and apathy that permeated the entire social fabric of these countries only a few years ago” (158). For this Nobel Peace Prize winner, anything outside the market economy, particularly activities of subsistence and local networks of reciprocity, were equivalent to a threat of engulfment and irrationality (159). As it actually turned out, whereas the Rockefeller Foundation and the World Bank declared the Green Revolution a success, in practice it caused a polarization between agricultural entrepreneurs, who were able to concentrate the most resources (irrigation, machinery, agrochemicals, improved seed), and the majority of small-scale, subsistence farmers, who were forced to migrate to the cities.

In a *sui generis* account of the Green Revolution, Mexican activist and development critic Gustavo Esteva contextualizes the latter's failure to “host the otherness of the other” by placing it in a larger historical process of cultural colonization that explains why it was long before monoculture, agrochemicals, and mechanization that a “final sentence” was pronounced for Mexican peasants. In other words, Esteva understands the modern imperative to “develop” above all as an epistemic and cultural kind of imperialism: “the imperialism of one knowledge

system over the others.” In his essay "Hosting the Otherness of the Other," Esteva argues that the Green Revolution was premised on reductionism and simplification: first, by abstracting agricultural activities from their social and ethical context and second, by attributing a privileged role to productivity disarticulated from the overall dynamics of agricultural life (269). He develops this argument through an account of the historical context in which the Green Revolution came to operate.

In the 16th century, Spanish conquistadors had received land grants, or *haciendas*, from the Spanish Crown in return for their services. Such a payment included an allocation of indigenous *peones*, or peasants, who would work the land as indentured servants. Until the 1930s only *hacendados* and peasants were cultivating land in Mexico. Between 1935 and 1938, president Lázaro Cárdenas met the Mexican Revolution's promise of agrarian reform and redistributed 20 million hectares in the form of communally owned lands, or *ejidos*, which became an emblematic institution of the post-revolutionary regime. In the same period, rural schools were set up everywhere with the goal of training *ejidatarios* for modern agricultural practices. Since at first the schools had no particular agronomic credo, both the *ejidos* and the remaining *haciendas* kept on relying on peasant skills and techniques rather than on those of professional agronomists.¹⁵ “It was purely Indian *techné*,” Esteva says, or “knowledge dating from past millennia transmitted through differentiated cultural patterns. Or it was *techné mestiza*, Indian *techné* exposed to the practices introduced by the Spaniards and mixed with them” (254). By the 1940s, the government had decided that only agronomic science would provide the models, the instruments, and the technical expertise for the development of the Mexican countryside. Soon there were more agronomists than peasants working in rural projects, yet their attempts to develop the countryside failed. Imported machines could not harvest the crops due to local soil conditions; the dependence on fertilizers and irrigation turned out to be both expensive and useless, and peasants were reduced to passive observers of an expert-driven process, in which their only role could be to carry bags of fertilizers to the land (257-264).

¹⁵ *Haciendas* were legally abolished after the Mexican Revolution, but they continued to exist due to a pact between the *hacendados* and the emerging capitalist regime.

It is possible, Esteva says, that agronomists were right that a technical change could bring about an increase in production, yet they were blind to the real situation and the prospects of the majority of peasants. In his view, it would have been more realistic to consider “the human creativity of alternatives, the multi-directionality of developments, and the multiplicity of time and rhythm of diverse social groups” (269). What was required instead was “a conception of non-determinist, irreducible, and dialectic approaches to take on the specific context” (269). In order to illustrate this conception, Esteva compares the discourse of Dr. Norman Bourlaug with that of Mexican scientist Efraín Hernández Xolocotzi, who was the first to advance a critique of the devaluation of peasant knowledge. Bourlaug saw his role as that of a leader whose goal was to “disseminate the benefits of science to all mankind in the shortest possible time and at a minimum cost” (263). By contrast, Xolocotzi acknowledged the limitations of his own knowledge, and tried to produce new knowledge “[t]hrough a dialogue with the peasant” (263). By recognizing that the peasant has a different field of observation, Xolocotzi “hosted the Otherness of the Other.” Unfortunately, Xolocotzi’s approach did not succeed in preventing the disastrous effects of the Green Revolution. However, as anthropologist Cori Hayden points out in her important study of bioprospecting in Mexico (*When Nature Goes Public*) we should not underestimate the legacy of scientific advocacy in contemporary disputes around the future of the Mexican countryside.

Decades after Bourlaug, the use of physicalist and probabilistic discourse, a purely instrumental conception of nature and work, and the use of statistical calculations and models unrelated to social conditions continued to guide development policies (160). In view of explosive urban growth and increasing problems of rural productivity in the 1970s, the World Bank launched “Integrated Rural Development” (IRD), a strategy that blamed rural poverty on excessive concern with economic growth. Still, the experts of IRD “would not entertain the idea that too much interaction with the modern sector was the source of peasants’ problems, nor would they give up the belief that modern-sector and macroeconomic policies continued to be the most important for development theory” (Escobar, *Encountering Development* 16). In Escobar’s interpretation, the discursive consolidation of modernity meant that the economy had become “a seemingly ineluctable reality,” so that it was “no longer capital and labor per se

that were at stake, but the reproduction of the code” (203). At any rate, since the mid-1960s a nationalist current of dependency theory had been seriously challenging development's ahistorical treatment of "underdeveloped" areas.¹⁶ Dependency theorists focused on the "modern" vs "traditional" dichotomy, which obliterated the extractive role of urbanization and falsely implied that almost two thirds of the world's population lived in static, archaic societies (Saldaña-Portillo 84). They also showed that "underdevelopment" actually emerged hand in hand with capitalist development, as industrial growth displaced and impoverished rural communities.¹⁷ When dependency theory made clear that the traditional and the modern depend on each for their mutual constitution, dependency theory began to expose the fallacy of development's "masculinist regime of subjection." The modern developed subject as an autonomous, self-controlling agent was shown to be in fact thoroughly *dependent* on the labor and "underdevelopment" of the rural subject (52). Yet as Saldaña-Portillo argues, dependency theory ultimately fell back under the spell of developmentalism. Dependency theory, she says, "also construct[ed] two kinds of subjects in the periphery who oddly resemble the recursive subjects of underdevelopment: bourgeois elites (reactive nationalists) and victims of their machinations (abject masses)" (59). Instead of extending its argument to the dichotomy of "center" and "periphery," it lamented the economic dependency of the latter and prescribed more industrial development as a global emancipatory solution. As in the "Revolution to Demolition" narrative of Mexico's political economy, dependency theory still figured the Mexican population as an incomplete subject awaiting national revolution.

Escobar argues that contemporary agricultural problems confront us with the task of "decolonizing representation." In his view, peasants are motivated "not by acquisition but by material activities the central principle of which is to care for the base," the latter including not only natural resources but also "culturally known ways of doing, people, habits, and habitats" (168). Theirs is "above all a struggle

¹⁶ Saldaña-Portillo reminds us that dependency theory grew out of a Latin American tradition of South-South intellectual exchange in the social sciences. Its intellectual predecessors were Latin American economists, such as Raúl Prebisch, who worked in the 1940s at the Economic Commission for Latin America (ECLA), a UN agency with the mission of promoting modernization (47).

¹⁷ Rodolfo Stavenhagen demonstrated that rural subsistence economies have been instrumental for capitalism by supplying flexible seasonal labor to monocultural commercial agriculture and by helping to depress industrial wages by providing cheap food to urban centers (Saldaña-Portillo 86).

over symbols and meanings, a cultural struggle” (167), a struggle that matters because "culture" does not merely reflect structural power relations but is also a mechanism for materializing them (162). While Escobar recommends taking the cultural struggle of peasants seriously, he warns us against two predictable approaches to “peasant worlds.” Activists would tend to embrace them uncritically as an exit from all oppression, while sceptical academics would tend to dismiss them “as romantic expositions by activists or intellectuals who see in the realities they observe only what they want to see” (*Encountering Development* 170). Since the world of peasants is no more “natural” or innocent than modern worlds, Escobar says, we should avoid “the temptation to ‘consume’ grassroots experiences in the market for ‘alternatives’ in the Western academe” (170). Yet, rather than evaluating peasant worlds as true or false representations of reality, we should explore them as cultural struggles against the modern imperialism of representation. Such a struggle is urgent because imperialism in representation, as seen, for instance, in development discourse, does not merely “reflect” structural power relations but is also a mechanism for producing them (162). Therefore, a cultural affirmation of peasant worlds (such as it is found in Esteva's account of “grassroots postmodernism”) might play an important part in the ongoing battles over the meaning of social and biological life under global capitalism.

In the 1980s, the developmental gaze was turned from "underdeveloped" human subjects to a depleted nature supposedly threatening the continuity of economic growth. The notion was born out of “sustainable development,” a paradigm that Escobar situates within an “ecological phase” of capital. Ecological capitalism, he says, entails an even more pervasive "semiotic conquest" of nature, which it seeks to "conserve" as "the system of capitalized nature closed back on itself" (*Encountering Development* 199). Escobar explains that environmental concerns emerged among the global elites who had espoused a modern conception of the human agent with selfish interests and purposes. He diagnoses that “as long as grassroots environmentalists accept this conception, they will also accept the imperatives for capital accumulation, material growth, and the disciplining of labor and nature” (197). For instance, the activist defense of "biodiversity" already tends to construe biodiversity as a reservoir of value, which is the main reason why indigenous peasants in tropical regions of the world are

finally being recognized “as owners of their territories (or what is left of them), but only to the extent that they accept to treat it – and themselves – as reservoirs of capital” (203). While "ecoliberal" assume that all humans are equally responsible for environmental degradation, mainstream ecological discourses have in fact tended to shift visibility away from industrial polluters to poor peasants and their "backward" practices. Ignoring the historical specificity, and hence contingent character of Western capitalism, ecoliberals and ecodevelopmentalists have failed to notice the cultural limits that "other" societies place on production. It is in this context that he calls for us to take seriously the cultural and political affirmation of “peasant worlds” (169). Peasants, Escobar says, “continually innovate and attune their [livelihood] practices through trial and error, in a manner more akin to art than rationality” (169). I want to suggest that we need to develop a biotechnological understanding of peasant "art." More generally, perhaps "biotechnology" can be understood as an art practice that refuses to be reduced to a commercial transaction or to the exploitative manipulation of "life itself." If “peasant worlds” constitute one example of a more ethical kind of biotechnology, can a "mutated" nationalism join the peasant struggle for "hosting the otherness of the other" in the face of neoliberal and technoscientific challenges?

So far, a cultural affirmation of peasant worlds has been carried out not by modern nationalism but rather by "postmodern" radical pluralism alongside "postmodern" organizations. In "Re-embedding Food in Agriculture," for example, Esteva concerns himself with the invention of a discourse that effectively challenges the gigantic forces and institutions created by modernity, in particular the development apparatus. He elaborates a critique of the economic assumption that “man's wants are great, not to say infinite, whereas his means are limited though improvable” (11). Such an economic problematic is construed by turning the assumption of scarcity into a fact that requires intervention from experts, the ones to make decisions about the allocation of resources. Food, for example, is today immersed in “the economic world, the world of scarcity.” The industrialized world thinks that hunger is a problem pertaining to backward countries because of its “lifelong addictions to food services” which are thought to be “magnificent conquests of civilization” (6). Yet what people in the industrialized world eat is an “illusion of abundance,” an illusion that conceals a hunger for a “complex cultural relationship with the earth” (6). Esteva thus postulates the existence of a world

where scarcity has no discursive place because there are mechanisms to prevent it. In the peasant world there are practices such as *impostura*, “a kind of uneven reciprocity which cannot be quantified and whose basic rules are not evident or stable in time and space” (8). People support each other with labor and often with raw food, and help each other with cooked food or prepared meals on a regular basis. In this world, the giving away of food is understood beyond the act itself, to express social sentiments of unity, consideration, togetherness and kindness (7). *Impostura*, however, can only take place in a particular cultural community including kinship ties and a gendered organization. Echoing Lind and Barham's description of the context in which maize is fully “sacred,” Esteva describes:

The fire is at the center of the warmest room of the house. And Doña Refugio is there, every day, at the very center, surrounded by her whole family, talking with all her sons or her husband, discussing personal difficulties or the predicaments of the community. That fire and Doña Refugio are the center of the conversation, and in fact the very center of family life, and family life is the center of the community. The whole community's life is in fact organized around such fires, the center of kitchens, the source of comida (5).

Community and family life is what the *milpa* is about for Esteva. It is not about the technical activity of producing maize, as the *milpa* is more frequently described (5). He asserts that the essence of the *milpa* is “not in the corn emerging in the fields” but rather “precisely here, around the communal fire, in the very heart of the family (5). By invoking the fire, Doña Refugio and family life, Esteva tries to identify and revindicate attitudes and behaviors different to those of “a middle-class student in Mexico City.” While the middle-class student would presumably be satisfied with being fed with food commodities provided by institutions, in a rural context people would prefer to share home grown food as a meaningful event that constitutes the togetherness of a cultural community. It might seem that Esteva's judgment of urban dwellers is unnecessarily dismissive, yet the most interesting part of his essay suggests that the *milpa* can be found even in the heart of the cities, where there “are also reminiscences, a step back, a form of underdevelopment, or strictly postmodern practices” (8). Unlike Pilcher, Esteva believes that there is something like a “grassroots postmodernism” (Esteva

and Prakash) that is able to articulate diverse reactions, in both city and countryside, to the cultural hegemony of Western modernity.

In order to illustrate the above point Esteva tells us the story of a popular quarter in downtown Mexico City called Tepito. Tepito was flooded with rural immigrants when the Green Revolution took hold of the countryside. After 1945, the government of the city froze the rent of low-cost housing, and so Tepito flourished and became famous as "a creative and recreative space" of informal trade and gadget recycling. A third of Tepitans, says Esteva, made a living in producing and selling food, and yet this was not only another line of business or an income-generating activity, but rather it was the top layer of a far from frozen, extended web of very complex activities. In fact, something like *impostura* was operating there, since Tepitans maintained close connections with their rural communities of origin and used those connections to operate the channels for a constant flow of people and goods in both directions. After the earthquake in Mexico City in 1985, new development projects were promoted for inhabitants of Tepito. One promoted by FAO consisted in distributing subsidized food and teaching the people about balanced diets. The people were not only offended at being told how to eat, but they were also concerned about being "ruined" by the competence of subsidized, industrial food. Many of them, including Esteva himself, decided to "escape from this foolishness" (10).¹⁸ By re-embedding food in agriculture, they enacted an example of "grassroots postmodernism."

According to Esteva, re-embedding food in agriculture has nothing to do with recovering a lost paradise, or falling into nostalgia or revivalism ("Re-embedding Food" 2). Neither has it anything to do with "the world campaign for healthy food, natural products, organic coffee or holistic diets" (3). Like Pilcher, Esteva is outraged by these trends, which have transformed a legitimate claim into "another turn of the screw of economic society" (3). In a view inspired by the Zapatista rebels, Esteva argues that "a single global discourse is both impossible and preposterous" (2). A supportive community based on kinship ties is therefore just one among many possible roads for international anticapitalism. As Esteva emphasizes, many different discourses are already emerging from the "social

¹⁸ Esteva abandoned a career in the development apparatus and moved to the countryside, where he founded the Universidad de la Tierra, an open-access institution based on radical pluralism. Esteva is now a full-time activist and promoter of "grassroots postmodernism."

majorities” of the world, and what they have in common, according to Esteva, is “their post-modernity, (...) not only something that comes *after* modernity, but something that happens *against* modernity” (2). Whereas the ethical imperative of “grassroots postmodernism” would reside in “hosting the otherness of the other,” my own question concerns the extent to which a renewed Mexican nationalism would be able to take responsibility for the other in precisely in that way.

Technoscientific Mutations in Maize Nationalism

For some, corn is a fluke, even a monstrosity.
For others, it is the most evolved member of the plant kingdom
and occupies a position comparable to that of
human beings in the animal kingdom.

The analogy is appropriate,
because corn is clearly the offspring of humans,
a gradual and impressive product of human invention,
much closer to them, in a certain sense,
than to any other living beings.

(Warman 26)

In *Corn and Capitalism: How a Botanical Bastard Grew to Global Dominance*, Mexican anthropologist Arturo Warman celebrated the “bastard” botanical properties of maize, echoing stories about Mexican identity being a product of racial hybridity, or *mestizaje*. Warman did not hide his nationalist pride about the fact that in time maize proved colonial prejudices wrong by going abroad to become, as an individual plant, one of the world’s leading crops. At present, approximately one fourth of the world's population depends on direct consumption of maize, while more than half of the global maize harvest goes into animal feed (25). By consuming meat, milk and eggs, wealthy populations consume many times more maize than people whose diet is based on direct consumption of it. In addition, maize is being increasingly used as a source of biofuel, a controversial alternative to fossil fuels. In his book, Warman describes affectionately how the adaptability of maize to diverse ecological conditions, its high productivity and its multiple applications led to its quick spread and global acceptance, with the result that “[t]oday corn's patrimony is universal” (14). Yet it is precisely the central role of maize in contemporary global capitalism that prompts me to interrogate Warman's call to regard maize as “a unique resource for the construction of a new reality, for change and social transformation” (234). What kind of transformation did Warman have in mind when he first wrote *Corn and Capitalism* in the 1980s, and how does

it relate to the present conjuncture in which Mexican maize is being reclaimed by Mexican society?¹⁹

After the violent repression of the 1968 student movement in Mexico City, the political legitimacy of the Mexican revolutionary state was seriously undermined. Despite (or precisely because of) the continuity, throughout the 1970s, of both direct state repression and economic co-optation, democratic demands proliferated steadily in Mexican society as the 20th century drew to a close. In 1981, a fall in oil prices curtailed the government's capacity to repay foreign debt, depriving it of the economic surplus that it had traditionally employed to buy off the acquiescence of disparate social sectors. In response to the crisis, the state's development strategy was reoriented along the lines of neoliberalism, which was subsequently pursued by the governments of Miguel de la Madrid (1982-1988) and Carlos Salinas de Gortari (1988-1994). Since the 1970s, neoliberalism had circulated as a set of ideas among Mexican political elites.²⁰ Even though it stems from a narrow domain in economic theory, neoliberalism has come to refer to a more comprehensive vision of the social order premised on the primacy of the market and on competition among self-reliant individuals. Wendy Brown describes this phenomenon in terms of “governmentality – a mode of governance encompassing but not limited to the state, and one that produces subjects, forms of citizenship and behavior, and a new organization of the social” (*Edgework* 37). In this final section I propose to read the neoliberal transformations undergone by maize nationalism through the lens of a very particular understanding of technoscience. Even though technoscientific practices such as biotechnology are indissociable from neoliberalism, feminist scholar Donna Haraway asks us to regard them neither as given facts nor as mere ideologies of global elites. For Haraway, technoscience is above all “a form of life, a practice, a

¹⁹ Warman's anthropological work on Mexican rural issues was widely acclaimed within the country and abroad, until he became a functionary of the neoliberal presidency of Carlos Salinas de Gortari (1988-1994). Salinas ended land redistribution, exerted repression on Zapatista communities and sent the country into one of its most memorable economic crises in decades. From 1988 to 1991 Warman served as director of the *Instituto Nacional Indigenista* (INI, National Institute for the Indigenous People), then he went to the *Procuraduría Agraria* (1991–1994) and next he became Secretary of the Agrarian Reform (1994–1999). After neoliberal policies proved fatal for the Mexican domestic economy, his collaboration with Salinas and with the latter's successor Ernesto Zedillo (1994-2000) sent Warman into ostracism, particularly by (nationalist) Leftist media and intellectual circles.

²⁰ Old revolutionary advocates of neo-Keynesian state expansionism had been facing, for a number of years before the debt crisis, Mexican neoliberal ideologues who promoted technical expertise as a means to economic progress (O'Toole 270).

culture, a generative matrix” (*Modest_Witness* 50). She attributes “a transgenic quality” to technoscientific domains (4), in the sense that they blur the boundaries between science, technology, culture, politics and economics. Technoscientific confusion of boundaries is simultaneously dangerous and liberatory since, as Haraway writes:

(...) technoscience is about worldly, materialized, signifying and significant power. That power is more, less, and other than reduction, commodification, resourcing, determinism, or any of the other scolding words that much critical theory would force on the practitioners of science studies (...) (51).

In the same vein, cultural theorist Jeremy Gilbert forcefully reminds us that how far the neoliberal imperative can go, and what it can actually achieve, remains undecided because it largely depends on to the balance of forces within specific political contexts (*Anticapitalism and Culture* 172). In his analysis of Mexican neoliberal discourse, political scientist Gavin O'Toole has pointed out that a purely economic understanding of neoliberalism has tended to downplay the complex discursive challenges confronted by Mexican neoliberals as they dismantled a political economy legitimized by a potent nationalist tradition. Because revolutionary nationalism had been very effective in creating consensus, it was not easy for Mexican neoliberals to give it up. What they did was try to reconcile nationalism with the neoliberal project by explaining and interpreting in a certain way the implications of globalization and “interdependence” (O'Toole 273). The shift from protectionist import-substitution to full entry into global competition was asserted as essential for national survival, for “the continuity of Mexico in history.” Since the threat of “inviability” in a globalizing world derived from the lack of competitiveness, sovereignty became a synonym of “competitive strength.” Thus, Mexico would at last fulfill its vision of progress, which president Salinas de Gortari (1988-1994) described in terms of being “part of the First World and not of the Third” (qtd. in O'Toole 283). O'Toole's analysis reveals that there was complex political work at the domestic level on the part of Mexican neoliberals. Like revolutionary nationalism, Mexican neoliberalism came to promote the transformation of the Mexican subject into “an agent of transformation in his own right, one who is highly ethical, mobile, progressive, risk taking, and masculinist,

regardless of whether [it] is a man or a woman, an adult or a child” (Saldaña-Portillo 9).

Mexican neoliberalism was consolidated institutionally through the North American Free Trade Agreement (NAFTA), which came into effect in 1994 and covered most aspects of trade between Canada, Mexico and the United States. The Agreement included an end to legal restrictions to land commodification, an end to tariffs on all kinds of foreign imports including food, and the withdrawal of most state support from domestic production, including small and medium-scale agriculture. Before the negotiations had concluded, it was anticipated that cheap food imports from the U.S. would easily flood the Mexican market. For this reason NAFTA contemplated a transitional exemption of staple products such as maize and beans, which would last until 2008. It was expected that in the years 1994-2008, the Mexican agricultural sector would be strengthened and prepared for competition with its Northern counterparts. However, such preparation did not take place and the Mexican government never enforced the transitional protection. Farmers were abruptly exposed to international competition, which drove them out of business and rendered the whole country dependent on cheap maize imports from the US, where agriculture is heavily subsidized and can sell its grain in Mexico for less than the cost of its production. 16 years after NAFTA, maize imports from the US have increased by 1000% (Ashwell 22), and Mexico now imports 25% of the maize it uses (Bartra A., "Hacer Milpa" 43). If pro-NAFTA politicians defended food imports on the grounds of “food security” (Hewitt 91-92), it was because they conceived of “food security” in urban terms as the availability of cheap items in supermarket chains. Significantly, against the neoliberal odds, the cultivation of maize for subsistence purposes has been maintained and in some cases increased, a paradox that tells us much about why Mexican people keep producing maize (McAfee).²¹ Even if we leave the cultural and spiritual aside, the paradox reminds us that rural populations keep growing maize because of its fundamental contribution to household sustenance (Antal, Baker and Verschoor 63).

²¹ In 2007, 30% of the Mexican labor force worked in agriculture, which generated 5% of the GDP. Approximately 3.2 million peasants grow maize, on which 12.5 million people depend directly or indirectly, an equivalent to 55% of the agricultural population (qtd. in Antal, Baker and Verschoor 14).

Social researchers of biotechnology debates in Mexico generally point out that maize has become “the apple of discord” not just because it is a “holy object of ancestral cultures,” but more so because amidst the economic devastation unleashed by neoliberalism, it has emerged as “the symbol of nationalism and the country's political and cultural resistance” (Antal, Baker and Verschoor 2). In reaction to the cataclismic effects of neoliberal policies, Mexican academics began to oscillate between a furious re-assertion of nationalism and a new pluralistic sensibility to the *campesino* way of life. Following Pilcher, Hernández López interprets NAFTA policies, and neoliberalism more generally, as implying a revival of the colonialist rejection of maize as an essential component of national identity. By giving up maize, neoliberal elites frustrated the democratization of Mexico, a process hardly fought for by social movements since 1968. Ana María Ashwell and Armando Bartra argue that a combination of ineptitude, corruption and inherited racism guided neoliberal politicians in their negotiations of economic policy. Whereas the productive capacities of *campesinos* have been long been underestimated by modernizing social policy, today we are witnessing, Ashwell says, a full-scale attack on the countryside through the neoliberal decision to renounce national “food sovereignty.”²² In a nationalistic tone, Ashwell insists that maize coming from “complex and original relationships with the earth” is “the only maize which they [the *campesinos*], you and me want to eat” (22).²³ In a similar tone, Armando Bartra's starts one of his multiple interventions in defense of maize by stating that “more than men of maize, us Mesoamericans are people of *milpa*” (“Hacer Milpa” 42), and concludes by asserting that “to save the country is to save maize” (45). A crucial question in this regard is whether “saving the country” will require a categorical rejection of biotechnology, and particularly genetic engineering, as one of the major investments of global agro-industry.

²² Before the Second World War, all of the world's most important agricultural regions, except for Western Europe, were self-sufficient and exporters of cereals. This panorama changed drastically after World War II, when the size of the cereal market grew at an accelerated pace. Between 1960 and 1962, U.S. production made up half of total exports and in 1971-72 U.S. grain for export accounted for three-fourths of the world market. In 1972, besides the United States, only Canada, Australia, New Zealand, and Argentina were major exporters of cereals. Poor countries until then self-sufficient or which had been net exporters of grain before the war, now purchased almost 40% of the grain on the world market after the war.

²³ Ashwell seems more nostalgic than optimistic, and so concludes her piece with a timid reference to European consumers of organic food and fair trade products.

A paradigmatic industry of the neoliberal era, biotechnology relocates profit-driven production “at the genetic microbial and cellular level, so that life becomes, literally, annexed within capitalist processes of accumulation” (Cooper M., 19).²⁴ The commercial planting of transgenic crops began in the United States in 1995. Ten years later 52% of US corn planted was genetically engineered. About two-thirds of it was engineered by seed corporations such as Monsanto and Pioneer to develop traits of *Bacillus thuringiensis*, a bacterium that produces toxins lethal to many insects of the order *Lepidoptera*, including larvae that can damage corn, cotton, and other crops in the US (McAfee 151). *Bt* maize, as it is called, has been legally imported into Mexico since 1997 exclusively for consumption purposes. By contrast with the situation in the U.S., where university research has been attracted and capitalized by private seed companies, the majority of Mexican maize researchers work only in the public sector²⁵ and have little interest in using molecular genetic markers to improve their selection criteria. Currently, of the six laboratories where biotechnological research on maize is conducted, only CINVESTAV-Irapuato applies advanced genetic engineering to agricultural production.²⁶ The relatively few maize biotechnologists specializing in genetic engineering based in Mexico have fought hard to persuade their institutions and the government that their research is worthy of financial investment.²⁷ Most of their efforts have concentrated on gaining space and equipment, yet Mexican

²⁴ In her study of the U.S. biotech industry, Melinda Cooper argues that neoliberalism reworks the value of life as established in the welfare state and New Deal model of social reproduction. In her view, the neoliberalism of biotechnology lies in its “intent to efface boundaries between the spheres of production and reproduction, labor and life, the market and living tissues – the very boundaries that were constitutive of welfare biopolitics and human rights discourse” (9).

²⁵ In the 1970s there was a renewed interest in maize agrodiversity which had its roots in three issues: first, a blight attacked maize in the United States leading researchers to seek resistant varieties of maize from Mexico’s reservoir of genetic maize diversity; second, maize improvement programmes were seeking to improve the production of small-scale producers in rural Mexico, as a way to social and economic transformation in the Mexican countryside. This led to the recognition that Mexico’s “genetic resources” were not adequately represented in the global germplasm banks. Third, there was a resurgence of interest in maize agrodiversity and ethnobotany due to the work of Hernández Xolocotzi at the University of Chapingo (Paczka 125).

²⁶ Luis Herrera Estrella, working at CINVESTAV-Irapuato, was the first scientist to ever transfer a bacterial gene into a plant. Other CINVESTAV scientists work on plague-, drought-, and soil salinity-resistant varieties, and are developing plants resistant to fungus, virus, and herbicides, through protoplast fusion and recombinant DNA. They are also studying tomato, tobacco, and bean genetics to make crops resistant to insects, or are working with *Bacillus Thuringiensis* (*Bt*) bioinsecticides. CINVESTAV is the only institution engaged in advanced plant biotechnology, while others do applied research in tissue culture and micropropagation.

²⁷ In the early 1990s there were 179 maize researchers, 67 of whom worked on genetic improvement. Government invested around 5 million dollars in such research, by contrast with 185 million dollars invested by Monsanto (Arellano and Ortega, “Caracterización” 55).

laboratories are generally under-equipped and only permit basic analyses of genetic markers to characterize plants, compare germplasms and elucidate their potential uses. National seed companies, on the other hand, have limited their research to the testing of patented seeds, and do not plan to develop their own seed varieties on the basis of local germplasm (Arellano and Ortega, "Caracterización" 63), since this requires much more money than they are willing to invest in the risky business of biotechnology. Therefore, it seems unlikely that national seed companies will be the ones to meet the biotechnological demands of the national agro-industry. Even transnational companies have met considerable difficulty in commercializing their transgenic seeds in Mexico, not just because their products have so far not been developed for the specific problems of the Mexican countryside, but also because the companies have had to circumvent the strong oppositional reaction by environmental, peasant and scientific advocacy groups.

Almost immediately after imports of American grains started flooding the Mexican countryside, Greenpeace alerted that they were posing a threat of "contamination" to local maize varieties. "Genetic contamination" is a term used by activists to assert, in a condemnatory tone, that once transgenic and non-transgenic maize cross-fertilize, transgenes will prevail and gradually displace "native maize" to the point of extinction. In 2001, two Berkeley-based researchers (Quist and Chapela) found transgenes in Mexican maize from the Northern highlands of Oaxaca, and their findings were published in the journal *Nature*. In 2002, *Nature* disowned their article because of alleged methodological problems. Studies conducted in the same year by Mexican institutions²⁸ corroborated Quist and Chapela's findings, but the results were again rejected by *Nature*, apparently under pressure of the American biotech lobby. Initially, Mexican farmers were less concerned about transgenic maize than about the effects of neoliberal economic policy (Massieu, "Cultivos y Alimentos"), yet local and international NGOs such as Greenpeace and ETC eventually succeeded, through a forceful media campaign, in setting up an anti-GM coalition of small and medium-scale producers, local environmentalists, social and natural scientists as well as members of the national and international public.

²⁸ UNAM, National Autonomous University and CINVESTAV, Advanced Research Centre of the National Polytechnic Institute (IPN).

Before Greenpeace's campaign and the ensuing constitution of a Network in Defense of Maize, public debate on science and technology in Mexico was mostly conducted in technical terms by professional societies and government agencies (Rubio and Ordóñez 31). Public outrage about "genetic contamination" led the Mexican government to create CIBIOGEM,²⁹ an "Inter-Secretarial Commission on Biosecurity" that initiated procedures for the elaboration of biosafety legislation. Over a period of five years, several political parties³⁰ presented a total of eight proposals, but it was the one designed by the Mexican Academy of Sciences (ACM)³¹ that served as a basis for the law that was finally approved and passed in December 2004. The ACM proposal established case-by-case risk-assessment studies as the duty of relevant government agencies and recommended to apply the precautionary principle whenever risk-studies were found to be unsatisfactory. However, this latter point was partially dropped in the final text of the law, which was approved fast-track without public discussion (Massieu and San Vicente; Antal, Baker and Verschoor). Moreover, the specific mechanisms for the protection of native maize were relegated to secondary regulations that, according to their Mexican critics, turned out to be arbitrary and weak. The Law of Biosecurity of Genetically Modified Organisms (LBOGM)³² was therefore met by heavy criticism from a section of the Mexican scientific community (Chapela) as well as from anti-GM activists, who dubbed it as one of so many "Monsanto laws" around the world.

In this regard, Edith Antal explains that the discussion of biosecurity in Mexico was indeed understood as an application of the international rules of the

²⁹ Throughout its existence, CIBIOGEM has been surrounded by suspicion regarding its members, such as José Luis Solleiro, who has links with AgroBio, the biotech consortium formed by Monsanto, Novartis, Dupont and Savia, and who became explicit supporter of transgenics as the solution to "food security."

³⁰ These were the currently ruling PAN (Partido Acción Nacional), the PRI (Partido Revolucionario Institucional), which ruled for 80 years until 2000, and the PRD (Partido de la Revolución Democrática), a left-wing party that rules the capital Mexico City: "From the very beginning of the debate one could see differing conceptions on the issue among the political parties: whereas the PAN focused on the scientific aspect, the PRI insisted on the producers' needs, and the PRD on the fact that the objective of this law was not to promote biotechnology but biosecurity" (Antal, Baker and Verschoor 21).

³¹ The ACM represents the elite of the scientific community, which meant that in the final draft priority was given to the scientific content and the role of experts rather than the political content of the GMO issue (Antal, Baker and Verschoor 20).

³² The LBOGM establishes a system of permits for testing and commercializing GMOs. It recognizes the need to protect maize and other 79 plants from the risks of transgenic introgression, establishes mandatory labelling for non-processed agricultural foods and bans the cultivation of GMOs in protected zones.

game to the national context – that is, of the rules established by the World Trade Organization (WTO), the North American Free Trade Agreement (NAFTA) and the Convention of Biological Diversity (CBD) (Antal, Baker and Verschoor 11). In the end, the LBOGM was passed without taking social dissent into serious consideration, which provoked an angry reaction from autonomous peasant organizations and made further dialogue almost impossible.³³ Their final response to top-down scientific governance was to take a radical stance, rejecting transgenic maize in the name of their right to survival.

By framing biotechnology as a threat to national sovereignty, Greenpeace has managed to articulate its environmental cause together with some other causes, such as economic, political and cultural struggles. This articulation of issues previously seen as disconnected has contributed to a novel foregrounding of traditional maize varieties as fundamental not just to peasant communities, but to the nation and the world as a whole. This is precisely why I want to suggest that the controversy over the transgenic products of contemporary biotechnology constitutes a platform for a critical interrogation of "cultural difference" within a nation which has been historically shaped by capitalist hegemony and, increasingly, by globalization. The technoscientific conjuncture has already produced novel (yet precarious) alliances between the country and the city that were discursively precluded during the postrevolutionary period. Yet, when speaking of "technoscientific mutations" in maize nationalism I am not just referring to the context in which maize has become a global actor and a genetically modified commodity, giving rise to conflicts between national and transnational actors. I am more interested in understanding how such conflicts may give rise to new democratic subjectivities and new material-discursive experiments beyond nationalist resistance. In the light of a cultural history that romanticizes an agrarian past and thereby conceals the material and symbolic violence exerted upon living rural societies, what the anti-GM movement actually seems to signal is the possibility of re-signifying the nation in a more ethical way.

³³ Peasant and indigenous organizations had no direct participation in the legislative organs, and their interests were not represented in any systematic way by the political parties. Three farmer organizations were active in the parliamentary debates: ANEC (*Asociación Nacional de Empresas Comercializadoras de Productos del Campo*), UNORCA (*Unión Nacional de Organizaciones Regionales Campesinas Autónomas*), and CECCAM (*Centro de Estudios para el Cambio del Campo Mexicano*). All three called attention to the potentially harmful effects of GMOs on the Mexican countryside (Antal, Baker and Verschoor 23).

In June 2007, the mayor of Mexico City, Marcelo Ebrard, participated in the official launch of the National Campaign for the Defense of Food Sovereignty and the Reactivation of Small-Scale Agriculture: *Sin Maíz no hay País y sin Frijol Tampoco ¡Pon a México en tu boca!* ("There is no country without maize and there is no country without beans; put Mexico in your mouth!"). The campaign's mission was to raise awareness about the importance of food sovereignty and of better public policies guided by an alternative national project that is inclusive, fair, sustainable, and supportive (Campaña Nacional Sin Maíz No Hay País 7). The first two stages of the campaign focused on re-negotiating NAFTA and tackling the food crisis of 2008. The third stage strengthened the struggle against GMO's by proclaiming September 29th as the National Day of Maize and "food independence" in Mexico. The rejection of transgenic maize, a concern initially promoted by Greenpeace and ETC, has become increasingly important at each stage of the campaign, whose strategies of dissemination have included the mass signing of petitions, demonstrations, local concerts, performances and food festivals to promote the products of the Mexican countryside. On 14th October 2009, Greenpeace led a theatrical protest against the government's decision (allowed by "the Monsanto law") to authorize the experimental sowing of transgenic maize within the national territory. The protest consisted in placing a black mourning cloth over the *Ángel de la Independencia*, an emblematic monument in Mexico City, and in pacing black ribbons and placards on statues of the national Heroes of Independence. On the placards, one could read:

The heroes who gave their lives for Independence sent
a forceful message to the nation (...)
in order to judge what the federal authorities are doing with maize:
Vicente Guerrero: "First comes our maize, traitors!"
Miguel Hidalgo: "Down with the government that authorizes transgenics"
José María Morelos: "Sovereignty emanates from our creole corn"

The main thread in my analysis of the Mexican defense of maize focuses on a critical interrogation of the modern political narratives that still dominate the encounter between the Mexican nation and biotechnology. Biotechnology debates in Mexico have been examined by scholars from a variety of social science

perspectives, yet the cultural politics of such debates often appears underanalyzed, either taken for granted or mystified. "Culture" only makes itself present in assertions about a particular identity, as in "Mexicans are a people of corn," implying that corn, like cultural identity, is a sort of possession that must be kept and celebrated as it lies against outside threats such as modern biotechnology. To be fair, there are at least two exceptions to this trend. A useful precedent of my own critique of the narratives deployed by the activists is the discursive analysis undertaken by rural sociologist Gerard Verschoor, who classifies the regimes of justification or "grammars of worth" mobilized by social actors for and against GMOs. As Verschoor points out, proponents of GMOs construct their arguments in terms of industrial efficiency and productivity, emphasizing the role of experts in deciding over the universal applicability of a rational logic of comparative advantages (36). A market-centred regime defines subjects directly as buyers and sellers in competitive relations, foreclosing discussion of anything that cannot be reduced to a commercial logic. In principle this regime seems to be incompatible with the language of value mobilized by opponents of transgenic maize. The latter invoke civic values such as solidarity, collective welfare, resistance against biopiracy and injustice, all excluded from NAFTA deliberations (39). The same exclusion would seem to apply to the language of tradition and locality typically mobilized by academic and peasant organizations.³⁴ The critical aspect of Verschoor's analysis resides, however, in suggesting that tradition and locality are easily co-opted by the mainstream narratives of capitalist progress and development. He observes that the language of tradition invokes a "harmonious, quasi-romantic experience of living off the land – that is, a close connection between the people and their area, a relationship mediated by maize" (42). The environmentalist discourse in turn articulates this image with the romantic figure of the noble savage as a "guardian of biodiversity,"³⁵ yet historical records show that it is precisely through

³⁴ Verschoor cites a 2004 Oaxaca declaration against GMOs, commenting that this kind of statement is heard over and over again regarding the issue of genetic contamination: "Here, in this part of the world, maize was born. Our grandfathers raised it, and were raised by it when they forged one of the greater civilizations in history. The oldest house of maize stands in our soils. From here it travelled to other parts of the world. We are maize people. This is our brother, it is the foundation of our culture, it is the basis of our here and now. (...)" (41).

³⁵ Given the political appeal of the "noble savage" in certain (First World) circles, indigenous/peasant groups have increasingly appropriated it (with the help of national and international NGOs) to formulate and give visibility to their political demands, an issue that is

romanticization that civic demands “are reduced, de-politicized and made compatible with industrial or commercial goals logic” (46). Verschoor concludes from this that asserting the nature and/or culture of particular identities does not in itself pose an effective challenge to the instrumentalization of nature and people that capitalist technoscience essentially promotes. Moreover, the language of property rights and community participation already suggests an implicit neoliberalization of resistance and activism.

Another notable exception to the uncritical acceptance of nationalist resistance in the name of peasant worlds is Elizabeth Fitting's recent book, *The Struggle for Maize* (2011). Like other observers of the struggle over maize (Kinchy), Fitting praises the way in which the defense of maize has shifted the debate on GMOs away from a narrow, technocratic focus on costs and benefits and towards some wider concerns about the future of the Mexican countryside and culture (12). This is a good thing, she says, because it challenges the inherited modernizing assumption that peasant maize agriculture is “backward” or “traditional” (36). Yet she also observes that peasant essentialism, or the notion of a bounded, millennial people of corn, obscures the way in which rural communities are in fact being made and remade in the interaction with larger processes and forces (13). Drawing on ethnographic work, Fitting emphasizes that contemporary Mexican peasants are better described as a rural proletariat, as commercial farmers, or as being in the process of transition from one to the other (24). Historical patterns of migration also complicate the picture because many of today's self-labeled peasants rely on migrants who go back and forth between the worlds of unpaid work and paid employment. These are among the many important aspects of contemporary rural life that Mexicans, both pro- and anti-GM, seem to forget when they describe Mexicans, rural and urban, as a millennial people of corn. My own engagement with the Mexican defense of maize takes into account the complexities revealed by empirical work, such as that undertaken by Fitting and Verschoor, yet it seeks to bring into the discussion the specific insights of deconstructive philosophy, post-Marxist political theory, feminist technoscience and media and cultural studies. As I aim to show in what follows, it is necessary to interrogate the ethics and politics of nationalism in a more fundamental way in

interestingly developed by Cori Hayden in *When Nature Goes Public: The Making and Unmaking of Bioprospecting in Mexico*.

order to engage critically and creatively with the challenges posed by capitalist technoscience.

Conclusion: Mexican Maize and the Struggle for Technoscience

Many Mexicans today find inspiration in the dialogue with maize. Not only do they demand hospitable recognition of the existence of indigenous peoples and of their right to continue being what they are, of their cultures to flourish in harmony with all the rest within the multicultural reality of Mexico. They also discover that those cultures, shared consciously or unconsciously by the majority of Mexicans, may be a timely and pertinent inspiration to face up to the current predicaments and to conceive projects of transformation (Esteva, Marielle and Galicia 58).

I have argued in this chapter that the nationalist celebration of maize is indissociable from a devaluation of maize agriculture as a culturally specific form of biotechnology. In order to qualify as a national symbol, maize had to be abstracted from its culturally specific (yet dynamic and diverse) biotechnological context. In this process, Mexican nationalism undermined not just the material vitality of maize agriculture, but also its public valorization as a culturally specific form of biotechnology. For this reason, I want to develop a critical position about the use of cultural nationalism as a means of cultural decolonization, and I shall do this by acknowledging the ambiguous, open-ended nature of the ongoing neoliberal conjuncture. Historically speaking, it was only after the neoliberal turn and the rise of technoscientific capitalism in the early 1980s that Mexican farmers began to be depicted as something more than a problem to be solved by Western-style modernization. While there is no point in denying that neoliberalism threatens to subject "life itself" to ever deeper exploitation, it seems to me that a more open understanding of technoscience (even within neoliberalism) promises to pluralize the public discussion about maize and national identity by pushing the conceptual boundaries that define what counts as biotechnology and for whose benefit it is defined in this way. As Esteva writes in a 2003 publication *Sin Maíz No Hay País*:

To celebrate diversity in order to adopt a hospitable and pluralistic attitude towards the different, to sustain a respectful dialogue with Nature that prevents its

exhaustion and destruction, to regenerate forms of conviviality and replace the possessive individualism of the homo economicus with solidarious styles of social relationship, to imagine nations as common horizons in which diverse cultures can coexist and interact in harmony, instead of letting themselves get trapped by homogenising and exclusive nationalisms whose contradictions are to be dealt with by force... In all those current challenges to the Mexican society we may learn a lot from the people of maize and their cultures, which can still form the central axes of ours (Esteva, Marielle and Galicia 58).

I am not in fact persuaded that nations can exist unproblematically as “common horizons in which diverse cultures can coexist and interact in harmony.” Yet I see the ongoing debates around biotechnology and national culture as an opportunity to investigate the radical potential of maize as a symbol of nationhood. What I want to argue is that in order to be radical, the defense of maize should not be reduced to an identitarian, humanistic self-affirmation, at least not if our aim is to contest the legacy and the logic of colonialism. Ultimately, the aim of my own engagement with the Mexican defense of maize is to take Mexican biotechnology debates beyond old humanistic disputes over whose sovereign body owns which resources. Situated at the intersection of cultural studies and post-Marxism, “cultural politics” refers us to the notion that all social practices are discursive, or textually mediated, material phenomena which can be traced back to political decisions, whether the latter appear to be explicit or implicit, conscious or unconscious. An anti-essentialist elaboration of the cultural politics of biotechnology entails that the production of subjectivity and social organization via notions of cultural identity is, in every case, contingent and alterable. “Technoscientific” mutations in Mexican cultural politics refer to the possibility of raising radical questions regarding the ethics and politics of nationalism in the context of neoliberal globalization. This might sound trivial if it did not imply that both Mexican nationalism and “peasant essentialism” in activist discourse have as little ontological ground as neoliberalism itself. What I want to explore in the following chapters is to what extent and in what way an acknowledgment of the radical contingency of all identities can bring about a more ethical horizon for the defense of agriculture as a way of life that has always been technological.

Chapter II

A Theoretical Approach to Mexican Nationalism

Introduction: What is a Nation?

A nation is a soul, a spiritual principle.
Two things, which in truth are but one,
constitute this soul or spiritual principle.
One lies in the past, one in the present.
One is the possession in common of a rich legacy of memories;
the other is present-day consent, the desire to live together,
the will to perpetuate the value of the heritage
that one has received in an undivided form.

(Renan 19)

In a lecture from 1882, French historian Ernest Renan warns us against the dangers of an intellectual mistake: that of confusing nations with “ethnographic” or linguistic groups. France, England, and Italy are “individual historical units” not because their respective citizens can be classified as a homogeneous “race,” nor because they speak the same language. Historically, he says, nations owe their existence to multiple factors external to the particular human groups that become their members. In Europe, they included the conquest of parts of the Roman Empire by Germanic tribes, the introduction by the latter of dynasties and military aristocracies, their adoption of the Latin language and Christianity, and the mixing of Germanic and Latin populations. There is therefore no pure “race,” and to subordinate politics to ethnographic analysis is “to surrender it to a chimera” (14). Yet, in asking what the nation is, Renan is not merely trying to correct the “ethnographic” confusion between nations and “races” with a more accurate historical understanding. Rather, he is concerned with defining the nation as a “spiritual principle,” and so he moves from a historical argument to an argument about the desirability of a nation grounded in a liberal conception of politics.

Renan's critique of the racial and linguistic definitions of nationhood turns out to be less about their historical inadequacy than about the importance of certain abstract principles. In particular, he invokes the age of Enlightenment, when Man returned, "after centuries of abasement, (...), to [a sense of] respect for himself" (13). The French Revolution brought into existence a "national principle" that was seen as just and legitimate, beyond the divine right of kings. What the Enlightenment and the French Revolution therefore produced was not just another story of violent conquest, dynasties and the mixing of populations. They also inaugurated a humanist principle which requires us to "forget" how nations actually come into being. Renan explains:

Forgetting, I would even go so far as to say historical error, is a crucial factor in the creation of a nation, which is why progress in historical studies often constitutes a danger for [the principle of] nationality. Indeed, historical enquiry brings to light deeds of violence which took place at the origin of all political formations, even of those whose consequences have been altogether beneficial (11).

In order to survive over time, the nation must forget its own history. This is not necessarily wrong, according to Renan, since forgetting may have some "beneficial consequences." The existence of nations at the time of his writing was "a good thing, a necessity even," for they were "the guarantee of liberty, which would be lost if the world had only one law and only one master" (20). In retrospective, it does not seem accidental that a Frenchman issues warnings against "ethnographic" nationalisms. As the sovereign right of Man, liberty came to protagonize the historical period dubbed by Eric Hobsbawm "the Age of Empire". Writing in this context, Renan explains why "it is good for everyone to know how to forget":

Be on your guard, for this ethnographic politics is in no way a stable thing and, if today you use it against others, tomorrow you may see it turned against yourselves. Can you be sure that the Germans, who have raised the banner of ethnography so high, will not see the Slavs in their turn analyse the names of villages in Saxony and Lusatia, search for any traces of the Wiltzes or of the Obotrites, and demand recompense for the massacres and the wholesale enslavements that the Ottoss inflicted upon their ancestors? It is good for everyone to know how to forget (16).

After Freud, two World Wars and a whole “Age of Extremes,” can we be so sure that it is good for everyone to know how to forget? It rather seems that the precarious foundations of Renan's liberal faith have been fully exposed since the time of his writing. Political philosopher Wendy Brown explains that liberalism presumes sovereign individuals and states, both as units of analysis and as sites of agency endowed with fixed boundaries, clearly identifiable interests and power conceived as generated and directed from within the entity itself (*Politics out of History* 10). Equally essential to liberalism is the ethnocentric belief in historical progress, with its investment in individual rights as the main guarantors of freedom and equality. Regarding the connection between these liberal assumptions and modern democracy, Chantal Mouffe argues that it is merely a contingent articulation of two different traditions that are in fact mutually incompatible (*Democratic Paradox* 2).³⁶ There is no logical relation between liberal individualism and popular democracy, so liberal-democratic traditions such as the separation between church and state, between the public and the private, and the rule of law are unstable outcomes of a political struggle between liberals, who demand freedom, and democrats, who demand equality. After the collapse of the Soviet Union, capitalism itself rendered liberal democracy incapable of delivering on its promise of balancing out freedom and equality. Both of these seem impossible in a conjuncture, such as neoliberal globalization, in which neither states nor individuals control their own affairs, and in which legal codes systematically fail to revert social inequalities.³⁷ The historical source of these inequalities seems today clearer than ever, as does as the imperial logic of Renan's “spiritual principle.” No longer simply “man” but “white capitalist patriarchy,” the liberal faith is now constantly reminded of its own “ethnographic” and linguistic particularity.

³⁶ Mouffe refers to Claude Lefort's theory of modern democracy as a new symbolic framework in which power is an “empty place” rather than a positive transcendental authority. According to Lefort, the democratic revolutions of the late eighteenth century derived in “the modern impossibility of providing a final guarantee, a definite legitimation” for power (*Democratic Paradox* 2).

³⁷ According to Mouffe, neoliberal calls for “modernization” and “flexibility” merely attempt to conceal the elite's refusal to consider democratic demands, in particular through their rhetorical insistence on “consensus at the centre” (*Democratic Paradox* 6). She writes: “In this increasingly ‘one-dimensional’ world, in which any possibility of transformation of the relations of power has been erased, it is not surprising that right-wing populist parties are making significant inroads in several countries. In many cases they are the only ones denouncing the ‘consensus at the centre’ and trying to occupy the terrain of contestation deserted by the left” (7).

In *Politics out of History*, Wendy Brown argues that liberal narratives of sovereignty, progress and rights-based freedom continue to live among “us” in the form of “broken narratives” (3-4). To be more precise, liberal democratic citizens of the Western world live “as if” those narratives were true, while they painfully recognize that they are not (10). The situation is particularly challenging for the political Left, with which Brown is concerned in a special way. Drawing on philosophical critiques of modernity and psychoanalysis, Brown diagnoses the Left's reaction to the crisis of liberalism as moralistic and melancholic. These reactions are problematic, she argues, in so far as they disavow the Left's own attachment to the foundational narratives of modernity, thus blocking the possible exploration of any new possibilities for radical politics. Many of Brown's arguments about the Left's current predicament inform my critical approach to Mexican nationalism, especially as the latter emerges and re-shapes itself through the defense of “native maize” against the new transnational actors of capitalism. Yet my aim is not simply to criticize Mexican activists as melancholic or moralistic whenever they exhibit these attitudes. Rather, my aim is to understand to what extent and in what way their defense of maize may lay a claim to an emancipatory force that would be relevant beyond the territorial boundaries of the Mexican state and beyond the cultural melodramas of “Mexican identity.” I take up here some of the difficult questions facing many contemporary struggles against global capitalism. In a similar vein, Brown asks: “When sovereignty is eroded, can the rights rooted in the presupposition of sovereign entities – ranging from subjectivity to statehood – remain intact? (...) What independent, emancipatory force can they continue to claim?” (11). With these questions in mind, I want to propose in this chapter what might be described as a post-liberal, deconstructive approach to Mexican nationalism.

Such a post-liberal approach would have to start with the recognition that the realm of politics “cannot be ordered by will and intention, but is a complex domain of unintended consequences that follow the unpredictable collisions of human, historical, and natural forces” (Brown, *Politics out of History* 27). Rather than advocating pragmatic forgetfulness or a disavowal of history, a post-liberal framework would require us to engage in active historical enquiry. Yet historical enquiry involves more than a mere search for historical data. It also involves an

interrogation of how certain cultural ideas, such as the nation, come to appear (or fail to appear) as facts or cultural givens. A critical approach to contemporary Mexican nationalism, I argue, needs to take into account both the historical specificity of Mexican cultural narratives and a theoretical conjuncture that cannot be claimed exclusively by any particular geographic location, academic discipline or institution. In Homi Bhabha's perspective, for example, the nation lives in the ambivalence between narratives speaking of a national "origin" and a social temporality that upsets the "totalization" (or fixation) of such histories (19). To say, with Bhabha, that the nation is constructed through textual strategies, metaphorical displacements, sub-texts and figurative stratagems, is not to say that nationalism is only a matter of language and rhetoric. The point of promoting a textual understanding of the nation is actually to eschew the traditional dichotomy between language and materiality that lies beneath the tendency to read the nation in restrictive ways, as either "the ideological apparatus of state power" or "the incipient or emergent expression of the 'national-popular' sentiment preserved in a radical memory" (3). While both of these readings might reveal important aspects of the nation and even "assign new meanings and different directions to the process of historical change" (3), they run the risk of fixing, or totalizing, a sign that is "always multi-accentual and Janus-faced" (3). Taking heed of Bhabha's warning, I want to identify some of the ways in which some larger cultural narratives inform the contemporary Mexican response to the threats of transnational capitalism.

The theoretical history of Claudio Lomnitz will allow me to problematize the liberal assumptions of Mexican nationalism by theorizing this particular nationalism as a heterogeneous framework for the negotiation of specific social hierarchies. The work of historian Edmundo O'Gorman, in turn, will let me read such a theoretical history of Mexican nationalism in terms of the constitution of political subjectivity within what O'Gorman calls "the ontological legacy of the colony." The latter's psychoanalytic critique of Mexican nationalism paves the way for a post-Marxist interpretation of contemporary Mexican nationalism. Informed by Derridean deconstruction and Lacanian psychoanalysis,³⁸ post-Marxism

³⁸ As Bowman and Torfing point out, the post-Marxist political theory of Laclau and Mouffe is more indebted to literary theory, continental philosophy, deconstruction and semiotics than to political theory "proper" (Bowman 10; Torfing 3). Post-Marxism uses deconstructive, literary, psychoanalytic

understands the social as a signifying system penetrated by a "constitutive lack." On this basis, Ernesto Laclau calls us to go beyond description of historical facts into "a new enquiry concerning the social" in which to understand social reality "(...) is not to understand what society *is*, but what *prevents it from being*" (Laclau, *New Reflections* 44). The nation emerges from this perspective as an attempt to overcome what prevents it from being, namely, its own temporality. Nationalism is thus always already constrained by the paradox of the social, namely, that it "tends toward the constitution of [an] impossible object" (44). What are the implications of recognizing this impossibility of the nation for contemporary emancipatory struggles that resort to nationalistic language in response to capitalist agents such as biotechnology? Taking into account the political debates of Latin American cultural critics, I will end this chapter with a reflection on the current importance of a deconstructive engagement with maize nationalism as a critical antidote to the moralism and melancholia that seem to invariably afflict those who, in the midst of political urgency, begin to resist theory.

Nationalism and the Politics of Community Production

Nationality is neither an accomplished fact nor an established essence; it is, rather, the moving horizon that actors point to when they need to appeal to the connections between people and the polity, when they discuss rights and obligations, or try to justify or reject modernization and social change. National affiliation is therefore used in order to hammer out a consensual, or hegemonic, arrangement; it involves cajoling and purchasing, exhibits of strength and coercion. Depth and silence are the Siamese twins of national state formation (Lomnitz, *Deep Mexico* xv).

In *Deep Mexico, Silent Mexico*, historian Claudio Lomnitz undertakes a theoretical history of the Mexican national space. Like Renan, Lomnitz begins by pointing out that nationality is historically indissociable from the formation of a state, that is, from processes of expansion, conquest or decolonization that always involve subjecting a diversity of peoples to a single space in a process that is

and semiotic concepts and techniques in the analysis of the political, which found its first thoroughgoing articulation in *Hegemony and Socialist Strategy* (1985).

anything but harmonious or stable (xiv). He delves into the historical specificities of the national space in Spanish America, the context in which Mexico first appeared as a nation-state. From this vantage point, Lomnitz raises three objections against Benedict Anderson's theory of nationalism, which is "to such degree general and abstract that it fails to clarify the politics of community production" (30). In *Imagined Communities*, Benedict Anderson argues that the nation was first "imagined" by readers of newspapers and novels and was then actualized through individual self-sacrifice in wars between nation-states. Crucially, Anderson asserts that the nation was imagined as an abstract community defined by horizontal relations of comradery. Echoing Renan's assertion of the nation as a "spiritual principle," Anderson's argument seems to "forget" the contingent political workings of nation-building in specific historical contexts. Against this forgetfulness, Lomnitz raises three objections: first, Anderson's definition of the nation does not correspond to the historical uses of the term *nación* in Spanish America; second, his emphasis on horizontal comradery overlooks the fact that nationalism articulates discourses of fraternity always within hierarchical relationships; third, Anderson makes personal sacrifice appear as a consequence of the literary imagination of a national community when it actually results from the subject's differentiated position in a web of relations, some of which are characterized by coercion, while others have a moral appeal that is not directly nationalistic (11). In short, according to Lomnitz, national consciousness in Spanish America did not emerge from "print capitalism" but rather from the religious narratives of Spanish expansionism.

In the Spanish American colonies, the term *nación* was used to pit the Spaniards against other social categories, but also to signify blood or caste, as well as a panimperial religious identity (Lomnitz, *Deep Mexico* 8). Both the Catholic *Reconquista* (the expulsion of Arab kingdoms that ruled the Iberian Peninsula for eight centuries) and the expansion of the Spanish Crown into Africa and America were narrated in the framework of the broader teleology of Christendom. Religion and blood related to specific legal categories that gave access to limited forms of sovereignty, authorizing Spaniards' moral and religious tutelage over Indians, blacks, mulattos, and mestizos, and differentiating them from other European foreigners (*extranjeros*). Tutelage over non-Spaniards included "enjoying their tribute" as well as giving them "the good treatment that is

mandated in our laws" (16-17), that is, teaching them the Christian religion and the Spanish language – not merely a convenient and profane vernacular, but a language that was closer to God (18). The category of the "Creole" implied a limited access to particular privileges: "Spanish blood" incorporated Creoles into the nation, but their American birthplace excluded them from higher political office, which was a privilege of metropolitan Spaniards, or *peninsulares* (9). These conditions gave rise, according to Lomnitz, to the opposite of Anderson's theory, which posits secularization, and abstract brotherhood, at the root of nationalism (18).

Lomnitz stresses that the political independence of Mexico at the beginning of the 19th century was caused less by nationalist feelings of liberal comradeship and more by the objective decline of the Spanish empire. Like Spain, and unlike England or France, the early Mexican nation lacked a national bourgeoisie. Instead, it had regional elites for whom the nation as a unified, sovereign territory was never a given fact. Their mutual allegiance was, above of all, a religious one. The two priests who led the popular insurrection, Miguel Hidalgo and José María Morelos, claimed to be fighting for the sake of religion. They accused Spain of betraying its Christian mission and of using Christianity as a pretext for the enslavement and exploitation of the American poor. After Morelos and Hidalgo were executed, it was a loyalist army officer, Agustín de Iturbide, who achieved independence with the support of the Creole elites, and the latter made sure that Spaniards would be guaranteed full inclusion in the new republic. Given the objective decline of Spain in global politics, however, Mexican nationalism evolved into a mechanism for modernization under the influence of an emerging British-American global hegemony.

In the 19th century, masonry played a decisive role in shaping the discourse and institutions of the new Mexican republic. Lomnitz explains that the Scottish rite, influenced by Great Britain, and the rite of York, influenced by the United States, functioned as "political parties" in the early days of Mexican politics (31). Most of Mexico's regional elites belonged to the Scottish rite, which explains the fact that Britain was the first imperial power to recognize Mexico as an independent nation. Popular radicals came to be associated with the rite of York, which instigated anti-Spanish sentiment and supported a movement to expel the Spaniards from Mexico (29). Liberal ideologues such as Carlos María Bustamante

blamed Spanish colonialism for Mexican “backwardness,” and associated “progress” with concepts such as national sovereignty and freedom. Eventually, Mexican nationalism was hegemonized by three liberal principles: the defense against foreigners, the defense of open political parties instead of secret societies, and the economic inclusion of popular sectors through the abolition of religious tribute, land redistribution and technological modernization. Yet even as Mexican nationalism took a more liberal shape, it did not “ideologically form a single fraternal community, because it systematically distinguish[ed] full citizens from part citizens or strong citizens from weak ones” (12). The liberal identification between nationality and modernization was steadily fortified towards the end of the 19th century – and more so in the aftermath of the 1910-20 Mexican Revolution, when the postrevolutionary national state actively intervened to produce a secular modern citizenry out of Mexico's mostly rural population. This was to be achieved through rural education and economic redistribution, through “land and books” that would transform, according to revolutionary president Lázaro Cárdenas, “Indians” into “Mexicans” (114). Peasants and indigenous peoples were therefore not considered full citizens in Mexico. They had to be modernized, that is, divested from their cultural particularity, if they were to become Mexicans.

An abstract definition of the nation is therefore less useful than a situated investigation of specific deployments of nationalism at particular times. Thus, in both the colonial and the modern setting, interpretations of nationhood in Mexico depended less on the subjective imagination of individual readers and more on the mobilization of culturally specific ideas in hierarchical networks of power relations. While Lomnitz emphasizes negotiation and consensus through specific deployments of nationalism, this does not prevent him from stressing that nationalism always involves demonstrations of force and coercion in a context determined by factors beyond will and intention. In this vein, Lomnitz writes:

[A]s such, the power of nationalism lies not so much in its hold of the souls of individuals (though this is not insignificant) as in the fact that it provides interactive frames in which the relationship between state institutions and various and diverse social relationships (family relationships, the organization of work, the definition of forms of property, and the regulation of public space) can be negotiated (14).

Assessing the quality and the degree of negotiations in specific conjunctures is a matter, for Lomnitz, of historical description and sociological analysis. Since I am more interested in understanding the role of larger cultural narratives in contemporary instances of nationalist negotiation, I now want to turn to the question of what remained of the Hispanic Catholic legacy when Mexican nationalism took a turn toward modernization. Edmundo O'Gorman's interpretation of 19th century Mexican nationalism will provide further insights that will allow us to think about this question as a textual (and not just "factual") affair.

The Nation as Subject, or the Ontological Legacy of Colonialism

It always happens that a belief is not abandoned as long as there is found a possibility to save it. Thus, the lover or the believer will not admit the unfaithfulness of the loved one or the failure of divine intervention, against the most forceful empirical evidence, as long as they find a way of objecting or neutralizing such evidence. Such was the case of the liberals when they noticed that their hopes were not actualized (O'Gorman 50).

In his essay about the "trauma" of Mexican history, Edmundo O'Gorman gives an account of Mexican nationalism that does not involve a detailed discussion of empirical facts but rather offers a provocative interpretation of Mexico's becoming as an identity process (12). O'Gorman frames this process in terms of "the great American dichotomy," which refers to cultural differences between Anglo-America and Ibero-America. According to O'Gorman, "[f]or Ibero-America, the model was an entelechy; for Anglo-America, it was utopia" (20). Whereas the English program for civilization in the New World was oriented toward the exploitation and instrumentalization of nature for the creation of material wealth, the Spanish program aimed to establish ecumenical unity in accordance with the eternal truth of Catholicism. The appropriation of the name "America" by Anglo-America already indicates a project that privileges originality and authorship over the reproduction of an already constituted cultural project. This is not to say that the Spanish project was not exploitative or that the English project lacked religiosity. Rather, with Spain directing its power to the enforcement of Catholicism and with England religiously pursuing modernity, competition

between the two imperial forces prefigured the (now stereotypical) dichotomy between a future-oriented, technophilic, individualist, rationalist, disciplined “America,” and a “Latin” America that is systematically described in exactly the opposite terms. In O’Gorman’s view, the Anglo-American and Ibero-American models were actually irreconcilable instantiations of the European civilizing mission whose antagonism left a deep mark in the self-definition of Spanish American nations such as Mexico.

In his historico-philosophical analysis of the Mexican appropriation of British-American liberal ideas, O’Gorman pays attention to the subjective dimension of nationalist politics. Thus, while Lomnitz describes the colonial predicament of Creoles in terms of their access to limited forms of sovereignty, in O’Gorman’s narrative the Creole is figured as a split soul, fiercely loyal to his Catholic roots but in need of self-affirmation against metropolitan Spaniards. Through a deliberately polemical use of psychological language, O’Gorman offers a provocative critique of Mexican nationalism as based on a disavowed attachment to the authoritarian “ontological legacy of the colony.”³⁹ Creole resentment against political exclusion was gradually transformed into a glorification of the American fatherland, O’Gorman says, and this glorification took the shape of exaggerated tropes uncritically borrowed from Iberian culture – the beauty and abnegation of woman, the sexual potency of man, his bold courage in the face of danger and effrontery, and the aesthetic exaltation of American nature and land (O’Gorman 23).⁴⁰ While the Creole soul managed to achieve “ontological equilibrium” in this way, this would only last until political independence was actually gained. O’Gorman agrees with Lomnitz that the latter was achieved not so much as a result of Creole unoriginal nationalism, but mainly because metropolitan Spain definitively lost ground to competing colonial powers.

Once “freed” from its colonial status, the Mexican nation had to measure itself against “the other America,” against whose influence it had been carefully protected during the colonial times. In the Catholic culture of the colonial setting,

³⁹ In this regard, O’Gorman’s essay resonates strongly with more contemporary critiques, such as that of Wendy Brown’s, of the Left’s reaction to the crisis of Western political thought.

⁴⁰ In order to emphasize the Iberian “format” of emergent Creole patriotism, O’Gorman points to the close kinship between Catholic saints and creole heroes, between the colonial preacher’s sermon and speeches at local political campaigns, between the dedication of Creole books to colonial officers and the (ongoing) servile gratitude expressed to local politicians for what it was merely their duty to do (23). In short, the religious anti-democratic features of Iberian society were fully incorporated into Creole nationalism.

modernity had meant sin, an evil deviation from the true faith and from authentic civilization. Cultural isolation, argues O'Gorman, had prevented the colonial soul from ever understanding and assimilating the "utopian" meaning of modernity. When political independence came about, it was primarily experienced as a *traumatic* exposure to the reality of the other America. About the latter, O'Gorman writes: "[t]here it was in all its threatening reality as a gigantic and inescapable *factum* which, for better or worse, had to be counted on, and in relation to which it was necessary to affirm one's own being" (28). Initially an object of fascination, the United States became the lasting point of reference for political disputes within Mexico, with liberals enthusiastically promoting imitation of North American institutions and conservatives defending the social and cultural norms inherited from colonial times. O'Gorman regards such disputes as the "axis-event of national becoming," and his philosophical dissection of them reaches the perplexing conclusion that both sides ultimately wanted the same thing, namely, to enjoy modern wealth and prosperity without ever having to renounce Hispanic Catholic culture.

In O'Gorman's analysis, conservatives were proud of their Hispanic heritage quite simply because, as Catholic providentialism essentially taught, it was the only true and authentic way of being. By definition, Catholic civilization "transcends the contingency of historical change" and its truth is guaranteed "by nothing less than divine will" (43); therefore, it was natural that Mexican conservatives wanted to preserve it. Liberals fundamentally agreed with conservatives on the desirability of preserving their nation's moral superiority, and regarded belief in the latter as perfectly compatible with the project of economic modernization. Yet they criticized the social hierarchies of the colonial setting: despotism, slavery, ignorance, and "the long inventory of injuries contained in the proclamations of the national heroes of Independence" (43). They hoped to redress such injuries by asserting the modern principle of "natural equality." Their fatal assumption, however, was that equality would result from the adoption of modern codes, without anyone having to renounce their Hispanic heritage, which included a hierarchical organization of society. What liberal nationalists could not see, O'Gorman argues, was the cultural specificity of North American wealth and prosperity. He writes:

We have two internally contradictory theses which, in order to save their paralogism, blind themselves to the evidence of historical reality: the conservative thesis has to negate that the prosperity of North America is consubstantial with its historical way of being; the liberal thesis, on its part, has to negate that the difference separating North America from the new [Mexican] nation pertains to the historical becoming of each nation, that is, to their respective systems of beliefs, ideas and values, and not merely to the degree or stage of a same homogeneous development (40).

The 19th century should have been “a moment of awakening,” of fully assuming that in order to enjoy the economic and political benefits of modernity, it was necessary for Ibero-American peoples to adopt “the system of beliefs, ideas and values” of modernity (49). Mexican liberalism's disavowed attachment to “the ontological legacy of the colony,” however, ultimately led to the failure of the early liberal program, that is, the failure of the copied liberal institutions to bring about the desired social and economic change. Since the conservatives and the liberals hated each other much more than they actually disagreed, the question of national identity in Mexico became fixated on a point of incompatibility between the past and the future. This paralyzing “clash of two prides” defined the paradox of Mexican becoming as “let's be like the Yankees, but let's not be them” (48). The result was an ambivalent situation in which “without ceasing to be modern,” Mexico has “never fully been so.” This state of events has forced Mexicans to arbitrate “between peculiar and distorted modules of the institutions they only half-adopted, motivated by the mirage of universal natural equality” (48). Having diagnosed the problem in these terms, O'Gorman then turns to the examination of the response on the part of Mexican liberals to their own failure to bring about modernity.

In a way that is reminiscent of Wendy Brown's political critique of melancholia and moralism among contemporary Left intellectuals, O'Gorman writes about the subsequent developments of Mexican nationalism in terms of a sentimental affair in which the liberal subject refused to accept the reality of its unrequited love. Rather than acknowledging this fact, the liberals quickly placed the blame on their Anglo-American neighbor: the benevolent and humanitarian Dr. Jekyll of not so long ago now turned into the monstrous Mr. Hyde, who had

betrayed his high mission so as to redeem all the oppressed peoples (51). In O'Gorman's view, conspiratorial thinking among Mexican nationalists resulted from their failure to understand what social progress was really about, namely, a profound transformation of ideas and practical values. Besides disavowing the fact that American interventionism was often aided by its very detractors – that is, by Mexican liberals – conspiratorial thinking refused to acknowledge that there were no grounds for expecting that social justice, sovereignty and freedom would ensue automatically after the adoption of a political code that was similar to that of the United States (56).

In an analogous critique of the contemporary American Left, Brown has argued that the latter's problem "goes beyond superficiality of political analysis or compensatory gestures in the face of felt impotence" (*Politics Out of History* 36). Moralistic condemnation of the state for not funding politically radical art, or for not treating as a priority the lives of gay men, prostitutes and drug addicts "implicitly figures the state (and other mainstream institutions) as if it did not have specific political and economic investments (...) but was, rather, a momentarily misguided parent who forgot its promise to treat all her children in the same way" (36). In Brown's view, such a naive figuration of the state's institutions rejects "politics as a domain of power and history" and thereby leads to "a troubled and confused political stance" (36). Similarly, O'Gorman's point in criticizing Mexican liberals here is not to deny North American exploitative interventionism in Latin America. His point is rather that whoever finds him or herself surprised at such a fact must understand that, from a historical perspective, ethics has not generally characterized the behavior of imperial powers. Significantly, he positions his use of psychological language in an antagonistic relation to "many contemporary historians who feel disdain for any explanation that does not subject itself to what they call "socio-economic factors," especially if such an explanation refers instead to "the sphere of feelings and the personal singularities of men" (64). Against such an alienating conceptualisation, O'Gorman argues that overlooking the role of emotions makes it impossible to understand what Mexican liberals actually did when "progress" failed to arrive. No socio-economic factor can explain, O'Gorman observes, a renewal of self-glorification in the face of social, economic and political disaster, which is exactly what the second generation of Mexican liberals did. After failing to achieve the wealth and freedom of the Yankees, they devoted

themselves to the nationalist assertion (“as a truth nothing less than apodictic”) of the spiritual superiority of Native American peoples (superiority, of course, over the Yankees). A new set of identitarian theses allowed them to claim that Mexico's initial infatuation with North America had been just a necessary “stage” in the spiritual unfolding of Ibero-American cultures. It had been necessary so that these cultures came to realize that the mistake involved trying to be like anyone else. Yet Mexicans had their own original identity, based on a unique mixture of indigenous and Spanish blood. This awarded them with a unique historical mission, namely, a mission to counteract the “pragmatic spirit” of Anglo-America. For O’Gorman, these ideas were nothing but the most pathetic delusion and a resentful psychological response to the repeated failure to bring about social change. Most importantly, they merely reinforced the ontological legacy of Spanish colonialism. He writes:

.. from the wretched condition of a beggar who sought to save himself by taking refuge in the generosity of a wealthy neighbor, Ibero-America suddenly discovers that its destiny is to occupy the exalted throne reserved to the redeemer of history. What else could it do, if the domination of the natural world, so forcefully achieved by the Anglo-Saxon peoples, inherently lacked the spirit of a universal justice, a spirit that could only be provided by the consubstantial idealism of Ibero-American peoples? (70)⁴¹

O’Gorman's narrative expands the field of reflection around the differences between Mexican nationalism and the historical formations that Benedict Anderson takes as a model in theory of nationalisms. Even in its modern/izing vein, Mexican nationalism exhibited a deeply problematic attachment to the Spanish civilizational model which as Lomnitz is always careful to emphasize, entailed complex social and political hierarchies. In O’Gorman's opinion, the three decades of Porfirio Díaz's rule of Mexico (1876-1911) were a great opportunity to overcome, once and for all, the “ontological legacy of the colony.” Porfirio Díaz, a liberal soldier of indigenous origins, demonstrated that he had the political talent to break for the first time the vicious circle of disputes between liberals and conservatives. His

⁴¹ Cultural essentialism grew into a current of continental proportions, and is memorably recorded in the rather striking motto of Mexico's National University, which reads: *Por mi raza hablará el espíritu* [“For my race the spirit will speak”].

thirty-year government resulted in the most stable and economically progressive period in the history of pre-revolutionary Mexico. The only problem was that Díaz was a ruthless dictator, and so O'Gorman admits that the Mexican Revolution *had* to come about. It would have been great, he judges, if the Revolution had been faithful to its own “historical necessity”: that of correcting the authoritarianism of the modernizing regime by introducing the “utopian” aspect of modernity, namely, democracy. Instead, revolutionary elites set out to destroy the existing liberal institutions and installed a revolutionary version of the “ontological legacy of the colony.” Four decades into the 80-year rule of the “Party of the Institutionalized Revolution,” O'Gorman lamented:

... with the reiteration ad nauseam of the inextinguishability of the revolutionary movement as such, the latter is transfigured into a metaphysical entity (...) which identifies itself, not only with the interests of the nation, but with the nation itself. The [Institutionalized] Revolution [now claims] besides infallibility in its leadership of the nation, immortality (...). A history without adventure, frozen and condemned to entrapment in the circle of its own becoming, without more destiny than that of airing a bit its constitutive conflict, without hope of overcoming it. Such is the crossroads of Eris, the crossroads of discord in which Mexican historical becoming got itself into and which – since its origins – had absolutely no *raison d'être* (95).

It might seem that O'Gorman does not interrogate modernity as such, its desirability, its identification with universal freedom, progress, sovereignty and so on. In my interpretation, however, O'Gorman's argument is complex and consistent with his historical mindset. First, rather than embracing “modernity” as a whole, O'Gorman highlights the “utopian” project of modernity, which is a democratic ethos and not merely, as the liberals thought, a legalistic means to wealth and prosperity. Second, rather than embracing modernity as a universal model, O'Gorman insists on the cultural specificity of its two fundamental aspects, namely, an exploitative economic aspect and a “utopian” aspect which is the one that he regards as incompatible with the social hierarchies and the authoritarianism inherited from Spanish colonialism. Third, rather than advising all Mexicans to stoop moaning and suddenly “become Yankees,” O'Gorman calls for Mexican nationalists (among whom he actually found himself) to take up a

historico-political responsibility: that of freeing themselves from a cultural essentialism which so far has done nothing for Mexico but perpetuate the authoritarian culture that Spanish colonialism left behind. Is it possible to emancipate from this legacy? If so, what would it take and what would be the consequences? O'Gorman's text suggests that "freeing" oneself from this legacy entails a labour of self-analysis and an acknowledgment of disavowed attachments, which sounds like nothing less than a psychoanalytic investigation of nationalism as a subjective experience. Such an approach to nationalism had the aim of challenging the economicistic approaches that were dominant in Mexico in the 1970s. At this time, Mexican society was beginning to realize the high costs of authoritarianism and was thus beginning to question the need for an "institutionalized revolution." What can we learn today from this history, and particularly in the context of the defense of maize? In the following section I will address this question from a post-Marxist perspective, which suggests that recognizing a constitutive failure of identity as such makes it possible today to pursue the "utopian" dimension of modernity in a more critical way.

Post-Marxism and the Ontological Legacy of Modernity

What is specific and valuable about modern liberal democracy is that, when properly understood, it creates a space in which (...) power relations are always being put into question and no victory can be final (Mouffe, *Democratic Paradox* 15).

What I just tried to foreground from O’Gorman’s text is his injunction to respond, to acknowledge a responsibility, for our historicity. Whereas O’Gorman associates Mexican historicity with the religious and authoritarian worldview of Spanish colonialism, post-Marxism provides a way to analyze the "modern" filiations of the Mexican defense of national identity. This is important not just because such a defense has borrowed tropes from Western emancipatory narratives in a more explicit way than it has invoked Catholicism. It is important, I argue, because cultural essentialism is not merely a Hispanic phenomenon but actually pertains to the core of Western thought in general, including the modern emancipatory narratives that O’Gorman seems to attribute, perhaps too quickly and vaguely, to the "utopian" project of Anglo modernity. In Ernesto Laclau's post-Marxist vocabulary, historical responsibility in both Anglo and Hispanic settings would entail an acknowledgment of our fundamental "lack" of a "cultural essence."

According to Ernesto Laclau, Post-Marxism retains both the Marxist recognition of the social transformations entailed by capitalism and the Marxist orientation towards the construction of “an alternative project that is *based on* the ground created by those transformations, not on *opposition* to them” (*New Reflections* 55-56). Yet, instead of analyzing “contradictions” in the capitalist "system," post-Marxism situates “the subject's emergence in contemporary societies” in “the marks that contingency has inscribed on the apparently objective structures of the societies we live in” (61).⁴² Informed by poststructuralist philosophy and Lacanian psychoanalysis, post-Marxism understands the social (subject) as a signifying system constituted by dislocation, which means “that the

⁴² As Paul Bowman explains, the “post-“ of post-Marxism merely signals the abandonment of Marxism’s essentialist axioms (Bowman 12). Post-Marxism rejects two central assumptions in Marxist theory: first, that capitalism is a system governed by an internal logic, and second, that its transformation can only result from the development of such an internal logic (Laclau, *New Reflections* 52).

real – including physical space – is in the ultimate instance temporal” (42). The temporality of being poses a threat in response to which the subject emerges through (political) acts of spatialization. Such acts, however, can never be fully achieved because dislocation is "spatially unrepresentable" (42). If dislocation were a contradiction, it would call for a logical resolution within a rational framework, yet according to post-Marxism dislocation actually amounts to letting “an element of radical undecidability into the structure of any objectivity” (21). In this sense Laclau asserts that we will only be able to undertake a “realistic analysis of socio-political processes” when we abandon “the objectivist prejudice that social forces are something” and undertake instead “an examination of what they do not manage to be” (*New Reflections* 38). What then can the post-Marxist approach contribute to the study of nationalism?

According to Laclau, “any frustration or unsatisfied demand will be compensated for or offset by the myth of an achieved fullness” (*New Reflections* 63). The "myth of an achieved fullness" would operate, like all myths in Laclau's conception, as "a principle of reading of a given situation, whose terms are external to what is representable in the objective spatiality constituted by the given structure" (61). In other words, myth arises from and in response to the "structural dislocation" of any given situation or structure. In this sense, the work of myth coincides with the work of subjectivity, which must be understood, within a psychoanalytic perspective, as a precarious response to a lack of "objective" identity. Both myth and subjectivity would attempt “to suture that dislocated space through the constitution of a new space of representation” (61). Thus, instead of being seen as a mere ideological instrument of a ruling class or as a positive or "objective" expression of cultural difference (Torfinn 192), nationalism can be understood as an always already failed subjective attempt to overcome constitutive dislocation through "the myth of an achieved fullness."

Like every "myth of achieved fullness," a national(ist) myth would have both a literal content – made up of concrete demands – and a metaphorical aspect which would stem "from the fact that the concrete literal content of myth represents something different from itself: the very principle of a fully achieved literality,"⁴³ that

⁴³ Even the objectivity of objective language is itself a construction relying on rhetorical, textual, poetic, and otherwise literary techniques; or, as Laclau say, “all discourse of fixation becomes metaphorical: literality is, in actual fact, the first of all metaphors” (*New Reflections* 111).

is, “a fullness that cannot be granted by the reality of the present” (63). In the case of Mexican nationalism, particular social demands such as the protection of native Mexican maize would “constitute a certain spatial model – an ideal model in this sense: the mythical space of a possible social order” (Laclau, *New Reflections* 64). The literal content of the model would be composed by the measures required to satisfy the demands, such as banning transgenic imports from the U.S. Yet the literal content would limit the possibilities of expansion of the mythical space. By contrast, the latter's metaphorical potency would be activated by invoking maize as fundamental for national identity. This rhetoric would be able to accommodate other concrete demands, from a better education based on local needs and local knowledges to the promotion of Mexican artisanal foods and self-government rights for indigenous peoples. In Laclau's words, the mythical order invoked by the first demand “only needs other dislocations and demands to be added to the fullness that the mythical space must represent for the metaphorical moment to become autonomous from the literality of the original dislocation, and for the mythical space to be transformed into an imaginary horizon” (64). Myth then becomes a “social imaginary,” a situation in which metaphor dominates over literal content, manages to structure “a field of intelligibility” and becomes the “condition of possibility for the emergence of any object” (64). Even in the ideal scenario for activists who assert the need of a national project around maize, such a national project would still be a precarious and paradoxical attempt to “suture” a lack that cannot be eliminated since it is, in the first place, the condition of possibility of the national project itself. Where, then, would the latter's emancipatory potential lie?

Laclau's review of Western emancipatory narratives suggests that a full realization of the implications of constitutive dislocation only became evident in the aftermath of 20th century totalitarianisms. Classical antiquity, he says, had reached its limits in a cyclical reduction of time to space, whereas medieval thought domesticated time by turning it into a single, final struggle with the forces of evil. Modern rationalism recycled this Christian eschatology by turning it into a rational, teleological process, that is, into “history” (*New Reflections* 72). Liberalism and Marxism attempted to take the place of Christianity by claiming to bridge the gap between particular representations and universal knowledge (“true” or “free society”). This radical attempt, however, turned out to be incompatible with the other essential requirements of emancipation, such as the end of violence and

exclusion. Within a rationalist framework, any lasting political victory against any particular injustice tends to assume “the form of a mere objective presence” by concealing its own contingency, which is to say the traces of the exclusion on which it is based (*Emancipation(s)* 34). Yet an unavoidable consequence of dislocation (which the post-Marxists call “antagonism”) is that destroying the hierarchies on which particular exclusions are based will “always require the construction of other exclusions for collective identities to be able to emerge” (33). Post-Marxism therefore departs from the modern thinking of emancipation in so far as the latter assumes that “a free society is one from which power has been totally eliminated” (33). As Laclau and Mouffe summarize:

Our thesis is that the constitution of a social identity is an act of power and that identity as such *is* power. (...) the constitutive nature of antagonism entails asserting the contingent nature of all objectivity and this, in turn, means that any objectivity is a threatened objectivity. If, in spite of this, an objectivity manages to partially affirm itself, it is only by repressing that which threatens it (*New Reflections* 32).

Laclau claims to remain within the legacy modern emancipatory narratives in so far as the latter have opened up the possibility of thinking “dislocation's nature as pure event or temporality” (75). By partly secularizing the medieval model, liberalism and Marxism made the thinking of democracy possible (75). That is, they made possible the recognition of an ontological paradox that all societies have in common, according to which “(...) what constitutes the condition of possibility of a signifying system – its limits – is also what constitutes its condition of impossibility” (*Emancipation(s)* 37).⁴⁴ For Laclau, there is no solution to this paradox generated by the temporality of being. We can negotiate the paradox but never supersede it; “we can play with both sides of the ambiguity and produce results by preventing any of them from prevailing in an exclusive way, but the

⁴⁴ Jacob Torfing explains that antagonism involves a loss of meaning that cannot be symbolized (44) and that is not captured by the Marxist rational framework. In this regard, Laclau explains that “there is nothing in the category of ‘seller of labour power’ to suggest [that] resistance [to exploitation] is a *logical* conclusion” (Laclau, *New Reflections* 9). In order for antagonism to arise, it is necessary for capitalist exploitation to threaten something outside the relations of production, that is, social life as a whole, in which the worker's identity goes beyond his or her relationship with the capitalist. For example, if wages fall or if there are fluctuations in the labour market, the worker's identity as a consumer, as a parent, or as a critical theorist will be threatened.

ambiguity as such cannot be properly *resolved*" (30). In the same vein, fellow post-Marxist Chantal Mouffe argues against treating the paradox of the social as a mere contradiction to be either solved or rejected. In *The Democratic Paradox*, she explains how to embrace the paradox of liberal democracy just as Laclau affirms modern emancipation as a system of logical incompatibilities that can be played against each other in a strategic way (Laclau, *Emancipation(s)* 2).

Mouffe engages with Carl Schmitt's argument that democracy necessarily presupposes a dynamics of inclusion and exclusion. Since democratic rights can only be exercised within particular human groups, democracy as a form of rule is logically incompatible with the liberal emphasis on universal rights and freedoms (*Democratic Paradox* 4). By contrast with Schmitt, Mouffe believes that democracy and liberty can coexist, even if in necessarily imperfect ways.⁴⁵ Imperfection actually constitutes a virtue by impeding "both total closure and total dissemination" (10). As the incompatible principles of democracy and liberalism are played against each other according to specific circumstances, in every case there will always be an alternative to the existing configuration of power. If we cannot think of the alternative, that is merely because "[t]he status quo has become naturalized" (5). For instance, at present democratic politics is mistakenly understood as the search for an inaccessible consensus whereas it should rather be understood as an "agonistic confrontation" between conflicting interpretations of the constitutive values of liberal democracy (that is, of equality and liberty). "Agonistic pluralism," according to Mouffe, is the best way of acknowledging the tension between equality and liberty that the democratic paradox encapsulates.

Post-Marxism suggests to us that not even a whole-hearted investment in the "utopian" project of modernity (in "a truly democratic nation") could have spared, or could ever spare, Mexican nationalists from endless conflicts and logical contradictions. It also suggests that conflicts and contradictions are not an obstacle for democracy but rather part and parcel of it, in so far as they keep open the possibility of challenging hegemonic voices or narratives. Thus, it seems to me that the main point of post-Marxism is not to affirm conflicts and contradictions *per*

⁴⁵ Liberty and equality are incompatible with each other but this is not to say that their relation is an interaction between two ontologically separate principles. Rather than in terms of ontological dualism, Mouffe proposes to understand the democratic paradox in terms of mutual "contamination." She writes, in this regard: "As always in social life, there is a "gestaltic" dimension which is decisive in understanding the perception and behavior of collective subjects" (Mouffe, *Democratic Paradox* 10).

se but rather to strengthen the social's capacity for "agonistic pluralism." The latter is premised on the acknowledgment of radical contingency as the fundamental source and inescapable limit of society. In the following chapters, I attempt to identify some of the ways in which radical contingency arises in the cultural politics of biotechnology in Mexico, preventing the "true nation" from establishing itself as a kind of universal consensus. That is, I attempt to highlight the moments in which radical disagreements around the meaning of social life in Mexico take center stage and make evident the paradoxical constitution of Mexicanness. By invoking post-Marxism as a reference for this way of proceeding, however, I do not want to reduce the Mexican debates on biotechnology to a mere example for political theory. The work of Laclau and Mouffe allows me to theorize Mexican nationalism in a non-essentialist way but it does not provide ready-made answers to the question of what might constitute an effective intervention in the singular situation faced by the Mexican defenders of maize. Such a question seems to require a more radical orientation than political theory seems to offer.

In *Post-Marxism versus Cultural Studies*, Paul Bowman differentiates cultural studies from the post-Marxist "realistic analysis" of sociopolitical processes in terms of how each of them responds to what that they both have in common with the outside world, namely, desire as "constitutive lack." He writes:

Cultural studies and post-Marxism's constitutive but ultimately 'impossible' desire is to intervene, fully. If they could fully intervene (cessation of desire/eradication of lack) they would no longer "need" to be. Their condition of possibility is, in more than one way, also their condition of impossibility (101).

Acknowledging the "metaphysical" character of the founding desire of cultural studies (that is, the desire to intervene "fully"), it is indeed possible, Bowman suggests, to pursue the desire in a critical way. He argues that while cultural studies has interrogated its own institutional place through a rigorous attention to the irreducible singularity of cultural and political phenomena, post-Marxist political analysis has used deconstructive formulae merely to confirm the institutional authority of political theory.⁴⁶ In particular, he calls into question the

⁴⁶ According to Bowman's stark diagnosis, "post-Marxism uses and abuses deconstruction in order to institute itself" (156).

post-Marxist tendency to construe the complexity of singular situations in terms of metadiscursive categories. If anything can be diagnosed as temporal and thereby undecidable, “[s]o what? Or rather, *and* what? *Then* what?” (79). Bowman suggests that cultural studies is better equipped to answer such questions because, unlike post-Marxism, it has deployed deconstruction as an anti-disciplinary orientation rather than as a mere instrument for the analysis of phenomena “out there.” Drawing on John Mowitt’s genealogy of text as an “anti-disciplinary object,” Bowman argues that cultural studies can intervene more effectively than post-Marxism to the extent that cultural studies refuses to be “purely logical, formalising, and analytical” (59). For cultural studies, the task is not only to understand the ontological mechanisms of the political. The task is also to investigate and make explicit “how *this* (each and every “this” of academic intellectual work) might already be ensnared within a complexly reticulated political context, and how it might thereby seek to make a difference to it, within it, and ‘beyond’ it” (82). As opposed to subsuming objects or phenomena in the macropolitical framework of post-Marxist “discourse analysis,” cultural studies can deploy deconstruction in order to problematize the construction of knowledge about objects and phenomena “by drawing attention to its institutional and theoretical frames, and exploring the question of their ethico-political implications” (175).

Even though Bowman’s critique of post-Marxism is rather strong, what he actually advocates is a more fruitful relation between the two paradigms, or modes of thinking. He does not outline (since this would be inconsistent with his argument) any general recipes for achieving that goal, but he does provide a useful starting point when he asks: “...once the topic has been chosen, *how* does the academic work itself intervene?” (200). The only way I can begin to try and answer this question is by situating my own approach to Mexican nationalism in the context of recent debates around the status of the nation as a political category and around the ethical and political responsibilities of academic or intellectual workers dealing specifically with Latin American problematics.

Regional Intellectuals and a Retreat from Theory

...if cultural studies wants to say something significant to Latin American countries (and not only to their scholars), it must once more explore the eroded space of the nation in order to understand a two-century history that cannot be fashionably dismissed and swept away by the thrust of a concept such as globalization (Sarlo 339).

In 2002, Argentinian cultural critic Beatriz Sarlo argued that it was necessary to revise the “globalizing perspective” that had dominated, in her view, Latin American cultural studies since the 1980s (332). While the “cultural populism” of the 1980s found in globalization “an array of opportunities for the exercise of a liberating mass culture” (338), in Sarlo’s view the metamorphosis of Latin American criticism into cultural studies was for the most part merely ideological and detrimental. Before the 1980s, Latin American criticism had sought to address social disappointment at the state’s failure to realize the promises made by 19th century liberal nationalists. The tradition evolved from literary essays on “the national being” towards sociological studies of popular culture in the 1960s and early 1970s. During this period Latin American critics analyzed popular cultures from the standpoint of resistance to authoritarian state apparatuses. Canonical authors of the transatlantic radical tradition, starting with Gramsci, Fanon and Benjamin (but extending to Raymond Williams, Richard Hoggart, Stuart Hall and Pierre Bourdieu) all received attention, translation and publication in Latin America even prior to their reception in the United States (Sarlo 335). Despite the lack of disciplinary self-consciousness such as there is in Anglo-Saxon settings, Latin American cultural criticism was then unified by a sort of critical arrogance, “as though political issues were closely tied to our analysis and our concepts” (335). In the 1980s, however, this “utopian desire” to “cross the boundary separating academe from the social world, and to bridge the gap between the intellectual and the political fields” (336) was displaced by the problematic of “democratic transitions” under conditions of globalization.

According to Sarlo, “globalization has not merely displaced the nation but has conquered it” (339). Far from being “one of the good news of the millennium”, the erosion of nation-states in Latin America has turned out to be “a Hobbesian

nightmare” (338). It would be difficult to disagree with Sarlo's call to recognize that globalization brings about “a disintegrated society, whose components are all at war with each other even when they think that they are carrying on the same battle” (338). In Mexico as elsewhere in Latin America, neoliberal policies have not just created more inequality but have also turned society into a breeding ground for extreme forms of social violence that are now reductively associated with the “war on drugs.” Yet the problem for Sarlo does not just lie with globalization or neoliberalism. The main problem for her is that under the influence of “avant-garde” theory, Latin American cultural studies has come to perceive itself as “the ultimate epistemological break” with totalizing Western concepts, such as the humanities and the nation-state, leading to a closure of debate around nations and national identities. This closure, she claims, has irresponsibly overlooked the unequal consequences that the erosion of the nation-state has had for the Global North and the South (333).⁴⁷

At stake in Sarlo's criticism of cultural studies and poststructuralism seems to be the question as to whether a post-Marxist and, more broadly, a “textual” approach to nationalism is capable of fulfilling any aspiration of intervening ethically and politically in the Mexican debates around maize biotechnology, which are obviously connected with the problematic of globalization. For Sarlo, the erosion of modern identities entails some very specific challenges for Latin American scholars. Her critique suggests a tension analogous to that described by Paul Bowman between cultural studies and post-Marxism, except for the fact that, in this case, both cultural studies and post-Marxism appear as morally questionable from the vantage point of a particular location. Sarlo claims that “the avant-garde representatives of deconstruction and post-structuralism” have lent themselves to “betraying” the foundational political commitments of Latin American cultural critique by becoming complicit with the cultural logic of late capitalism. She describes transnational cultural studies as “a field that quotes liberally from deconstructive philosophical sources, but that curiously enough does not feel uncomfortable with words such as empowerment and self-empowerment” (340).

⁴⁷ Sarlo is right to observe that “while globalization may have weakened the national state, nations have not for that reason disappeared; either you have national fundamentalisms or you have new ways of preserving sovereignty through regional alliances” (336). Even Mexican *Zapatismo* claims rights to national belonging. In Chapter V, I will devote some attention to this phenomenon yet precisely in order to demonstrate the relevance of what Sarlo calls, somewhat pejoratively, “avant-garde theory.”

“Beyond the tragic social inequality,” she blames cultural studies for the Latin American scholars’ “growing sense of belonging to an unimportant, secondary and backward region of the world” (339). As a way to redress this injurious situation, Sarlo recommends Latin American cultural critics should “consider what is really happening in our countries after globalization” by contributing to “the description, in precise historical terms, of the ways in which national society is dismantled” (338). As part of this process, she demands scholars make “a major effort to relate the philosophical map of concepts with the empirical map of research, and with the ideological map of the ambitions of cultural studies as a public discipline” (340-341).

In my critical examination of the Mexican biotechnology debates, I take heed of Sarlo's call to strengthen the public orientation of cultural studies in Latin America. I also try to relate philosophical concepts to issues that tend to be treated, at least in Mexico, in more empirical ways. It is my impression, however, that it is also important to problematize the sense of injury that Sarlo invokes when she blames “avant-garde theory” for the marginalization of Latin American nations. One of my basic premises is that a post-foundational approach to cultural politics is indispensable for a critical examination of how “national society” (and anything that gets to count as its representative) gets construed as an empirical fact. The fact that a social movement such as the Mexican Network in Defense of Maize is rising against the violent aspects of globalization (in this case, the corporate enclosure of agriculture) does not imply, in my view, that I must automatically endorse its nationalistic rhetoric or that I should assume any essential stability of “national society.” My argument is that assuming precisely the opposite (that is, an essential instability of “national society”) allows us to raise ethical and political questions that are relevant both to the Mexican debates around maize biotechnology and to cultural studies as a publicly oriented (anti)discipline. Such an argument is of course not new, but it continues to stand as a minoritarian position in Latin American intellectual debates. Thus, Latin Americanist philosopher Alberto Moreiras describes the history of such debates as a “quasi-systematic exploration of the specificity of the Latin American alternative modernity from what today are outdated concepts of identity and difference” (*The Exhaustion of Difference* 4). In his view, it was precisely the lack of a thorough engagement with the anti-essentialist theoretical explorations of cultural studies that made Latin

Americanism uninteresting and even irresponsible under conditions of globalization. Moreiras agrees that “it is certainly our responsibility as Latin Americanists to take stock of what it is that we do, so that our own ‘immaterial labour’ (...) does not end up serving at the cultural level the very apparatus that constrains Latin American social and political options” (“Deconstruction...” 308). However, “difference” as an essentialist category has been “exhausted” as a viable driver of Latin Americanism. Consequently, the question that needs to be asked at a theoretical level now is the following one: “Can critical reason dissolve in identitarian or differential description?” (5) For Moreiras, it must not do so, which is why, for him, deconstruction is indispensable for a critical re-imagination of Latin Americanism as a publicly oriented theory and practice. Fortunately, and even though its advocacy remains quite minoritarian in Latin American universities, the legacy of deconstructive theory has not disappeared entirely from Latin American thinking.

In a response to Sarlo's article, Uruguayan critic Mabel Moraña interprets Sarlo's position as a legitimate concern over the need to conceive forms of organization that effectively respond to the consequences of neoliberal globalization in Latin America. Agreeing with Sarlo on the need to problematize “redemptionist and self-legitimizing” assumptions in cultural studies, Moraña nevertheless attempts to take the blame for Latin American disaster away from cultural studies. As an antidote to nihilism and melancholy, she asks us to differentiate between the need to criticize the critic and the nature of the phenomena analyzed (111). The Latin American predicament, Moraña says, calls “now more than ever, for a dismantling of the modern ideas that historically constitute a fundamental part of the extreme situations we now face” (112). We should not forget that most forms of nationalism in Latin America have legitimated authoritarian rather than democratic social projects, and have done so under the umbrella of corrupt and incompetent states. We should also keep in mind that solutions to current problems such as drug trafficking and financial bankruptcy are “unthinkable if we are not able to surpass the imposed parameters of the national, even if the daily battles as well as the suffering are taking place within them” (113). Therefore, before reviving nationalism in the name of Latin American suffering we need an “extensive discussion with regard to the distinction to be made between nation and state in order to define the role that we would assign to each of these

categories, and the measure of their political and historical responsibility” (112). In her own account of the trajectory of Latin American cultural studies, Moraña draws our attention to how Latin America has oscillated between the imported vocabularies of liberalism and Marxism, none of which have been able to productively engage with local and regional specificities. It is for this reason that Latin American thought insists on a mythic dimension of the nation as a place of collective “communion,” of “solidarity on a grand scale.”⁴⁸ Moraña suggests that:

(...) perhaps it is to this dimension that we are really referring when we discuss the nation from within the horizons of neoliberalism and globalization: the need to recuperate, as if it were a matter of faith, a fraternal citizenship which would fulfill an agglutinating and mobilizing role in our time. If this were the case, it would be a genuine challenge to both praxis and theory to examine the ways in which the myth of the national could be articulated to the realities of globalization (114).

It seems to me that this position resonates strongly with the idea of “New Cultural Studies” proposed by Gary Hall and Clare Birchall in their eponymously titled 2006 collection. What distinguishes “new” cultural studies from its prior disciplinary incarnations is an ethico-political commitment to “theory,” and more specifically to deconstruction. The latter is understood as an anti-disciplinary theoretical practice that seeks to “intervene” by exposing the incompleteness of disciplinary approaches and particularly those premised on a devaluation of “theory.” More specifically, Gary Hall diagnoses a recent “retreat from theory,” with all its empiricist underpinnings as a moralizing and melancholic response to a crisis in the Left-leaning political project that was foundational to the discipline and project of cultural studies in its early days.⁴⁹ He explicitly relates such a disciplinary response of cultural studies to the disavowed attachments theorized by Wendy

⁴⁸ According to Moraña, only several thinkers, such as Peruvian socialist José Carlos Mariátegui (1894-1930), have occasionally been able to “deconstruct” nationalist mythologies. Taking Mariátegui as an inspiration, she speculates about “a form of reflection that, taking local specificities as its point of departure, is able (...) to challenge the bourgeois nation from within, with critical and political thinking which might constitute an alternative to the models of liberal modernity” (112).

⁴⁹ The project of mainstream “cultural studies” (as represented by Stuart Hall and Raymond Williams) “... has always been to develop critical positions primarily for those whose social function was to study and teach in universities the humanities which could correlate meaningfully with the core philosophical assumptions of certain radical political movements” (Gilbert, “Cultural Studies...” 183).

Brown in *Politics out of History*. In a situation in which it is difficult to tell "good" from "evil" – since capitalism now penetrates everything, including the university and therefore cultural studies itself – new cultural studies seeks to invent, through risky but rigorous strategies, knowledge-based interventions *within* capitalism, beyond the mourning, moralism and melancholia that so trouble the academic Left. This is not to say that new cultural studies has renounced its public or political orientation, but rather that it has stopped looking for it, on the basis of equivalence, somewhere "outside" capitalism. As Joanna Zylińska explains:

(...) the vision of a unified left fighting its crusade against the ills of capitalism is a symptom of the same moralising desire for totality and closure. Taking into account the dispersed character of the left and its politics, as well as the reformulation of its economics-focused agenda via an engagement with more "culturalist issues" such as new social movements, cultural industries and identity politics, I postulate that cultural studies – for which culture is not a mere "decorative addendum to the "hard world" of production and things" (...) but rather a structuring, material element in the politico-economic landscape – can help us respond to the current moral conjuncture (77).

A good counterexample to Sarlo's complaint about "avant-garde theory" can be found in Jeremy Gilbert's book *Anticapitalism and Culture*, in which the author argues that contemporary cultural studies remains informed "by a resolutely political critique of capitalism, individualism, patriarchy, colonialism and hierarchy in general" (66). In fact, his argument about the kind of work that cultural studies can do for social movements has been extremely valuable for my own approach to the cultural politics of biotechnology in Mexico. Gilbert argues that the anti-essentialist turn in philosophy and political theory has contributed to the transformation of the militant ideology critique into some more nuanced forms of cultural analysis, forms which can prove useful for social movements struggling against the negative effects of capitalist globalization. Cultural studies as a mode of critical thinking coming from within academia can first of all remind those professing the discourse of anticapitalism that "historically, people do not act against a given social order unless they believe that there is a good chance that it can be changed and that the likely benefit to them of changing it will outweigh the

risks involved in the attempt” (208). In particular, Gilbert takes the time to develop an unusual articulation of Laclau and Mouffe's work with that of Gilles Deleuze.⁵⁰ What these approaches have in common is that they reject “old-fashioned ways of thinking about politics which see society as a single coherent thing with a centre, or a top, a singular locus of power, which a radical movement must seek to occupy and control” (95). Rather, for all of them, power resides in “the capacity to set the terms of reference in any given situation, defining what is to be accepted, implicitly or explicitly, as truth and normality” (137). If power is dispersed throughout the culture, argues Gilbert, then it is a matter of connecting self-conscious activism with the “spontaneous” anticapitalism that expresses itself in popular culture, including mass media culture.

The question for Gilbert is what kinds of political work contemporary anticapitalist movements need to carry out in order to pursue their goals effectively. He identifies two problematic features in contemporary anticapitalism, which he sees as remaining under the spell of an “activist imaginary.” One of them is blindness to political strategy, derived from the assumption that heterogeneous political actors already share a fundamental identity (210). The standard form of activist literature, an endless catalogue of disparate organizations and movements, would be symptomatic of this tendency (203). Another, related feature of the activist imaginary is “a state of perpetual outrage and surprise at the exploitative and undemocratic character of capitalist society” (209). Leading figures of global anti-capitalism, such as Noam Chomsky and Naomi Klein, often reduce their interventions to a ceaseless recounting of the outrageous exploits of corporate power. Rather than persuading people that another world is possible, the perpetual outrage of the activist discourse has the counterproductive effect of “reinforcing the general assumption that such a state of affairs is normal and inevitable” (209). Hence, in my own analysis of the Mexican defense of maize, I

⁵⁰ The differences between those thinkers lie in their contrasting conceptions of desire. Laclau and Mouffe are rigorously committed to Lacanian psychoanalysis which understands the human subject as constituted by an inherent lack. For Deleuze and Guattari, however, desire is a form of productive fullness. In Gilbert's view, the disadvantage of Laclau and Mouffe's psychoanalytic perspective is “a decidedly negative conception of the social,” which is replicated in their understanding of antagonism as constitutive of a political community. This is a problem because anticapitalism needs to conceive of groups as bound together not just by a logic of antagonism but also by relations of solidarity (158-159). Yet, like some critics of Deleuze, Laclau and Mouffe would emphasize that political creativity never occurs in a vacuum. Their relative advantage over Deleuze would be their capacity to construct a strategy “beyond the limitations of a naïve perspective which is constantly surprised by the fact that solidarity is so precarious” (*New Reflections* 159).

examine not just the “biological facts” or the “rational arguments” of the different participants in the debate. I focus on how the arguments get constructed, not always rationally, in media and cultural platforms that are often left unconsidered by social scientific approaches. My attention to the broader narrative frameworks of the contemporary dispute around Mexican maize seeks to foreground its nature as a battle around the meaning of social life under capitalism. I see this work as a critique of the Mexican “activist imaginary” that intervenes by exposing disavowed investments even in the most radical discourses, including potentially my own. Moreover, it intervenes by foregrounding the possibility of articulating the dominant language of activism in alternative ways. As Gilbert points out, once anticapitalism acknowledges that the question of rhetorical strategy is key, it can start to work on “different and unpredictable acts of naming and of carefully calculated intervention, which only detailed analysis of specific conjunctures can make possible” (133). In the United Kingdom, for instance, successful campaigning against GMO's strategically mobilized a cultural attachment to rural aesthetics. While such an attachment had a conservative face, campaigners were able to mobilize it for progressive ends. The question, Gilbert says, is how to open more of such possibilities for the future by “actualizing” the radical potential of cultural attachments while “counter-actualizing” their potential to transform into hostile defensiveness (191).⁵¹ As I work towards the final chapter of this thesis, I attempt to develop a number of preparatory examples of how a theoretical understanding (as well as a subjective acknowledgment) of the “genetic contamination of Mexican nationalism” (which I present as my own “unpredictable act of naming”) can simultaneously contribute strategic insights to political activism and open up a future beyond hostile defensiveness against biotechnology. By way of conclusion to this chapter, I want to reflect on the thorny issue of drawing on psychoanalytic vocabularies in order to undertake a critique of identitarian positions, including the unreflective nationalism of many Mexican defenders of “native maize.”

⁵¹ Importantly, aesthetics plays a key role in this process that the Old Left typically underestimated. Cosmopolitan values such as cultural diversity and solidarity (beyond the immediately known social group) might be more effectively promoted through the aesthetic realm that includes eating, dancing and lovemaking (195). Social networking sites such as Facebook, in which people learn to present themselves according to hegemonic values, also betray a widespread desire for collaboration, cooperation and free exchange of ideas. All of this makes such sites strategic tools for anticapitalism (198).

Conclusion: The Nation in Psychoanalysis

The malaise in the culture, whether Mexican or of any other people, arises from the gulf between the self and that “spoken portrait” which the Other is able to produce. Further, the self equates to the difference between the real and the image that takes shape through countless myths, legends, and essays with historical pretensions (Braunstein, "Freud and the Malaise" nonpag.).

In a recent article titled "Freud and the Malaise in Mexican Culture – Mexico is Burning," psychoanalyst Néstor Braunstein has pointed out that Freud's great contribution to the analysis of culture lies in his call for the deconstruction of identity. Contrary to what popular and legal discourses routinely imply, from a psychoanalytic perspective people do not “have” an identity. The existence of the unconscious means that we are not identical even to ourselves, which means in turn that identity is never anything more than a mirage. Psychoanalysis helps us to understand how the subject emerges in response to interpretations, always partial and contingent, of the narratives available in culture. As a Lacanian, Braunstein believes that language operates as a distorting mirror which is indispensable for the emergence of the subject. As a “fictive structure” which results from identifying ourselves with the distorted images in the mirror, subjectivity is “the mortar of human existence” ("Mexico in Psychoanalysis"). Yet psychoanalysis is concerned with subjective differences between individuals. Indeed, nothing allows us to conclude that those differences repeat themselves in order to constitute a collectivity. In other words, there cannot be anything like a psychoanalysis of “Mexicanness.” However, in the case of Mexico, “something persuades us to go on,” and that something is the very existence of a widespread discourse on “Mexicanness.”

Braunstein strongly argues that “the Mexican does not exist” outside of the theories and characterizations of covertly or openly racist writers. There are no specifically Mexican traits, he says, no “solitude,” no “melancholy,” no “inferiority complex” due to “racial interbreeding,” no “conquest trauma” and not even nationalism, that “reactive idealization” which is “the other face of racist disparagement” ("Freud and the Malaise"). Yet the accumulation of images such as these imposes itself as “a ghostly presence in the overall image people have of

themselves,” and it is precisely the ethico-political consequences of such an imposition of sedimented discourse that are important for psychoanalysis. If “Mexicanness” is in a sense “real” for psychoanalysis, it is because it contributes to the shaping of that which is made to count as reality. Braunstein calls on us to ask, in each instance: “who is the optician polishing up the distorting mirrors; why does he do it, who does he work for?” (“Freud and the Malaise”). For Braunstein it is very important to emphasize instead that if “Mexico is burning,” this is not due to any fundamental characteristic of its inhabitants, but rather to the place assigned to the country by global organized crime, by authoritarian elites allied to foreign capital, by the deadly unwritten law enforcing corruption at all levels of public office, and by the multiple forms of social discrimination.

Braunstein's accusation of racism directed against any psychologizing approach to “Mexicanness” perhaps calls for a justification for my own use of O’Gorman's narrative about “the Mexican soul.”⁵² According to O’Gorman, disavowed conservatism – which appears as a kind of neurotic attachment to the mother – sabotaged the emancipatory aspirations of nineteenth-century Mexican nationalists by reinforcing the social hierarchies inherited from the colonial era. Ultimately, it also sabotaged the revolutionary aspirations of twentieth-century Mexican nationalists, to whom O’Gorman's essay was addressed. As a provocative alternative to the routine denunciations of economic imperialism, O’Gorman exhorted “the nation” – that is, the nationalist subject-position – to free itself from cultural essentialism, whereby the latter had only served to legitimate political authoritarianism as the enduring legacy of colonial times. If O’Gorman's allegorical psychoanalysis of “the Mexican soul” remains pertinent today, it is precisely and only to the extent that it resonates with other critiques of essentialism in contemporary philosophy, psychoanalysis and political theory. The latter do not merely assert that cultural identity “does not exist,” but rather interrogate the material and ethical and consequences of its political “construction” in specific contexts.

Stuart Hall has asked why, after the comprehensive philosophical critique of “the self-sustaining subject at the centre of post-Cartesian western metaphysic,” we should continue to have discussions about “identity” (“Introduction” 1). While

⁵² Braunstein seems to refer indirectly to O’Gorman when he cites the notion of “historical trauma” among those attempts to characterize Mexicans in an essentialist and therefore racist way.

such a concept cannot be thought in the old, essentialist way, Hall argues that we cannot do without it if we are to think through and understand key issues such as politics and agency. After all, the very idea of a “self-sustaining subject” continues to play a dominant role in the context of global capitalism, through its neoliberal associations with material prosperity, symbolic status, and “freedom.” As Hall says, for agency to be thinkable at all it is necessary to assume that identification requires a psychic investment that is not entirely predetermined by power. The point is to recognize that ideology works both at the level of the drives – the subject as an investment in its own identifications – and at the level of the discursive practices which constitute the social field: “(...) it is in the articulation of these mutually constitutive but not identical fields that the real conceptual problems lie” (Hall S., "Introduction" 7). In this regard, Braunstein reminds us that Mexican history has been written and rewritten several times, and none of its versions is the true one because the only “truth” that psychoanalysis is able to identify is “that of the battles fought around the history that will be written” (“Mexico in Pshychoanalysis”). The fictional nature of this process, as Hall would say, “in no way undermines its discursive, material or political effectivity” (Hall S., "Introduction" 4).

In view of the current situation in Mexico, characterized by increasing levels of violence in all spheres of social life, I would advocate, with Braunstein, the need to align psychoanalysis with a critique of capitalism understood as a source of human suffering. Braunstein specifies that in a society that is subjected to the worst possible effects of the three decades of neoliberal policies, psychoanalysis must actively oppose the violence exercised by those who produce an essentialist discourse on “Mexicanness,” because such a discourse merely conceals and reinforces the place assigned to Mexico by the forces of global capitalism. While it is difficult to disagree with Braunstein when he denounces the overwhelming imbalances in global power which seem to condemn places such as Mexico to “burn” regardless of the best efforts of their inhabitants, I think it is also important to recognize and support those efforts in a more active way. In other words, perhaps psychoanalysis can offer more than a denunciation of “Mexicanness” as a mirage in the service of power, that is to say, perhaps it can be more than just a critique of “ideology” in the traditional sense. To adopt cultural politics as a practical perspective involves affirming that the political problem of “agency” is

never exclusively an economic one, that it is never a matter of “hard facts” such as “competitive advantage” or unequal terms of exchange: it is rather a more complex issue involving narratives, interpretations and identifications. Thus, while I take heed of Braunstein’s professional warning that there is no psychoanalytic treatment for a collective subject, I also insist that psychoanalysis is relevant to the extent that it goes beyond the denunciation of global economic actors and towards a project of understanding and facilitating “agency” at the level of the constitution of identity, that is, at the level of cultural politics. From the standpoint of a psychoanalytically-informed cultural studies, the question of agency and politics is not about choosing a pre-given identity – such as “the winner” as opposed to “the loser” in the global game of technoscience. Rather, it is about working through identifications and rehearsing ways to make them work against the naturalization of the social order, including the capitalist rules of the technoscientific game. To borrow from Hall’s explanation, agency would involve a *creative* task, that of “using the resources of history, language and culture in the process of becoming rather than being” (4). It seems to me that psychoanalysis has a key role to play in this task.

Chapter III

Revolutionary Science Meets Biotechnology

Introduction: Science, Technology and Technoscience

The narratives become clear mirrors, fully magical mirrors, without once appealing to the transcendental or the magical (Haraway, *Modest_Witness* 23).

In *Is Science Multicultural?* Sandra Harding describes the dominant historiography of modern science and technology as eurocentric, internalist and diffusionist. Mainstream narratives claim that modern science originated in a “European miracle” that was made possible by the unmediated retrieval of Greek knowledge after the so-called “Dark Ages.” Dominant historiographies are “internalist” in the sense that they explain the universal success of modern science in terms of characteristics such as a “critical attitude toward conventional beliefs, a distinctive method, uniquely high standards of objectivity, a distinctive rationality, a distinctive metaphysics that distinguished primary from secondary qualities, the shift from an organicist to a mechanistic model of nature, and the reliance on mathematics” (Harding 56). They are “diffusionist” in the sense of claiming that modern science was irradiated from Europe to other geographical locations where no scientific “miracles” ever happened. The hegemony of eurocentric, internalist and diffusionist historiographies began to crumble in the 1960s, when Thomas Kuhn argued, in *The Structure of Scientific Revolutions*, that scientific practices are always just one part of a complex social process in which knowledge-seeking is indissociable from other practices and institutions such as education and legal systems, economy and religion, state projects and gender relations (4). Post-Kuhnian historical research has led to the re-conceptualization of modern sciences as local knowledge systems in competitive relations with other local knowledge systems, and so the contemporary field of science and technology studies (STS) has set out to chart how science(s) and culture(s) constitute each other and co-evolve even if “constrained in diverse respects by nature's order” (3). Whereas in

the “internalist” view technology tends to be reduced to an “applied science” by regarding science as dependent on the technologies of its production (including social technologies), STS has also cleared the way for a re-consideration of the knowledge-seeking practices of non-European societies (11). According to postcolonial STS, the development of modern sciences resulted not from a special “European” ability to rise over cultural particularity but rather from a socially developed “ability to neutralize some cultural elements while fully exploiting others, in the context of tensions between the maximally global and the firmly local” (7). Thus, whereas much of the so-called “Scientific Revolution” had been driven by the technical requirements of European expansion, many ideas for navigation, cartography, agricultural development, manufacturing and pharmacology had actually been borrowed from non-European cultures and incorporated into the colonial project. Finally, postcolonial STS has traced the connections between this colonial project and contemporary “development” theories and policies. The latter systematically figure modern science and technology in eurocentric and diffusionist ways – with “development” understood as knowledge transfer from the North to the South (37).

In spite of the historiographic revolution inaugurated by Kuhn and radicalized by feminist and postcolonial STS, the eurocentric, internalist and diffusionist assumptions of traditional historiographies continue to permeate global culture as “a *relic of western ‘folk belief’*” which is disseminated in popular science texts and the mass media. It is still invoked by scientists themselves when speaking to funding bodies or when explaining what they do. Harding suggests that the resilience of eurocentrism is not simply the result of ignorance: it reveals a deeply rooted emotional investment in the standards and values of “civilization.” Harding herself is more interested in what she calls the “civilizational” dimension of eurocentrism, which accounts for its existence as “an ethic, an ontology, and an epistemology” (14). Since the latter conform a discourse “in the rich, materialist sense that includes, but is not restricted merely to, ways of thinking and speaking,” “good intentions and tolerant behaviors” are not enough to avoid reproducing eurocentrism (13-14). It is therefore necessary to actively “decolonize” representation by investigating the links between knowledge and power that legitimate eurocentric social arrangements, the way the more politicized branches of STS have been doing for several decades now.

As suggested in the previous chapter, a critical approach to understanding the relation between Mexican nationalism and contemporary biotechnology requires both a historical perspective and an attention to the singularity of local narratives about science, technology and technoscience. In this chapter I interrogate the function of these concepts in narratives of national identity, focusing on the more recent history of Mexican revolutionary nationalism. Drawing on the insights of STS, I want to argue that revolutionary nationalism failed to produce its own critical engagement with Western science and technology because it privileged political stability over political change. A purely instrumental consideration of science and technology, implicit in modern developmentalist narratives, eventually led to a subordinated engagement with technoscience, which was predominantly seen as a neutral, universally valid means to overcome "backwardness" and "underdevelopment." The purpose of reconstructing the Mexican nation's troubled relations with science and technology here is to support and contextualize my broader critique of nationalism in the discourse of contemporary activism against biotechnology. After examining the differences between post-revolutionary "science patronage" and contemporary "science policy," I attempt to characterize and interpret the current predicament of the nationalist subject position in the midst of technoscientific capitalism. In this conjuncture, which is defined by global economic competition on the basis of a convergence of science and industry (Lyotard), the Mexican nation's position seems to be as precarious and fragile as that of the modern political narratives on which nationalism itself is based.

In *The Postmodern Condition*, J.F. Lyotard discussed the status of knowledge at a time when science seems "more completely subordinated to the prevailing powers than ever before" (8-9). He asserted that there is no escape from the fact that "knowledge is and will be produced in order to be sold, it is and will be consumed in order to be valorized in a new production: in both cases, the goal is exchange" (4-5). Even though in this chapter maize itself recedes to an almost imperceptible background, the analysis of how science, technology and technoscience have been framed and developed in Mexico promises to reveal some of the underpinnings of the national debates surrounding maize biotechnology. Tracing the ways in which Mexican research institutions have been reorganized and contested through debates around "science policy" will allow me

to diagnose the difficult relationship between Mexican nationalism and technoscience. While the Mexican scientific community is active and productive, it is at the same time very small, and mostly concentrated in public universities and research institutes. The majority of Mexican companies invest very little in research and development to sustain their competitiveness. Productive cooperation among industry, academy, and government is almost nonexistent. While the debate continues about the exact causes of this seeming "backwardness" of Mexican technoscience, in this chapter I want to approach the situation as first and foremost an issue of cultural politics. From this perspective, I want to ask the following questions: How have "science" and "technology" been conceived and mobilized in Mexican cultural politics? What has been the connection between the use of such concepts and the exercise of power in the Mexican nation? Has Mexican nationalism ever produced a socially satisfactory engagement with (Western) science, technology and technoscience? What kind of engagement with science, technology and technoscience is required in Mexico today and why? These are vast and complex questions that I can only expect to approach in a very partial way by considering science and technology as culturally specific practices that remain largely unthought by Mexican nationalism. The latter, I suggest, has reduced science and technology to neutral and universally valid instruments of progress and modernization, with disastrous consequences for Mexican knowledge production and for Mexican democracy.

Writing in 1979, Lyotard argued that scientists must resist the subordination of knowledge to industry "if they feel that the civil society of which they are members is badly represented by the State" (36). At any rate, I argue in this chapter that nationalism locks resistance to technoscientific "terror" (the term Lyotard uses to describe the imposition of the criterion of efficiency) in role of a purely oppositional reaction, one that, as Lyotard himself observes, is unlikely to succeed. What he proposes instead is a sort of radical science, a generalized and in a sense *impure* scientific practice. The latter would not be about objective expertise, but rather it about creative game playing. As Lyotard himself explains:

...working on a proof means searching for and "inventing" counterexamples, in other words, the unintelligible; supporting an argument means looking for a "paradox" and legitimating it with new rules in the games of reasoning (54).

Donna Haraway's approach to technoscience exemplifies precisely the kind of playful experimentation Lyotard recommends as a more effective political response to the capitalist imperative of efficiency. Haraway understands technoscience as a domain in which science and technology are so thoroughly interrelated that one category "cannot be used to explain the other, and neither can be reduced to the status of context for the other" (*Modest_Witness* 62). At work in this concept of technoscience is a relational ontology in which language and materiality are inseparable from each other (37). Technoscience is about "materialized re-figuration" because technoscientific practices and products are "simultaneously literal and figurative"; their ambiguous nature means that technoscience "must involve at least some kind of displacement that can trouble identifications and certainties" (11). Since the power to distinguish between the technical and the political "is very much at the heart of technoscience", for Haraway technoscience is "more, less, and other than reduction, commodification, resourcing, determinism, or any of the other scolding words that much critical theory would force on the practitioners of science studies" (51). If technoscience cannot be simply reduced to capitalist competition, what then can technoscience become in a context defined by political and economic subordination? Inspired by Haraway's project, I seek to problematize Mexican nationalism's tendency to exhaust its engagement with biotechnology, and with technoscience more generally, by re-asserting the nation in a defensive way. With Haraway, I want to insist that subjugation does not yield "immediate vision" ("Situated Knowledges" 587). While promising some better accounts of the world than mainstream science can offer, such kinds of "subjugated standpoints" face problems of their own. Therefore, as we learn to "see from below," we have to decode and deconstruct both what we see and how we see it (584). In this process, we need what Haraway calls "passionate detachment," which depends on "the impossibility of entertaining innocent 'identity' politics and epistemologies" (585). My critical engagement with nationalist narratives that neither celebrate nor reject technoscience has the purpose of opening a consideration of some more promising approaches to the technoscientific conjuncture, approaches that will be based on a critical relationship with the history of Mexican nationalism.

Revolutionary Science: an Anti-Technological Fantasy

Commitment to the difference in kind of the beliefs and practices advanced by European sciences is central to the self-conception of many people around the world as modern, enlightened, progressive, and guided in our beliefs and behaviors by the highest standards of objectivity and rationality (Harding 9).

Mexican revolutionary nationalism is most often associated with rural education, popular arts, entertainment media and tourist propaganda (Joseph, Rubinstein and Zolov). What was the place of science and technology in the nationalist agenda of the post-revolutionary regime? Early in the 1930s, President Lázaro Cárdenas (1930-1936) defended the post-revolutionary state's commitment to science and technology on the grounds of the latter's importance for the progress of the country. He was merely continuing with an older liberal rhetoric that had posited science and technology as the solution to the national problems, that is, to problems related to the economic basis of national sovereignty. The revolutionary endorsement of modern science and technology, which I want to call here "revolutionary science," certainly involved material investments on the part of the state, including the building of public universities where national scientists were supposed to train and conduct research for the nation's benefit. I want to argue, however, that revolutionary science was first and foremost a cultural fantasy underpinning science patronage in the post-revolutionary era. It was not so much about coordinating or regulating economically productive research as it was about celebrating progress and modernization in order to create consensus around the post-revolutionary state.

The Mexican "Golden Age" of industrial progress and political stability (1940-1968) resulted not from domestic research but rather from the nation's alignment with the capitalist "free world" during the Cold War era. Within the "import-substitution" regime of the Golden Age, national industries focused on producing basic commodities for protected local markets. It was easier for most of them to import or imitate technologies developed abroad than to develop their own technological capacities. Meanwhile, the Mexican state sponsored the activities of an incipient scientific community, which cultivated the belief that science should be pursued for its own sake, not for the sake of pragmatic or economic ends. In

principle at odds with the instrumental attitude required by modernization, the inclination to “pure science” was not a big problem for the Mexican state during the prosperous Golden years. In fact, the seeming incoherence between the state's utilitarian rhetoric and its actual sponsoring of overtly “useless” science was entirely symptomatic of the role that science and technology played in revolutionary nationalism. Their role was not to sustain the Mexican economy, much less to achieve social transformation, but rather to consolidate the prestige of revolutionary nationalism. In this vein, Martha Finnemore argues that before the global spread of “science policy” in the 1970s, state sponsorship of science was analogous to state sponsorship of the arts, so that “greatness and accomplishment in arts and sciences reflected state power rather than being a means to achieve power” (Finnemore 567). Yet I want to suggest here that revolutionary science was not simply a reflection of Mexican state power. The funding of universities in the name of scientific progress had a *productive* role: that of sustaining the allegiance of the new urban middle classes, who were the main beneficiaries of the political regime. I am interested here in the workings of revolutionary science as a hegemonic tool on the one hand, and as a half-hearted, uncritical engagement with modern science and technology on the other.

In the absence of a programmatic agenda for national scientific research, the state seemed to assume the existence of a magical connection between science, technology and modernization. In this context, it seems understandable that Diego Rivera's murals embraced a passionate technological utopianism. The murals, which were mostly sponsored by the state with the purpose of enlightening the masses about the meaning of the Mexican Revolution, seem just as useful now to illustrate the fantasy of revolutionary science. In Rivera's murals, modern technology is depicted as a powerful force advancing the goals of socialism by producing a society in which all men and women, regardless of race or creed, work together in peace and harmony (Gallo 5-7). This techno-utopian theme appears most clearly in a mural titled *The Arsenal* (1928), which depicts Zapatista and Bolshevik revolutionaries working together in a landscape dominated by industrial machinery. In the mural titled *Man at the Crossroads Looking with Hope and High Vision to the Choosing of a New and Better Future* (1935), a man appears in a central position as the technical controller of a universe populated by electrical transformers, microscopes and telescopes, an X-ray apparatus, plus

numerous tanks, gears, and other artifacts. Art critic Rubén Gallo has described Rivera's man looking at a crossroads as “an android who has gained complete control over the world” (6). What Gallo finds rather startling is that the artist actually privileged, in his practice, “the art forms of the past.” In his depiction of modern technology, Rivera took inspiration from Italian Renaissance churches and pre-Columbian wall painting. He never experimented with photography and never learned to drive a car, not even while living in 1930s Detroit as a friend of Edsel Ford, working on *Detroit Industry*, a mural about the Ford factories. Moreover, Rivera painted murals that, while being partly modelled on photographs, systematically omitted the harsh realities of industrial Detroit. Unemployment, gangsterism, racism and anticommunism were left to photographic documentation while Rivera depicted a harmonious workplace that went on as if the Great Depression had never happened. From this, Gallo concludes that:

[f]or all of Rivera's enthusiasm about modern technology and its potential to revolutionize human experience, he seems to have been blind to the profound antitechnological impulse that permeated *Detroit Industry*. In an age dominated by worldwide calls for artists to embrace a photographic "new vision," Rivera insisted on working in the entirely unmodern medium of fresco painting. But the muralist was not only resisting photography: by transforming photographs into embellished murals, Rivera was in fact subverting the properties – indexicality and mechanical reproducibility – that made photography both radically modern and politically revolutionary (16).

Gallo's argument that Rivera's art is inhabited by “a profound antitechnological impulse” is relevant for my approach to revolutionary science. For Gallo, the anti-technological impulse amounts to the fact that technology is celebrated in a purely thematic or representational way, while questions “about media themselves, their uses and their effects on art and perception were a blind spot in [Rivera's] vision of technology” (18).⁵³ While I am not persuaded by Gallo's

⁵³ Gallo then engages with some more experimental Mexican artists of the same period in order to argue that “Mexican modernity” was not exhausted by the statism and populism of revolutionary nationalism, of which Rivera is taken as a straightforward representative. In this chapter I do not dwell on the virtues of avant-gardism as a “truly modern” alternative to revolutionary statism. However, I regard it as important to consider (as Gallo invites us to do) how more experimental

categorical distinction between the “entirely unmodern” and the “radically modern,” his argument suggests to me that something like an antitechnological impulse might inhabit not just *Detroit Industry* and *Man Looking at the Crossroads*, but more generally the cultural politics of revolutionary nationalism. There is of course a connection between the art of Rivera and the revolutionary enthusiasm about modern science and technology as means of economic, political and cultural “progress.” The connection appears as more interesting if we interpret the “anti-technological impulse” detected by Gallo as a refusal to engage with modern science and technology in a way that would transform society in a more democratic direction. Following O’Gorman, I want to suggest that what I am positing here as the antitechnological impulse of Mexican nationalism is related to an authoritarian political culture inherited from colonial times and disguised by revolutionary rhetoric (including the celebration of modern science and technology as instruments for progress).

In his essay about the “trauma” of Mexican history, historian Edmundo O’Gorman, whose work I discussed in Chapter II, argues that 20th century Latin American nationalisms were premised on an imagined dichotomy between the “idealist spirit” of Iberoamerica and the “pragmatic spirit” of the Yankees. Provocatively, O’Gorman presents the former as wishful thinking inside the head of a dreamy maiden who is simultaneously seduced and repelled by the “pragmatic spirit” of the Yankees. The figuration of Latin American nationalists as maidens dreaming of masculine Yankees might seem crude and indicative of patriarchal thinking. I want to suggest, however, that O’Gorman uses this figure of speech as an ironic device in his critique of cultural essentialism, a critique which directly inspires my own interpretation and critique of “revolutionary science.” In O’Gorman’s view, 20th century Mexican nationalism was reactionary and counterproductive in that it entailed a compulsive re-enactment of “the ontological legacy of the colony,” that is, of the Hispanic providentialist worldview that qualified Anglo modernity as a sin or an evil deviation from the true faith and the authentic civilization. From this perspective, it is possible to interpret the antitechnological impulse in revolutionary nationalism as something more profound than an aesthetic fixation, namely, as a conservative rejection of social and cultural

engagements with new technologies were able to compete and negotiate with the hegemonic discourse that is found in muralism and state policies.

democratization. In practice, revolutionary science was rhetorically and materially sustained by an authoritarian regime that, despite its emancipatory rhetoric, was investing its resources in a particular kind of capitalist development that was not based on local knowledges or research but rather on imported technological recipes for the production and subsidization of basic commodities, such as maize. In the meantime, “pure science” could exist in public universities without any major political consequence for the regime.

Like the liberal nationalism of the 19th century, revolutionary nationalism assumed that modern science and technology would bring about "progress" just by being promoted and celebrated in an instrumental way. The conception of technology as a means to a human end is what philosopher Martin Heidegger designated as “the instrumental and anthropological definition of technology” (“The Question Concerning Technology” 312). For Heidegger, this conception – and everything derived from it – was the symptom of a deeper problem, namely, the metaphysics of Western thought. The metaphysical tradition operates in analogous fashion whenever we think of art as a thing, or an object with certain aesthetic properties that are subject to human directions and judgements. It essentially consists in “forgetting” that technology and art are not just things, and that they have in common a creative or world-making power that precedes and exceeds individual will and intentions. Both revolutionary science and revolutionary art allowed nationalist dreamers to appropriate the benefits of the North American “pragmatic spirit” without becoming “polluted” by it. The problem, as O’Gorman pointed out, is that whatever works in dreams rarely works in reality. Mexican nationalists need to realize that “there always exists a condition that the maiden has to observe in order for the hut to be transformed into a palace and the humble woodcutter into a shiny prince” (73). Modern science and technology are not magical tools, the historian tells us, but “the actualization of a whole system” which can only be possessed “by adhering to the vital program of modernity” (75). Whatever is involved in such an adherence, it certainly requires us to go beyond a mechanical or “magical” association between science, technology and economic development, and towards an understanding of the potential of new technologies to change social relations.

By exploring science and technology as something more or perhaps something *other* than mere instruments for the achievement of "development,"

knowledge producers in Mexico may enable themselves to pursue a more critical and creative relation with the metaphysical legacy. In agreement with O'Gorman, I hold that such a change in orientation would require both an acknowledgment of history and the taking of responsibility for the potential of (techno)science to transform social relations. An interesting exception to the anti-technological impulse of "revolutionary science" was the development of maize-based flour, which was achieved through a collaboration between two public companies under the aegis of nationalist welfare programs that subsidized maize (Pilcher, "Taco Bell" 72). Whereas the industrialization of maize ultimately had a negative impact on small-scale agriculture, one must acknowledge that maize flour (as a technoscientific product for the urban consumer world) was in fact welcomed by many Mexican women, for whom maize flour signalled the possibility of challenging traditional gender hierarchies. This kind of social transformation cannot be underestimated even if the overall idea behind the state's investment in maize industrialization was *not* that of a more democratic society, but rather that of a society premised on a devaluation (in the sense of "feminization") of local agricultural knowledges and a growing dependence of the increasingly homogenized urban populations on industrial food controlled by an authoritarian (and openly masculinist) state. The one instance of revolutionary technoscience – since maize flour developed as a result of collaborative R&D by a public and a private enterprise – illustrates the power of technoscience itself to subvert instrumentalist appropriations by a particular politics. Yet, as the exception that confirms the rule, maize flour also illustrates the limitations that an authoritarian political culture is able to impose on a society's engagement with modern science and technology. After all, maize flour stands today more as a symbol of corporate domination than as an indicator of freedom. Mexican feminists realized long ago that their freedom needed to involve a much more radical questioning of gender hierarchies than revolutionary nationalism would ever allow for.

Revolutionary Nationalism Meets Science Policy

[T]here it was in all its threatening reality as a gigantic and inescapable *factum* which, for better or worse, had to be counted on, and in relation to which it was necessary to affirm one's own being (O'Gorman 28).

International relations scholar Martha Finnemore has argued that the emergence of the “science policy” discourse within international organizations resulted from political tensions that emerged during the Cold War. Early science programs at the United Nations were designed for science and scientists rather than states. They aimed to advance scientific knowledge regardless of national boundaries. Conventional wisdom held that the point of bringing science under the auspices of the UN was to free it from the “unscientific” kinds of intervention associated with national states. By the mid-1950s this “pure science” orientation had lost ground among the UN members, which is why individual scientists were replaced with state representatives as policy-makers at the UN. As Americans failed to make the United Nations an exclusive tool of their foreign policy, the Soviet Union and its Eastern bloc allies finally agreed to join the organization in 1954. Shortly after came the influx of postcolonial nations with an agenda of their own (Finnemore 577-581). Among the latter, the notion that states should and could promote and direct science, with all its economic and military applications, became very popular. Yet Finnemore argues that most countries started creating science policy bureaucracies at this time not so much because they needed to but rather because UNESCO had taught them a new “norm” about the role of states regarding science, namely, that “coordination and direction of science are necessary tasks of the modern state and that a science policy bureaucracy having certain well-specified characteristics was the appropriate means to fulfill those tasks” (566). In this way “science policy” began to displace the earlier vision of science as a nongovernmental enterprise, that is, the vision that allowed science to be based on the model of patronage.

Finnemore reports that 1962 was the peak year when it came to the adoption of science policies around the world. It is significant that the Mexican state was *not* among the early adopters of science policy. This was a time when, unlike many of the “less developed countries” to which Finnemore refers, Mexico

was still enjoying its “Golden Age” of industrial prosperity and friendly relations with the United States. American historians of the period pointed out that “the Mexican experience afforded a preferred solution for the hemispheric problem of change and development” and that it “had much to offer the world” (Schmidtt 25). What the Mexican experience had to offer was a paradigmatic example of a dependent economy, in which national industries were not based on local scientific or technological research but rather on imitating or purchasing obsolete technologies from abroad. This phenomenon, generalized throughout Latin America, was attributed by dependency theory to a programmed obsolescence exploited by imperial powers. As Saldaña-Portillo explains in *The Revolutionary Imagination in the Americas*, dependency theorists argued that in a dependent economy, capital does not complete the cycle of its own reproduction without returning to the metropole. Instead, capital returns to the metropole in order to purchase the technology on which increased profit margins and further industrialization depend. Either as license fees, as joint venture costs, or as direct purchase costs, capital from “the periphery” returns to “the center” for something it cannot produce on its own: science and technology. Science and technology thus emerge, in the revolutionary imagination in the Americas, as an instrument of domination on the part of “the center”, while the imperative to adopt Western technology for progress emerges as “a policing technique, as an administered technological obsolescence that determines the terms of dependence” (Saldaña-Portillo 55).

In this section I want to argue that UNESCO's teachings and economic imperialism offer only partial answers to the question of why revolutionary nationalism failed to produce its own critical engagement with dominant narratives of science and technology. I want to approach this question from the perspective of Mexican cultural politics, which I have formulated so far in terms of the instrumentalist fantasy of “revolutionary science.” After all, Mexican revolutionary nationalists shared the belief of American liberals that, with the proper application of Western science and technology, the “less developed countries” would rapidly be able to exploit their newly discovered “productive capacity” (Saldaña-Portillo 21-23). If there ever was a bold attempt on the part of the Mexican state to make this dream come true, it was in the aftermath of 1968, when student protesters were violently repressed by the Mexican army in downtown Mexico City. Two

years later, President Luis Echeverría embarked on a neo-nationalist agenda that would restore the political legitimacy of the revolutionary regime, and this was the time when revolutionary science finally met “science policy.” The National Council for Science and Technology (CONACYT) was founded in 1970 with the aim of determining, implementing and evaluating the national science policy. Policy documents from Luis Echeverría's presidential term (1970-1976) acknowledge an increasingly competitive international market and assert that the national industry must move from a stage of import-substitution to one of “technological adaptation” and “conquest” of foreign markets. The shift to adaptation and conquest was premised on Echeverría's claim that Mexico had by that time satisfied its most important internal demands and could dedicate itself to pursuing “the freedom afforded by knowledge” by means of the techniques “most beneficial to Mexico” (qtd. in Cano 144). The “Plan Nacional Indicativo de Ciencia y Tecnología” (PNICyT), whose main goals were the achievement of a non-imitative scientific development, cultural autonomy and technological self-determination, and which involved hundreds of scientists and business people, was issued just three months before the end of Echeverría's term.

Among the steps that Echeverría's administration took in the attempt to rescue the institutionalized revolution from a crisis of legitimacy (sparked by the massacre of Mexican student protesters in 1968) were a short-lived nationalization of the pharmaceutical industry and the creation of the Institute for the Study of Medicinal Plants (Imeplam). Anthropologist Cori Hayden has analyzed how Imeplam's ethnobotanical collections trace back the origin of the “national flora” either to the colonial encounters or to the observations made in the 19th century by the German traveller-scientist Alexander von Humboldt, whose writings inspired the Mexican nationalist imaginary. At Imeplam, collections of ethnobotanical knowledge were produced on the basis of the already existing inventories. The purpose of the collections was to identify a distinctly national *herbolaria* that could serve as a resource for the pharmaceutical industry. Thus, Hayden points out that the translation of Mexican nationalism into ethnobotanical knowledge was not only metaphorical in its significance, but also historical and institutional. She reminds us that the cultural politics of the Mexican post-revolutionary state was based on the argument that while the cultural heritage of indigenous peoples had provided the nation with a distinctive personality, the present and future nation would belong to

a bioculturally assimilated, national *mestizo* citizen (Knight; Hayden, "Vinculaciones" 309). Through the ethnobotanical inscription of cultural and political notions of mixture and hybridity, Imeplam's collections helped to materialize the hegemonic story of Mexico as a modern, racially improved nation (309). As it turned out, the revolutionary science of ethnobotanical nationalism did not achieve the goal of technological self-determination. No lasting pharmaceutical industry emerged from Imeplam's collections, which once again suggests that their function was from the beginning political. Imeplam temporarily satisfied popular aspirations of "development" by reasserting the developmentalist narrative of civilizational transcendence.

Mexico's next president, José López Portillo (1976-1982), continued with Echeverría's neo-nationalist line of argument. His "Global Development Plan 1980-1982" included a special chapter on science and technology, in which it was established that "technology policy" derived from the "national political philosophy and the national aims" (Cano 148). Its role was to achieve a "massive diffusion of those technological innovations directly impinging upon the productivity and training of the workforce, thus connecting science with the social and productive needs of Mexico" (Cano 148). For this purpose, the Plan prescribed the strengthening of "scientific and technical services" through the state support of basic research carried out in public universities. Basic research, however, was seen as not compatible with the "inmediatist visions" of the productive sector. Implicitly, López Portillo seemed to be re-asserting the ambitions of revolutionary science: that of magically deriving "technological self-determination" from "pure science." This fantasy would not be exposed in its vulnerability until the neoliberal age, when the state would no longer guarantee such concessions to national knowledge producers.

The failure to engage with science and technology except in terms of cultural luxury and imported goods is one for which Mexico is being severely punished in the neoliberal age of technoscientific capitalism. Previously, countries like Mexico survived on a combination of subsistence agriculture, light industry, and the export of primary commodities, including labour. Contemporary capitalism has threatened the viability of such a survival strategy. It has introduced new and widening inequalities between the "new" knowledge-based economies of the North and the "old" production-based economies of the South. Technoscientific

industries such as biotechnology are reducing the overall demand for primary products from Southern countries, while intellectual property regimes now limit the flow of knowledge except in the form of expensive commodities. Moreover, under the neoliberal austerity measures, Southern countries are finding it increasingly difficult to develop their own science and technology. Unable to create proprietary knowledge, including biotechnology, the South seems doomed in terms of global competition (Peritore and Galve-Peritore).

Even though the Mexican “neoliberal turn” is most often dated back to 1982 – the year in which a debt crisis pushed the government to accept the structural adjustment programs prescribed by the World Bank and the IMF – science policy documents produced by Miguel de la Madrid's presidency (1982-1988) still contain some key concerns of nationalism, such as the need to “master” imported technology and to use public research in the solution of “national problems.” De la Madrid's "Programa Nacional de Desarrollo Tecnológico y Científico" (PRONDETyC 1984-1988) makes it plain for the first time that science policy does not depend on the national aims alone but rather on how the country as a whole adapts to the wider international context. In other words, the emphasis shifts from technological self-determination and cultural autonomy to the reduction of "dependency" in the context of global "interdependence." Among the main obstacles in this regard, PRONDETyC detects technoscientific gaps such as low incentives for innovation, the lack of a link between research and production, the lack of highly trained human resources in the productive sector, the focus on short-term technical problems and the unwillingness to take "risks" among national business communities (Cano 151-152). Acknowledging the social complexity of these obstacles, PRONDETyC concludes that science planning is not just a technical issue, and invokes instead the citizen's perception of “the desirability of alternative future situations” (664). In clear anticipation of the academic resistance to the neoliberalization of public institutions, de la Madrid's science policy called for wider “participation” from “the scientific and technological community, the public, social and private productive sectors, and more generally, all of the social groups concerned” (664). Significantly, the policy included the creation of the National System of Researchers (SNI), which supplemented between 50% and 100% of the salaries of academic researchers who had been hit by the first wave of neoliberal cuts to higher education. Yet subsequent cuts to public spending sparked

antagonistic responses on the part of many social groups, including academics. Globalization was there, “in all its threatening reality as a gigantic and inescapable *factum*” (O’Gorman 28), and one that science policy was supposed to address for the sake of “viability.” Whereas the failure of revolutionary nationalism to produce a satisfactory engagement with modern science and technology has been irreversibly exposed by the neoliberal conjuncture, the debate goes on about what would count as a satisfactory or even desirable engagement with technoscientific capitalism.

Against Neoliberalism: Revolutionary Science Strikes Back

In matters of social justice and of scientific truth alike, the legitimation of (...) power is based on its optimizing the system's performance – efficiency. The application of this criterion to all of our games necessarily entails a certain level of terror, whether soft or hard: be operational (that is, commensurable) or disappear (Lyotard xxiv).

In mainstream analyses neoliberalism tends to be reduced to a set of economic policies, making it difficult to appreciate its cultural and political dimensions. With these in mind, I borrow Wendy Brown's understanding of neoliberalism as a political rationality or mode of governance that organizes society as a function of the market. Under neoliberalism, the market is “the organizing and regulative principle of the state and society” (Brown, *Edgework* 41). No longer the representative of popular sovereignty, the state is positioned as being responsible above all for the economy, which individual citizens enact as entrepreneurial actors in every sphere of life (42). At the moral level, individuals as much as nations are interpellated by neoliberalism as “rational, calculating creatures whose moral autonomy is measured by their capacity for ‘self-care’ – the ability to provide for their own needs and service their own ambitions” (42). Whereas capitalism provides a sort of basic ideological structure to neoliberalism, cultural theorist Jeremy Gilbert has forcefully insisted that it remains unclear how far neoliberalism can go and what it can actually achieve because it largely depends on to the balance of forces within specific political contexts (*Anticapitalism and Culture* 172). In Mexico, neoliberals had to translate their technical recipes into a meaningful political discourse that was capable of

generating enough legitimacy to ensure the continuity of neoliberal reforms (O'Toole 274-275). The text of Mexican science policy briefly sketched above already suggests the general orientation of neoliberal efforts at hegemonizing the national imaginary.

Even though the implementation of neoliberalism in Mexico was not a democratic process, Mexican neoliberals worked hard to elaborate a new public philosophy, or “new ways of thinking and speaking about the republic” (qtd. in O'Toole 274). In particular, technocratic President Carlos Salinas de Gortari (1988-1994) expounded the theory that an increasingly individualized Mexican society demanded a comprehensive reform of the state that recognized both the competitive and plural nature of party politics, and the individual as a political actor defined by human and civil rights. Because a central tenet of neoliberalism was the superiority of market mechanisms and the extension of economic freedoms through the limiting of state intervention, the political reform demanded by Mexican individuals had to start with the withdrawal of the state from large areas of economic activity. The reformed Mexican state, said the neoliberals, would regulate and orient the economy, but no longer possess, substitute or extend protectionisms and privileges. In attacking state paternalism, the neoliberals sought to produce Mexican citizens as “mature” subjects on the basis of their supposed individual initiative. For instance, Salinas's “National Solidarity Programme” (PRONASOL) explicitly promoted a new civic ethic of “co-responsibility” and self-reliance. “Solidarity”, a key slogan of the Salinas administration, played the role of synthesizing the ideals of individual entrepreneurship and social justice, serving simultaneously “as a legitimizing formula for market reforms that reduced the role of the state, and as a social ethic underpinning the continuing task of nation-building” (O'Toole 277).⁵⁴

⁵⁴ Another example of Mexican neoliberalism is the reform of Article 27, which allowed *campesinos* to sell their collectively owned land (*ejidos*). Government spokesman Arturo Warman (author of *Corn and Capitalism*) argued that the main result of “state paternalism” had been the treatment of the *campesino* as child-like, lacking the full maturity of other citizens, and that the primary aim of reforming Article 27 was to correct such a denigrating situation. Warman argued that the Salinista approach sought a “third way” between individualism and collectivism that responded to the historical complexity of Mexican rural society:

It is not easy, but it is possible and necessary. It does not remain between paternalism and passivity; it proposes another route that can be assimilated within the concept of solidarity, that implies respect, participation, consensus and co-responsibility; a new relationship between society and state (qtd. in O'Toole 781).

Combined with an imperative of competitiveness and self-reliance, attacks on "paternalism" set the tone for the policy documents of the Salinas period. In the "National Development Plan (1989-1994)," science and technology are located within a chapter on economic modernization, which asserts that modern policies are necessary for the nation to compete effectively in the global economic game. The "National Science and Technological Modernization Program 1990-1994 (PNCyMT)" explains that the previous economic model had been based on protectionism, isolationism, excessive regulation, a distorted character of industrial growth and scientific and technological backwardness, all of which had to be rectified. While the National System of Researchers (SNI) had been set up by de la Madrid as a mechanism of direct compensation to academics struck by neoliberal reforms, Salinas sought to decrease the reliance of the national research system on public funds and to increase private participation instead. He also introduced novel requirements to measure the correspondence between state-sponsored research activities and economic growth, in terms of the degree of connection between such activities and the private industrial sector. Public funding of scientific and technological development had to be reflected in the modernization of the productive basis and in the development of competitive products and processes. The assumption was that technological knowledge was susceptible to "private appropriation," that it was destined to generate financial yields, and that the participation of the productive sector in funding R&D was not only necessary and desirable, but that it also had to respond to criteria of economic competitiveness. Budgeting measures, which required a considerable increase in bureaucratic activities such as evaluation, control and planning, included the requirement to annually review the criteria for budget allocation to research centres, taking into account other sources of funding and conditioning funding on percentages of self-funding (CONACYT, *Programa Nacional 67*).

Neoliberal science policy provoked a prompt reaction on the part of Mexican academics. Schoijet and Worthington, for example, decried "the collapse of a nationalist science policy" and its replacement by "a transnational model of science and industry as interconnected processes" (210). One of the most "prominent casualties" of such a new model, they say, was CONACYT. Created by Echeverría "to break the chains of technological dependency," it was then made to "sell off" the research institutions previously thought to be necessary for national

independence, in order to finance research in which budgets, projects, and results counted as proprietary information kept by enterprises such as Ericsson, IBM, and Nestlé (214-215). Rather than the promised modernization, Schoijet and Worthington argued, the restructuring of the research system would bring about “new patterns of discrimination and repression” against the dissenting scientists, since it was driven not merely by global economic trends, but also by a political system in a state of decomposition. The critics concluded that “Mexico's earlier nationalism in development strategy and science policy, which aimed to build up the nation's industrial infrastructure and research system, has been superseded by a retrograde nationalism that distributes declining resources to a self-serving elite of progovernment elements” (218). This was the worst of neoliberalism combined with the worst of nationalism, they thought, representing as it did “both subjugation to the interests of global capital (...) and [a] retrograde nationalism that limits the vitality of the research system” (227).

Schoijet and Worthington did make a valid point about the specific dangers of the appropriation of neoliberalism by an authoritarian state. The continuity of authoritarianism, however, does not eliminate the fact that Salinista neoliberalism attempted to formulate, discursively and materially, a problematic that revolutionary science had systematically refused to confront. More significant than the continuity of authoritarianism seems to be the fact that neoliberalism utterly failed to correct the lack of technoscientific innovation in Mexico. As late as 1998, and only two years before the democratic transition, Mexican policy analyst Cano declared that the Mexican government did not have a clue about how to relate scientific research activities to national priorities, much less a bureaucratic strategy for doing so. More than a decade later, in 2010, Bazdresch and Meza complained that Mexican economists still routinely underestimated innovation issues, due to their over-reliance on the import-substitution regime that had prevailed until the early 1980s (7-8). In sum, Mexican neoliberalism introduced managerial discourses into universities and research centers, yet it did not succeed in eradicating the strong anti-technological stance of revolutionary science. At the risk of playing the devil's advocate, I want to suggest that it was the scientists themselves who kept the fantasy of a "pure science" that would lead to "national development" alive through their opposition to neoliberalism.

The last PRI president of the 20th century, Ernesto Zedillo (1994-2000), is less remembered for any original contributions to national science policy than for steering the crisis of revolutionary nationalism towards its end: the so-called “transition to democracy.” After years of civil struggles and negotiations with the authoritarian regime, Zedillo facilitated the setting up of institutions that could guarantee the transparency of the elections. In 2000, Vicente Fox Quezada from the Party of National Action (PAN)⁵⁵ became the first democratically elected president of Mexico. Through his *Programa Especial de Ciencia y Tecnología 2001-2006* (PECyT), Fox reinforced the neoliberal emphasis on supporting initiatives orientated towards innovation through the generation of links between public research and private companies. Like his immediate predecessors, Fox believed that technoscientific links would lead to an increase in competitiveness for national (private) enterprises. In line with his background as manager of Coca-Cola Mexico, he proposed to organize the research system into “strategic areas” and to manage it “efficiently.” Fox also proposed a drastic reduction of state investment in science education, in particular by eliminating the SNI and by limiting the number of grants for postgraduate study.⁵⁶ The initiative failed to prosper because the scientific community reacted strongly against it during a heated consultation hosted by the national congress in 2002. Because of the strong opposition on the part of the scientists to the further neoliberalization of science policy, the 2002 consultation led to a legislation which kept science distinct from technology, reasserted the public importance of basic research, recognized the humanities and the social sciences as disciplines of national interest, strengthened the legal status of the SNI and CONACYT, and avoided the dismantling of public

⁵⁵ *Partido Acción Nacional* historically formed to gather the traditional right-wing Catholic opposition to the post-revolutionary regime. Until the 1990s the PAN had been dominated by its most conservative factions. However, in order to win the national elections and stay in power it had to shift to the centre-right. Many critics of the PAN still view it as an agent of the most retrograde beliefs, a perception that has been reinforced, paradoxically, by the fact that the PAN has merely continued with the neoliberal reforms implemented in the first place by the PRI. The situation seems analogous to popular figurations of the Tories in England, which seem to ignore the technocratic consensus across parties.

⁵⁶ Neoliberal *priistas*, as we have seen, were not naïve, so they carefully explained their dismantling of the welfare state through a nationalist rhetoric. De la Madrid created the SNI to avoid further confrontation with academics while Salinas mobilized a precious psychological resource, namely, the urbanite desire of “being part of the First World and not the Third.” By contrast, the tall ex-CEO of Coca Cola Mexico (who also dressed like an American cowboy) seemed to lack both the shrewdness and the revolutionary aura of a traditional Mexican politician, and was constantly ridiculed for it. Yet, it was precisely Fox who became the first democratically elected president in Mexican history.

research centers (Zubieta and Loyola 951). This spectacular victory of the scientific lobby signals a political environment very different from that prevailing in 1993, when Schoijet and Worthington denounced old-style repression against Leftist, foreign-born or dissenting scientists. Precisely with this social transformation in mind, I now want to introduce my own critique of the scientific lobby's oppositional discourse to technoscience, the latter being understood, in the very precise terms used by Worthington and Schoijet, as "a transnational model of science and industry as interconnected processes" (210).

Two passionate critics of Mexican science policy of the neoliberal period, Zubieta and Loyola argue that framing science in terms of an economic strategy and expecting it to show results in terms of technological development and innovation is incompatible with science "in its purest sense." They complain that the legal agreements that were reached in 2002 were subsequently "administered by a team of engineers who had a limited and highly biased vision of science as well as of technology" (951). In other words, the "team of engineers" focused on technological development and innovation, wrongly assuming that technological research can be done separately from the development of knowledge, "as if the solution of social problems or competitiveness could be achieved without (...) science, in its purest sense" (973). The vocabulary of "pure science" as something opposed to technology and innovation suggests a somewhat moralistic hostility to technoscience as a form of life. In what sounds like a resentful death-wish, Zubieta and Loyola conclude that, as long as governments continue to privilege technology and innovation over science "in its purest sense", there will be no science, and not even technology in Mexico (992). Such a categorical prophecy is particularly striking in the context of a democratic transition which, with all its imperfections, has seen Mexican scientists and academics rise collectively as outspoken and organized policy-makers – and no longer as just privileged clients of an authoritarian state or as mere victims of the state's authoritarian repression.

From this perspective it seems to me that Zubieta and Loyola's categorical rejection of technoscience resonates with an impulse that is far removed from "pure science" and situated closer to the way in which science and technology have been historically framed in Mexico. I am thinking of revolutionary science, or the cultural dream that social and economic progress will magically come about without any loss of "purity." On the one hand, as the historian O'Gorman

understood well, the very concern for purity was historically contaminated by a legacy of authoritarianism. On the other hand, as postcolonial STS has made clear, the establishing of “productive links” between science and “progress” has always required at least some degree of contamination (both commercial and military). Whereas Zubieta and Loyola think that national problems cannot be solved without “pure science,” their argument does not seem to be based on any connection, instrumental or of another kind, between “pure science” and social life. It might rather be based on the immediate threat to the cultural prestige that sustains their disciplines and academic positions. Considering that contemporary Mexican scientists tend to see themselves as liberal and modern rather than as Catholic conservatives, it is ironic that Zubieta and Loyola end up framing technoscience (that is, the interconnectedness of science and technology in the context of global capitalism) as nothing less than a sin.

Critical accounts of biotechnology in Mexico do indeed stress the uncooperative “attitude” of Mexican scientists and the “unwillingness” of local companies to invest in R&D. American development theorist Cynthia Wagner, for instance, includes the “pure science mentality” of Mexican scientists among major obstacles in the development of biotechnology in Mexico (Wagner 64). By suggesting resonances between the disciplinary self-assertion of “pure scientists” and the cultural conservatism that O’Gorman associates with “the ontological legacy of the colony,” I do not mean to uncritically duplicate the developmental discourse of the neoliberal managers. As María José Saldaña-Portillo has argued, the deepest problem with developmental discourse is the idea that social progress depends on the subjective transformation of allegedly “underdeveloped” peoples into “free, mature, fully-conscious, and self-determining individual subjects” (6). Modernization theories attribute “underdevelopment” to the failure of people to make proper cultural choices, that is, the failure to choose the future-oriented values of modernity as opposed to the backward-looking values of “tradition.”⁵⁷ Such an explanation, Saldaña-Portillo argues, obscures the histories and politics of colonialism, dictatorial regimes, oligarchies, death squads, unjust land tenure systems, and internal migration patterns, all of which clearly constrain the

⁵⁷ As Saldaña-Portillo has pointed out, American modernization theorists such as W.W. Rostow typically identified the condition for economic development in the adoption of an “effective attitude” towards basic and applied science (Saldaña-Portillo 30).

possibilities of “choosing” development and change (29). Whereas my overall argument depends on not granting absolute deterministic powers to the economy or any other sociohistorical instance, I take heed of Saldaña-Portillo's warning about the ideological risks of invoking “choice” in an abstract way.⁵⁸ Without claiming that I have a solution for the complex challenges that a country such as Mexico faces in the world of technoscientific capitalism, I want to insist that scientific purism poses serious limitations to the imagination of technoscientific futures in Mexico. A more critical relationship with (Western) science and technology might become possible on the basis of a recognition that science has never been “pure,” and of this fact as a key factor in the explanation of why Mexican basic research has never attained much in terms of “social progress,” beyond the narrow circles of individuals that make up the Mexican scientific community. Rather than downplaying the real threats of neoliberalism to knowledge production in Mexico and the world, my intention here has been to interrogate the very desire for “original projects for national development, in the broad and shared sense which today is missing” (Cano 166). That Mexican science and technology has failed the expectations of Mexican society is not just the perception of policy-makers but of Mexican scientists themselves too. Casas and Detmer, for example, lament that what is missing in Mexican science policy is nothing less than “the framework of a project of national development orientated to the satisfaction of social needs” (137). In a tone which is both moralistic and melancholic, Zubieta and Loyola assert that the technoscientific model has already produced a “regression” that will be very difficult to undo (945). From their discourse in particular it appears as if the aspiration of revolutionary science to bring about national development by means of “pure science” had become stuck and self-defeating. How else can revolutionary science respond to the technoscience of biotechnology?

⁵⁸ This is a potential problem in O’Gorman’s discourse, which ends up challenging Mexican nationalists to “adhere to the vital program of modernity,” as if the fate of the Mexican nation depended on the will and intention of individual subjects. Still, my appropriation of O’Gorman’s text stresses the anti-essentialist orientation of his critique of nationalism as a flight from history. O’Gorman’s injunction to take historical responsibility is consistent, in my view, with a rigorous critique of developmental fantasies such as revolutionary science.

The Idealistic Spirit of "Third World Biotechnology"

The selective blindness and active opposition to everything that is new and relevant is one of the structural features of underdevelopment (Goldstein 51).

For a long time it has seemed unlikely that Mexican science and science policy will ever be able to have any significant "impact" on "national development." In a paper titled "Third World Biotechnology, Latin American Development, and the Foreign Debt Problem," Daniel J. Goldstein describes "Third World Biotechnology" as "an altruistic, noncompetitive, salvationist, and regionalist enterprise" (42). Goldstein's critique of such an enterprise resonates strongly with O'Gorman's analysis of Ibero-American cultural essentialisms and with my own characterization, in this chapter, of "revolutionary science." Instead of focusing, as the Northern-based biotech industry does, on the generation of profit through the invention of competitive, high-value products, "Third World biotechnology" hopes to eradicate malnutrition and endemic parasitic diseases, and to improve the life of poor farmers (37). In other words, very much like revolutionary science, "Third World biotechnology" positions itself as "the ideal instrument for wiping out the consequences of misery without touching its causes" (40). What "Third World biotechnology" does not seem to understand is that hunger and disease are political problems that will not be solved by technological means (41). What is really needed, Goldstein says, is "a radical transformation of the way in which poor people live and work in urban and rural areas," including decent housing, education, better-paid jobs and adequate working conditions (43).

If biotechnology is defined as "an industrial activity that appropriates the expanding frontier of molecular physiology to produce molecules and devices that generate wealth" (39), it appears obvious that biotechnology is not there to save Latin America, or any other region of the world, from marginality and exclusion. Despite the salvationist rhetoric deployed by transnational biotech corporations themselves, the contrary appears to be the case. Only the "Third World" can save itself, Goldstein argues, by making a political decision to enter fully into the game of technoscience. A whole new corporate, managerial, financial, and political culture of high technology would have to be created in order to generate the technoscientific links that would allow biotechnological enterprises to become

commercially viable (39). Yet the problem is precisely that the practitioners of "Third World Biotechnology" reject and often denounce technoscientific links as "antinational and antiregional" (41), while paradoxically limiting themselves to "relearning the technologies invented by others" (42). A change of attitude appears all the more unlikely considering that biotechnology is not only "inseparable from an economic-business model" (Thacker 43) but also "inseparable from the rise of neoliberalism as the dominant political philosophy of our time" (Cooper, M. 19). Thacker writes:

(...) nearly every account of the biotech industry notes the simultaneity of scientific and economic innovation: recombinant DNA and the formation of Genentech, polymerase chain reaction (PCR) and the Cetus Corporation, transgenics and DuPont, and a wide range of examples related to the pharmaceutical industry. However, we should be cautious of any attempt to limit such views to the commercial sector, for there also exists a "governmentality" surrounding biotech that is in many ways inseparable from business models: alliances between the corporate and public sectors patenting disputes between developed and underdeveloped countries, and policies that allow universities and nonprofit organizations to apply for patents based on federally funded research (43).

Clearly, the "pure science mentality" of Zubieta and Loyola does not fit into the ultracapitalist governmentality described by Thacker. While in the U.S. entrepreneurial startups by scientists have gradually become the foundation of biotechnology, the basic research orientation of Mexican scientists, coupled with their "negative attitudes" toward patenting and their overall pejorative consideration of mixing science with business, has impeded the proliferation of scientist-entrepreneurs (Wagner 65-66). In order to illustrate the daunting task of actually doing biotechnology in a country such as Mexico, Cynthia Wagner narrates the story of Genin, a biotechnology startup founded in the early 1980s by two prominent Mexican scientists. Francisco Bolívar Zapata and Roberto Quintero, fellow students at the MIT, combined their complementary skills upon returning to Mexico.⁵⁹ Their patented biotechnology-based invention for producing a

⁵⁹ A recent pamphlet on Mexican biotech by San Diego Dialogue, *Borderless Biotech*, summarizes Zapata's scientific profile as follows: "In California in the late-1970s, Genentech was not as well known as it is today. One of its co-founders, Dr. Herbert Boyer, was a professor of biochemistry

biocatalyst used in the production of penicillin appeared to have a market in the country. Unfortunately, their initial startup capital was slashed due to the Mexican currency devaluation in 1981. A further shock came when it became clear that the potential customers, Mexican pharmaceutical companies, were not interested in licensing the technology, but preferred to buy the biocatalyst itself, just as they would buy it from a foreign company. Genin then faced the typical obstacle to biotechnology startups, namely, no funds to scale up production. As a result, it was forced to settle for boutique status, performing contract research projects for various sponsors, for about ten years before ultimately closing its operations. As an outcome of this initial failed venture, Bolívar and Quintero went on to create the Instituto de Biotecnología (IBT) at the National Autonomous University of Mexico (UNAM), which they still lead.⁶⁰

The case of Genin makes it clear that there are other factors beside a "pure science mentality" that lead scientists to take refuge in the dream of revolutionary science. For reasons that are not merely psychological, Mexican biotechnology is a relatively small endeavor. It is centered in university and federal technical institutes, mostly isolated from national industry, and pursuing projects of a general or "non-applied" nature (Peritore and Galve-Peritore 71).⁶¹ By contrast

and biophysics at UCSF, where several members of his research team, including Mexican-born Francisco Bolívar and Californian Ray Rodriguez, were diligently working to create a safe and effective biological mechanism to facilitate cloning of special bacteria. Their answer: a "plasmid vector" – a small, self-replicating genetic element with built-in coding of enzymes that allow its host – a bacteria, for instance – to thrive in environments in which many other bacteria cannot (for instance, in the presence of antibiotics). The resulting genetic package was the plasmid pBR322 (the "B" for "Bolívar," the "R" for Rodriguez) – designed to be resistant to two antibiotics (ampicillin and tetracycline)." By subsequently modifying this plasmid, Bolívar and Rodríguez were able to stimulate the production of certain hormones by the bacterial host – such as insulin." This work, according to *Borderless Biotech*, helped to launch Genentech as a multi-billion dollar company.

⁶⁰ As Bolívar Zapata narrates, IBT could have been founded as an autonomous research centre with funds from the United Nations Industrial Development Organization (UNIDO), had the Mexican government not withdrawn the support required by UNIDO on the grounds of economic crisis (again, 1981 currency devaluation, following the oil crisis). In the end, it was a relatively small concession from the national government that enabled the creation of IBT as part of the UNAM's research system (*Fundamentos y casos exitosos...*).

⁶¹ Of the more than \$40 million invested in biotechnology R&D in Mexico since 1990, about half is concentrated in the Instituto de Biotecnología (IBT) at the UNAM. IBT's director is Francisco Bolívar who, in the 1970s, worked in the University of San Francisco laboratory of Genentech's co-founder, Herb Boyer. Other smaller but relatively successful biotechnology R&D efforts can be found at CINEVESTAV-Irapuato, CINEVESTAV-Mexico City, at various departments within the UNAM, and at the Metropolitan University (UAM). The Nitrogen-Fixation Center of UNAM-Cuernavaca is charged with fixing nitrogen in nonleguminous crops, thereby avoiding dependency on chemical fertilizers and avoiding further soil deterioration, a serious ecological problem in Mexico. Production of nitrogen-fixing bacteria is monopolized by two foreign industries, Nitrogén and Química Lucava. The Centro Internacional de Mejoramiento de Maíz y Trigo (CIMMYT), a prominent internationally supported agricultural research center, also has a notable program in biotechnology; and, while its

with the situation in the U.S., most Mexican maize researchers have little interest in using molecular genetic markers to improve their selection criteria. The relatively few Mexican maize biotechnologists have had to fight hard to persuade their institutions and the government that their research is worthy of financial investment.⁶² Currently, of the six laboratories where biotechnological research on maize is conducted, only CINVESTAV-Irapuato applies advanced genetic engineering to agricultural production.⁶³ Although most biotech projects in Mexico are nominally associated with industries such as food processing, plant and animal agriculture, environmental management, and pharmaceuticals, biotechnology researchers tend to avoid focusing their research on the specific needs of local companies. The latter, in turn, see little advantage in hiring scientists, particularly when technology can be obtained more cheaply from abroad. Not surprisingly, most biotechnological products circulating in Mexico are imported, a situation which not only keeps local biotechnological research isolated from economic activity, but also exacerbates the perception of biotechnology as foreign intrusion.

Still, the fantasies of revolutionary science reappears everywhere, even among the least expected actors. Francisco Bolívar, the failed scientist-entrepreneur, is an ardent promoter of biotechnology as an opportunity and an instrument for “solving the problems of our country” (“Creación y Consolidación...” 13). At the same time, he stresses that the solution to those problems is not the fundamental goal of the IBT. The goal of the IBT is rather to perform “first-level research” in order to “advance knowledge” under the evaluation and approval of international experts, for its publication in prestigious journals (16). In a gesture that is all too familiar by now, Bolívar equates his job with a desire “to understand our national problems, to search for solutions and, simultaneously, increase our identity and sovereignty” (22). There is therefore no fundamental shift in the way

efforts are not focused exclusively on Mexico, it collaborates periodically with other research institutes that operate in the country.

⁶² In the early 1990s there were 179 maize researchers, 67 of whom worked on genetic improvement. Government invested around 5 million dollars on such research, by contrast with 185 million dollars invested by Monsanto (Arellano and Ortega, “Caracterización” 55).

⁶³ Luis Herrera Estrella, working at CINVESTAV-Irapuato, was the first scientist to transfer a bacterial gene into a plant. Other CINVESTAV scientists work on plague-, drought-, and soil salinity-resistant varieties, and are developing plants resistant to fungus, virus, and herbicides, through protoplast fusion and recombinant DNA. They also are studying tomato, tobacco, and bean genetics to make crops resistant to insects, or are working with *Bacillus Thuringiensis* (Bt) bioinsecticides. CINVESTAV is the only institution doing advanced plant biotechnology, while others do applied research in tissue culture and micropropagation.

that science and technology are imagined in Mexico, namely, as mere tools for the attainment of national sovereignty. I want to conclude this chapter by suggesting that there exist some other ways, more critical and more creative ones, to engage with biotechnology in a context such as Mexico. They involve breaking free from the traps of oppositional thinking and inventing different ways of understanding and practicing biotechnology, and technoscience more generally.

Conclusion: Local Knowledges and Postmodern Technoscience

It does not matter if in the middle of the way one finds oneself in a blind alley... in any case there is no other choice than starting to look and ask questions about the many hidden assumptions in narratives, in our own narratives (Gorbach and López Beltrán 21).

In line with international trends, in recent decades Mexican science policy started to foreground business as the main engine of scientific and technological innovation, a neoliberal conception that merely re-articulated older expectations of development qua modernization. Yet the documents and analyses of Mexican science policy that I have briefly examined in this chapter suggest a crisis in the narratives of national development through state-sponsored science and technology. The crisis seems to pertain above all to the role of science and technology in Mexican society, which touches directly on the self-definition and cultural prestige of scientists but also on their historical and current relationship with the Mexican government. While "the Mexican problem with technoscience" cannot of course be reduced to the problem of "attitude" or "mentality," I have tried to show that a focus on cultural and political narratives does illuminate relevant aspects of the problem, not least questions of agency and historical responsibility. Scientists (and not just Mexican scientists) are of course being reasonable when they warn us against the extrapolation of productivist parameters to the field of academic knowledge. Yet more than defensiveness or purist contempt for engineers is needed if they are to satisfy their own desire for "effective interlocution and direct participation, with original projects for national development, in the broad and shared sense which today is missing" (Cano 166). An acknowledgment of the historical "impurity" of science and technology need not

lead us to downplay the challenges of technoscientific capitalism. On the contrary, it might help Mexican scientists (and more generally "us" as academic producers) to give up on melancholy, moralism and wishful thinking in order to start valorizing the increasing politicization and interrogation of our role in the wider society, for it is society as a whole that is exposed to the transformations entailed by technoscientific capitalism. Far from resolving this complex issue, to expect social change to come from a truly nationalist and transparent science policy "would mean cancelling spaces and opportunities to intervene, critically and autocritically, in the search of viable alternatives for the nation from the perspective of the interest of national majorities, an intervention which (...) is indispensable in the present time" (Cano 166). My general aim in this thesis is precisely to reflect on what counts as a responsible intellectual intervention in the definition of Mexican nationalism's historical responsibility towards Mexican society as a whole.

Under the hegemony of modernizing narratives (including neoliberalism), it comes as no surprise that middle-class, Western-educated, urban subjects such as Mexican scientists feel compelled to view biotechnology as involving an either/or identity choice, a choice between, on the one hand, success, world-class science and development and, on the other hand, scientific backwardness and never-ending subordination. Yet the imperative of making a choice in such binary terms only reiterates the formulation of the problem as it is conceived from a modern hegemonic standpoint. Lyotard observes that a purely oppositional reaction to the contemporary subordination of knowledge to industry is unlikely to bring about any success. What he proposes instead is a sort of radical science, a generalized and in a sense *impure* scientific practice. The latter would not be about objective expertise, but rather it about creative game playing. In this vein Lyotard explains that "working on a proof means searching for and 'inventing' counterexamples, in other words, the unintelligible; supporting an argument means looking for a 'paradox' and legitimating it with new rules in the games of reasoning" (54).

Starting in 2000, a History of Science seminar at the National University's Institute of Philosophical Investigations gathered researchers with different backgrounds around two points, namely: frustration with the indifference on the part of Northern historians to science in "peripheral" places such as Latin America, and a feeling of entrapment in the kind of rationality that reinforces the

peripherality or marginality of such places in relation to the dominant (Northern) narratives of the history of science. From the seminar's work there emerged a book, titled *Saberes Locales*, in which the editors explain:

It happened that, in many ways, that central history, even when one attempted to fight it, was repeated locally, again and again, and in the end we didn't do more than importing Northern methods and theories, while we exported data and useful case studies so as to expand the explanatory power of those historiographies (Gorbach and López Beltrán 16).

For some of these researchers, the dilemma was to either “domesticate with flattering the controlling and exoticizing gaze of dominant historiographies, or to take sides with the relativist, postmodern and postcolonial critics, but both extremes left us without a historical place for our sciences” (Gorbach and López Beltrán 16). For others, the choice was between nationalism and diffusionism, that is, between an essentialist attempt to capture the local contributions to science, and a “realistic” vision of such contributions in terms of bad copies of a science achieved elsewhere. Every path, however, ended up reinforcing the centrality of Europe as the subject of history, “...and thus there was no alternative to writing history of science to show Europe how modern we are, or to tell her how we adapt, configure and commemorate the nationalist singularity. In one or another way, we continued searching for essentialisms” (17). What the researchers discovered was a fundamental inhibition in the thinking of Southern sciences and histories from any place other than “Europe.” Specific case studies constituted a kind of raw material for eurocentric thinking, leaving “peripheral” historians with a sense of emptiness, one that could only be filled by the nation and nationalism (17). Nationalism, however, amounted to a reproduction of the centrality of the centre as the only possible way of defining oneself in terms of success or failure, development or stagnation, alignment or non-alignment (17).

The two editors of *Saberes Locales*, Frida Gorbach and Carlos López Beltrán, refer to the “science wars” that followed Kuhn's publication of *The Structure of Scientific Revolutions* as having made it necessary to understand sciences as knowledges, that is, “as cultural practices within complex power relationships” (Gorbach and López Beltrán 19). Rather than feeling triumphant

about the visibility of a new horizon beyond eurocentric diffusionism and nationalism, they insist that the science wars did not make it clear how Mexican knowledge producers must proceed in order to distance themselves from the European frameworks, which continue to be imposed. Yet it is precisely through the work of these historians and philosophers of science that more critical and more creative engagements with technoscience are beginning to be produced in Mexico. In 2011, the members of the same History and Philosophy of Science research seminar published another book, titled *Genes (&) Mestizos, Genómica y raza en la biomedicina mexicana*. In it, contributors not only identify the racist assumptions at work in current projects to develop a national biomedicine based on the genetic markers of Mexico's population. They also directly investigate the links between the interests of economic and political elites and the rhetoric that they use in order to colonize public discourse about health and illness in Mexican society. Beyond the melancholic mourning of development's failure, their historiographic deconstruction of Eurocentric narratives in revolutionary science has thus turned into an active intervention in the contemporary cultural struggle for a more democratic technoscience.

Is it possible to multiply this kind of effort at "postmodern science" in the field of agricultural biotechnology? In the following chapter, I argue that a contestation of the dominant framing of biotechnology as "the genetic informationalisation of life itself" (Kember 236) can indeed destabilize the concentration of technoscientific debate within expert circles of policy-makers and scientists. In this vein, I ask what media and cultural studies can contribute to the analysis of biotechnology debates in Mexico. If it seems strange to assert that media and cultural studies *is* a kind of biotechnology, it might seem less so to see food practices as biotechnologies - *and* directly relevant to media and cultural studies at that. Having expanded the field of biotechnology studies through an understanding of technoscience as a sociocultural process, I want to turn my attention from science policy to cultural policy. In the next chapter, I analyze the story of cultural activism that has led to the recent inscription of Traditional Mexican Cuisine in UNESCO's List of Intangible Cultural Heritage (2010).

Chapter IV

The People of Maize and the Technoscience of Culture

Introduction: A Postmodern Apocalypse or Postmodern Knowledge?

Postmodern knowledge is not simply a tool of the authorities; it refines our sensitivity to differences and reinforces our ability to tolerate the incommensurable. Its principle is not the expert's homology, but the inventor's paralogy (Lyotard xxv).

In *The Postmodern Condition*, J.F. Lyotard defined postmodernity as an age in which knowledge, having lost its metaphysical foundations, is produced as a weapon in a global economic war. His prognosis was that the new economic role of knowledge would lead to a widening of the gap between rich and poor countries. As I explain in Chapter III, the same prognosis underpinned the widespread adoption of science policy by the Mexican government, which gradually sought to promote new attitudes and behaviors towards knowledge production based on the neoliberal premise that a country's economic survival depended on its technoscientific competitiveness in the global economy. Mexican scientists resisted the implementation of neoliberal science policy by invoking older narratives of pure science and national sovereignty. In my argument, their discourse failed to question conventional historiographies of science and technology and thereby reduced the national engagement with the technoscientific conjuncture to a re-assertion of revolutionary science – a term by which I designated an fantasy of social progress by means of science and technology. By contrast, a new generation of Mexican historians and philosophers of science started to explicitly challenge the legacies of both revolutionary nationalism and dominant, eurocentric narratives of science and technology. Rather than just lamenting the end of state support for so-called "pure science," they focused their attention on the symbolic and material construction of national science in relation to colonial history and global capitalism. As I conclude in Chapter III, I see their work as a critical engagement with technoscience that also provides a self-

reflective alternative to purely modernizing critiques of “Third World Biotechnology” (Goldstein, Wagner). In this chapter, I want to expand their engagement with technoscience from science as culture towards cultural activism as a form of technoscientific activism.

Much like science policy, cultural policy in the neoliberal era is elaborated by international think tanks promoting attitudes and behaviors appropriate for the transformation of all social practices into economic resources. With the argument of making cultures viable in the context of globalization, contemporary cultural policy promotes their technoscientific integration into the market economy. Early in the Mexican campaign against transgenic maize, a heterogeneous group of activists came up with the idea of appealing to international cultural policy as a strategic domain from which to advance their defense of Mexican maize varieties. The inscription of Mexican cuisine in UNESCO's *List of Masterpieces of Intangible Cultural Heritage* was sought since 2002 by a diverse group of citizens, including professional anthropologists, urban chefs, popular cooks, food writers, journalists and government officials. Through the “nomination files” that they sent to UNESCO, advocates of Mexican cuisine called for a defense of indigenous and national identity, defined in terms of traditional cuisine, against global threats such as junk food and genetically modified organisms. They argued that UNESCO's recognition would help to ensure the “viability” of Mexican food culture in a globalized world. It took them eight years to finally achieve inscription in the *Representative List of Intangible Cultural Heritage* (2010). The process involved one failed attempt undertaken by Mexican public institutions and academic activists, and a second, successful intervention on the part of urban gastronomic entrepreneurs sponsored by the transnational food corporation Maseca-Gruma. The role of industrial actors in achieving the UNESCO seal of approval makes it clear that “intangible heritage” is an ambiguous, slippery terrain rather than a straightforward oppositional force, yet I want to suggest that it is precisely for that reason that cultural activism must now be understood as technoscientific activism, which makes it important to analyze both the possibilities and the potential obstacles of a culture-centred defense of traditional maize agriculture on the part of social movements.

Heritage has come to be officially understood as a construct and a form of cultural politics that inevitably recreates “a sense of inclusion and exclusion”

(Smith and Akagawa, "Introduction" 7). From this perspective, every heritage is "intangible" in the sense that it is never an objective given. Heritage becomes tangible only when certain immaterial values appropriate institutional spaces through acts of power. For instance, by upholding the universality of a particular set of European values, UNESCO's World Heritage List sanctioned an international hierarchy of cultural relevance or status (7). This hierarchy was challenged during the culture wars of the 1980s, and the critical compromises reached through these wars (such as an official recognition of "cultural diversity") were in turn institutionalized in UNESCO's concept of intangible cultural heritage. At present, the heritage contest between nations is less about cultural prestige than about relative capacity of local cultures to "survive" the threats of globalization. In the absence of clear alternatives to global capitalism, cultural policy has become an effort to preserve cultural diversity through its productive integration into a global market of symbolic goods and services. In this context, cultural policy came to promote new technoscientific attitudes as the proper response to the demise of industrial development. The new technoscientific attitudes rely on a figuration of culture as an economic resource that can allow a country to face up to the challenges of a global economic war – which is how J.F. Lyotard described the status of knowledge in *The Postmodern Condition*.

In Chapter I of this thesis, Jeffrey Pilcher's cultural history of Mexican cuisine provided a key source for my exposition of how the nationalist celebration of maize obscured the devaluation of rural life and local agricultural knowledges in post-revolutionary Mexico (*Que Vivan* 124). Pilcher's own conclusion, however, justified revolutionary nationalism as a key for the continuity of Mexican food culture, a continuity that Pilcher took as an evidence of popular agency (133). In recent years Pilcher seems to have changed his view about the agency of Mexican majorities. He has argued that in the age of globalization, "postmodernism" is threatening what he now calls "peasant cuisines" with nothing less than an "apocalypse." According to Pilcher, postmodernism amounts to a middle-class logic of fascination with the native indigenous, that is, a logic of consumption of an exoticized and folklorized other ("Taco Bell" 70). He denounces the power that "postmodern" organizations such as Slow Food exercise in Mexico, where they divert social movements towards "middle-class agendas with little relevance to the needs of common people" (75). In the case of Mexico, the

common people would be “the *mestizo* (mixed-race) majority, who do not speak an indigenous language but still suffer economic and political marginalization” (75). Since organizations such as Slow Food are, in Pilcher's view, insensitive to class issues, their articulation with social movements in Mexico promises nothing but a degeneration of peasant cuisines into exoticized commodities for privileged consumers.

Pilcher's apocalyptic interpretation of "postmodernism" strikes me as odd considering his earlier vindication of post-revolutionary Mexicans who celebrated maize as a national food at the same time that they benefitted from the modernizers' destruction of rural life and local knowledges. In other words, why does he blame "postmodernism" instead of *modern* development theories and policies for the current situation of Mexican peasants and their cuisines? While I agree with Pilcher on the importance of pointing out the elitist tendencies of globalizing gastronomic discourse, in this chapter I propose to explore the convergence of gastronomy and cultural heritage through a more nuanced understanding of "postmodernism" which allows us to eschew moralistic accusations and leads us towards a critical consideration of the political opportunities opened up by the new technoscience of culture. Hence, I examine the debates to which UNESCO's recognition led among the activists and promoters of Mexican cuisine. Such debates concerned precisely the technoscientific character of UNESCO's prescriptions for "safeguarding" Mexican cuisine as intangible heritage – particularly an articulation of cultural know-how with the capitalist economy, with all the regulatory and "expert" intervention that such an articulation involves. Is intangible cultural heritage a postmodern apocalypse for Mexican traditional cuisine, or is it rather a platform for postmodern knowledge? Or is it, perhaps, both at one and the same time?

In the first section of this chapter I explore how cultural studies is able to strengthen the post-Marxist approach to nationalism through its attention to contextual singularities and everyday cultural practices, in this case Mexican heritage practices. From Stuart Hall's perspective, the nation is “performed” into existence by heritage institutions that interpellate the citizens through the latter's own investments in narrative substantiality and coherence. On this basis I draw attention to some of the ways in which the theoretical orientation of cultural studies has already been used in Mexico to de-mystify state patrimonialism. As a critical

counterpoint to the more disciplinary orientation of Latin American research on culture, however, I re-introduce the insights of anti-essentialist philosophy and I frame intangible heritage as an unstable platform for the construction and deconstruction of political subjectivity. In the following section I examine the role played by anti-essentialist critique in the creation of intangible heritage discourse at international policy think tanks. I argue that intangible heritage is an offspring of the mutual "contamination" of postmodern anti-essentialism and neoliberal rationality. Beyond moralistic judgment of this mutual contamination, I try to understand the ambiguous dynamics of the ongoing heritagization and gastronomification of indigenous cuisines. After examining the discourse of the nomination files sent by Mexican activists to UNESCO between the years 2005 and 2010, I suggest that, as a matter of strategy, the nationalist defense of Mexican maize also had to allow itself to be "contaminated" by UNESCO-style heritage discourse.

Even if intangible heritage is permeated by an exoticizing logic of cultural capitalism, the contemporary celebration of Mexican food as intangible heritage promises to unsettle previous picturings of Mexicanness as a cage of melancholy or a static limbo between "modernity" and "tradition." In this vein, I reflect in the concluding section on how an anti-essentialist perspective allows us to reformulate the political and ethical problems raised by the technoscientific conjuncture in which the Mexican defenders of maize are trying to "safeguard" the national cuisine.

Nation and Heritage: Unstable Materializations of Power/Knowledge

The archive we are talking about, or rather, the heritage, implies that a stock is never constituted, never in one piece. It is less and less localizable, paradoxically because it is always already classed, that is to say, interpreted, filtered, put in order (Derrida, *Echographies* 68).

Cultural theorist Stuart Hall once defined heritage as "the whole complex of organisations, institutions and practices devoted to the presentation of culture and the arts" ("Whose Heritage" 23). To Antonio Gramsci's original insight that the cultural domain is politically strategic for the national state, Hall added the more

contemporary Foucauldian argument that the cultural domain exercises a specific kind of power, namely, the power “to order knowledge, to rank, classify and arrange, and thus to give meaning to objects and things through the imposition of interpretative schemas, scholarship and authority of connoisseurship” (24). In short, heritage creates hegemony by means of power/knowledge, which subtly produces a compliant subjectivity or “governmentality.” In order to emphasize the subtlety of power/knowledge operations, Stuart Hall draws our attention to “the very quaintness” of the term “heritage,” to how “innocently” it slips into everyday speech (“Whose Heritage” 23). His specific concern is the everyday speech of multicultural Britain, where the dominant understanding of heritage privileges the conservation of historical sites “as opposed to the production and circulation of new work in different media” (23). Hall suggests that the designation the English past as the nation’s heritage illustrates the role of heritage in creating an imaginary consensus around “a particular settlement of structured inequalities” (27). Such a heritage is not intended for a multicultural society in which all differences, past and present, count the same, but for “a society which is imagined as, in broad terms, culturally homogeneous and unified” (26). Moreover, it conceals the fact that those features which appear in the imaginary as primordial “English” virtues, such as free speech and the welfare state, are in fact the focus point of ongoing conflicts in a society which is in fact characterized heterogeneous and riven by disagreements. In this context, cultural studies has undertaken a close scrutiny of heritage, paying particular attention to the persistence of imperial and colonial imaginaries, of “the legacies of race,” in its ongoing construction (Littler and Naidoo). The aim has been to understand and expose many of the ways in which the national heritage works to produce and hierarchically organize differences. In this chapter I try to understand how heritage has been enacted in Mexico in order to conceal and even sanction power inequalities.

Hall argues that despite the usefulness of Foucault’s theory of the productive operations of power/knowledge, it makes it too difficult to explain “how or why bodies should not always-for-ever turn up, in place, at the right time” (“Introduction” 12).⁶⁴ Drawing on Judith Butler’s theory of gender performativity,

⁶⁴ In his later works Foucault went beyond the abstract formalism of his early theories of power – through ethical notions such as the “aesthetics of existence” and “technologies of the self.” However, for Hall it remains a limitation in Foucault’s work that he always rejected psychoanalysis

Hall argues that heritage involves more than an abstract power exercised unilaterally through the filtering of representations. In *Gender Trouble*, Butler argues that words, acts, gestures and desire repeatedly enact fantasies of incorporation that end up producing, on the surface of the body, “the effect of an internal core or substance” (185). Butler writes:

(...) it is clear that coherence is desired, wished for, idealized, and that this idealization is an effect of a corporeal signification. In other words, acts, gestures, and desire produce the effect of an internal core or substance, but produce this *on the surface* of the body, through the play of signifying absences that suggest, but never reveal, the organizing principle of identity as a cause (185).

The popularity of claims that Mexicans are “a people of maize” and that “maize is our flesh” speaks of a strong fantasy of incorporation, that is a strong psychic investment in an effect of coherence that is desired, idealized and ultimately materialized. The eating of maize dumplings over the generations and throughout each eater's life seems to justify a positioning of maize as the “cause” of a collective identity, and such a positioning is reinforced (as well as exploited) by institutions that figure maize as national heritage. In *Bodies that Matter* Butler explains that she does not really conceive “matter” as a pre-given site or a surface, but rather as “a process of materialization that stabilizes over time to produce the effect of boundary, fixity, and surface” (xviii).⁶⁵ In this way she strengthens her original conception of performativity as “not a singular or deliberate “act,” but, rather, (...) the reiterative and citational practice by which discourse produces the effects that it names” (xvii).⁶⁶ In analogy with Butler's conception of gender, we can understand heritage as an ongoing series of “repeated acts within a highly rigid regulatory frame that congeal over time to produce the appearance of substance,

and thus failed to elaborate a satisfactory account of the psychic as well bodily sources of resistance to dominant discourse.

⁶⁵ This clarification was developed in response to criticisms of Butler's statements that the body has “no ontological status apart from the various acts which constitute its reality” (*Gender Trouble* 185). There is no space here to review the criticisms in detail, although I will give them some consideration in the next chapter. I interpret Butler's position not as overlooking material/historical constraints on individuals' choices, but rather as a prophylactic against metaphysical naturalistic discourses.

⁶⁶ While matter is defined as “power's most productive effect” (*Bodies that Matter* xvii), Butler urges us not to be misled by grammar, for power is “neither a subject nor its act, but a process of reiteration by which both “subjects” and “acts” come to appear at all” (xviii).

of a natural sort of being” (*Gender Trouble* 33). For instance, after the European Enlightenment developed an enthusiasm for “Classical Antiquity”, institutions were created which contributed to narrate, naturalize and universalize such an enthusiasm, until it became “a self-evident element of social life” (Bendix 256). Much of UNESCO’s heritage policy would be indeed modeled on the history of European architectural and archaeological conservation – what Laurajane Smith calls an “Authorized Heritage Discourse” (AHD) – that defines heritage as aesthetic, tangible and monumental (“Uses of Heritage”). Yet the advantage of Butler’s theory over Foucault’s theory of governmentality would be that people *actively* identify with heritage, as if “the drives” invested themselves through bodily enactments of heritage. Hall writes that “[i]t is through identifying with these representations that we come to be its subjects by subjecting ourselves to its dominant meanings” (Hall S., “Whose Heritage” 25). In this light, Mexicanness appears as more than a set of imposed abstract representations; it appears as a material and discursive terrain in which subjects emerge through fantasies of substantiality, coherence and indeed collectivity. Crucially, these fantasies involve a concealment of the filtering operations of power/knowledge. At the same time, the analogy with gender performativity also helps to understand that it is only a matter of time or as Hall puts it, of a shift in circumstances that dominant narrations of “Mexicanness” will be revealed as “context-bound, historically specific, and thus open to contestation, re-negotiation, and revision” (“Whose Heritage” 26).⁶⁷

In the concluding sections of his essay on heritage, Stuart Hall suggests that the “highly evolved Amerindian cultures” of Latin America are “less familiar than the surface of Mars” (“Whose Heritage” 35). This is at least partly due to the fact that after the Conquest, the Spanish Crown sought to put an end to research on indigenous subjects by Catholic missionaries, first of all through the censorship of their publications (Castañeda, “The Aura of Ruins” 462). Thousands of indigenous cities and practices were “lost” from the map of knowledge, at least

⁶⁷ As Hall points out, Butler’s theory insists on the essential incompleteness of performative processes, arguing that if reiteration is necessary for discourse to produce that which it names, this “is a sign that materialization is never quite complete, that bodies never quite comply with the norms by which their materialization is impelled” (*Bodies that Matter* xvii). It is because “bodies never quite comply” that “the body” had served, in *Gender Trouble*, “as a permanently available site of contested meanings” (15). In the more rigorous terms of *Bodies that Matter*, bodies never quite comply because “instability is the deconstituting possibility in the very process of repetition” (xix).

until the nineteenth century when Mexico became independent from Spain. Creole elites then made great efforts to localize the ruins of Mesoamerica, which they imagined as the primordial origins of the Mexican nation (463). Crucial for the conversion of those ruins into the “national patrimony” were the writings of foreign traveller-scientists such as Alexander von Humboldt (462). Humboldt's depiction of ancient societies as “civilizations” within the Eurocentric vision of World Civilization laid down the narrative structure not just of early Mexican nationalism but much later of World Heritage discourse at UNESCO. Whereas in the United Kingdom something like “white England” has presided over the national heritage, until recently there was in a hegemonic identity defined by *mestizaje*, a celebration of “Mexicanness” as a mixture of Amerindian cultures and the European legacy of the Spanish colonizers.

According to historian Alan Knight, the nationalist celebration of *mestizaje* was in fact a call for cultural homogeneity through racial as well as cultural “improvement” (“Racism, Revolution”).⁶⁸ In the years following the Mexican Revolution (1910-1921), when educational policy took priority over conservation, ancient Mesoamerican ruins were recreated in temporary and traveling exhibits, cultural missions and pictorial works. Muralists Diego Rivera, David Alfaro Siqueiros and José Clemente Orozco drew simultaneously on Maya and Aztec works, Catholic church altarpieces, regional handicrafts and European avant-garde experimentalism for their iconographic constructions of Mexican identity. By the 1950s, industrialization and tourism had given rise to a complex network of specialized museums and archeological sites, which expanded in parallel with the schooling system and the mass media. In all these institutional networks, the presentation of the “national patrimony” was dominated by monumental pre-Columbian sculpture, rural imagery and indigenous handicrafts. However, it generally followed the guidelines of classic European museums, namely, aestheticism and decontextualization.

Although there is no institutionalized discipline of cultural studies in Mexico, the exercise of power through the symbolic construction of heritage has been

⁶⁸ Celebration of *mestizaje* bequeathed a deceptive consensus that Mexicans have no race issues and merely silenced discussion about the colonial legacy. All that people had to do in order to avoid racial marking was to become *mestizo*. This implied an active erasing of any indigenous trait, physical or cultural, by “developing” and foregrounding other traits such as whiteness, height, the Spanish language, an urban lifestyle, wealth, fashion, and so forth.

studied by several scholars based in Mexico, such as Néstor García Canclini. In his classic work *Hybrid Cultures: Strategies for Entering and Leaving Modernity*, García Canclini describes contemporary Mexico as the sedimentation, juxtaposition, and interweaving of indigenous cultures, Hispanic Catholicism, and modern acculturation policies. Despite a concentration of the indigenous and the Catholic elements in the “popular” or majoritarian sectors, there are “hybrid” formations, García Canclini argues, in all social strata.⁶⁹ He develops an argument about the Mexican “national patrimony” that resonates closely with Edmundo O’Gorman’s diagnosis of Mexican nationalism explored in earlier chapters.⁷⁰ Like O’Gorman, García Canclini is interested in showing how Mexican liberals – including their revolutionary heirs – failed to recognize their own complicity with the persistence of economic inequalities and social injustice in Mexico. In his own diagnosis of Mexican patrimonialism we find a very similar analysis of the positions of the two historic types of Mexican nationalists: the “abstract liberals” on the one hand and the “dogmatic fundamentalists” on the other hand. While dogmatics explicitly cling to “the synthesis of Catholicism and the social order,” liberals pursue “abstract modernity.” Both positions amount in the end, says García Canclini to the same “mystical adherence to a set of obsolescent religious and patriotic goods without any productive relations to contemporary conflicts” (143). The national patrimony emerges in García Canclini’s study precisely as that which different types of nationalists hold in common because it compensates for something else which they are unwilling to address.

By contrast with O’Gorman, however, García Canclini does not attribute the cultural essentialism of Mexican nationalists to a disavowed attachment to Hispanic Catholicism. Instead, he argues that cultural essentialism is a modern operation that sustains modern forms of oppression. Drawing on a Gramscian paradigm, he explains that Latin American states, *qua* modern projects, appropriated popular goods and practices in order to persuade their addressees that they were prolonging shared traditions at the same time that they were

⁶⁹ Thus, even if modern acculturation was “more effective” among the urban middle classes, certain elites still preserve their roots in Hispanic-Catholic traditions, and even in indigenous traditions in agrarian zones (García Canclini 46).

⁷⁰ According to O’Gorman, a disavowal Hispano-Catholic attachments rendered Mexican liberals incapable of explaining why a modern legislation and a capitalist economy failed to bring about modernity. In his argument, Mexican liberals refused to acknowledge the cultural and political dimensions of modernity, and their failure to achieve modernity sparked only a reactive, self-glorifying cultural essentialism.

renewing society. Echoing Roger Bartra's analysis of revolutionary nationalism (outlined in Chapter 1) García Canclini points out that the "national patrimony" became the axis of the state's cultural policy at a very specific time, namely, the time when rural populations were being displaced and subjected to development policies. It was thus for the sake of modernity that rural imagery and artifacts came to sustain "a metaphysical, ahistorical view of the national being" (108). Like Stuart Hall, García Canclini criticizes the conception of the national patrimony as a set of objects to be glorified and preserved, with its associated privileging of historical sites over the production and circulation of new work. State patrimonialism, he says, may have served to preserve and democratize access to cultural goods that would otherwise have disappeared as a consequence of capitalist modernization. However, precisely this same process prevented a "just and solidary" re-appropriation of territorial space and historical time (134). As the post-revolutionary state co-opted cultural production and channelled it towards a reiteration of its nationalist doctrines, continuing social inequality led to a situation in which "modernity" came to be seen as a "mask" or a "simulacrum" to which cultural producers could relate only with a sense of guilt (53).⁷¹

Writing at a time when Mexico was about to undergo the neoliberal acculturation that would eventually mark its "transition to democracy," García Canclini proposes to undertake a radical "desubstantialization of the concept of national patrimony" through an interrogation of traditionalism not simply because it is a hegemonic operation but more importantly because he sees it a false solution to the country's predicament in the face of globalization. García Canclini emphasizes that democracy was not achieved in Mexico through the celebration of the national patrimony. In fact, the achievement of democracy was facilitated by the transnational culture industries that came to permeate everyday life in Latin America by the final decades of the twentieth century. In this context, state patrimonialism offers nothing but a compensatory practice, governed by the principle that "if we cannot compete [with the culture industries] (...) let us celebrate our handicrafts and old techniques (...)" (113). One serious consequence of investing ourselves in such a principle, however, is that it creates even more

⁷¹ The final decades of the twentieth century saw an explosion of critical discourses particularly in the field of visual arts, with artists aiming to dissociate themselves from the revolutionary discourse of the authoritarian political regime and insert themselves into the transnational circuits of the art market.

“difficulties in performance.”⁷² As an alternative, García Canclini invites us to draw the consequences from “the postmodern deconstruction of Western Modernity.” He explains that he conceives postmodernity “not as a stage or tendency that replaces the modern world, but rather as a way of problematizing the equivocal links that the latter has formed with the traditions it tried to exclude or overcome in constituting itself” (7). It is on the basis of a “postmodern” interrogation of the status of modernity that García Canclini envisions an exit from the *modern* dichotomy between modernity and tradition. From this, he concludes that the critical task is to understand how a plurality of cultural actors “relocate their practices in the face of [the] contradictions of modernity, or how they imagine they could do so” (65). He writes:

There can be no future for our past while we waver between the reactive fundamentalisms against the modernity achieved, and the abstract modernisms that resist problematizing our "deficient" capacity to be modern. To leave behind this "western", this maniacal pendulum, it is not enough to be interested in how traditions are reproduced and transformed. The postmodern contribution is useful for escaping from the impasse insofar as it reveals the constructed and staged character of all tradition, including that of modernity: it refutes the originary quality of traditions and the originality of innovations (144).

García Canclini's critique of Mexican patrimonialism explicitly indicates that the “postmodern” critique of essentialisms was crucial to de-mistify heritage practices and to examine them as an arena of cultural and political struggle. In the aftermath of postmodernism, cultural processes are no longer interesting “for their capacity to remain "pure" and equal to themselves” (42), but rather for their willingness to adapt to the needs of the present. While inequalities certainly persist in the appropriation of symbolic goods, they “no longer take the simple and polarized form we thought we would encounter when we were dividing every country into dominant or dominated, or the world into empires and dependent nations” (65). From this perspective, the challenge for Mexican culture is not an

⁷² In the same vein, Hall exhorts British citizens to re-imagine their “Britishness” in a more inclusive manner “to prepare their own people for success in a global de-centred world” (Hall S., “Whose Heritage” 31-32). Failing to do so by insisting on a defensive narrative of “Britain” as a tight little island would be “to fatally disable them” (31-32).

either/or identity choice, but an adaptation to the new conditions of “heterogeneity, mobility and deterritorialization” (García Canclini 113). While he does not provide examples of “postmodernism,” García Canclini does credit the latter for a “deconstruction of Western Modernity.” Most of his arguments in *Hybrid Cultures* (regarding concrete empirical subjects such as Octavio Paz, Mexican television spectators, museum audiences, vanguard artists and popular artisans) in fact invoke the need to develop novel theoretical approaches that take into account “the postmodern deconstruction.” In a typical instance, he argues that “[i]n almost all the literature on patrimony it is still necessary to effect that operation of rupture with the naive realism that epistemology long ago carried out” (142). Yet García Canclini himself refuses to take such a rupture to its last consequences, which pertain to the disciplinary constitution of cultural studies in Latin America.

In order to assess such the adaptation of cultural producers to the global or “deterritorialized” conditions, García Canclini recommends an alliance between knowledge disciplines, such as sociology and anthropology, on the assumption that these disciplines are able to provide “real referents” for the study of culture in Latin America. Moreover, he demarcates Latin American cultural studies from both the traditional literatures on “the national being” *and* “the postmodern bibliography.” The reasons for this disciplinary demarcation run as follows:

It is a question of seeing how, within the crisis of Western modernity – of which Latin America is a part – the relations among tradition, cultural modernism, and socioeconomic modernization are transformed. For that it is necessary to go beyond the philosophical speculation and aesthetic intuitionism that dominate the postmodern bibliography. The scarcity of empirical studies on the place of culture in so-called postmodern processes has resulted in a relapse into distortions of premodern thought: constructing ideal positions without any real reference (6).

Of course, I am not against empirical studies of how various cultural actors resituate their concrete practices in the face of globalization processes and even less of “how they imagine they could do so” (65). Yet, an empirical description of such “real referents” seems of little critical interest to me without a theoretical investigation of the power/knowledge operations that simultaneously constrain and enable cultural actors to respond in unexpected ways. Moreover, by opposing “real referents” to “philosophical speculation,” García Canclini uncritically re-instates the

modern epistemic framework that "postmodernism" is supposed to have called into question. It is as a critical alternative to such a relapse into empiricism that I propose to undertake a reading of "textual referents" such as cultural policy documents, academic and policy-makers' testimonials, "nomination files" submitted to UNESCO and press articles by activists concerned about the fate of Mexican food culture. Through my investigation of these texts, I show that in the global technoscientific conjuncture, "postmodernism" is no longer the preserve of philosophical speculators or social scientists applying their methodological frameworks to cultural actors outside the university. It now permeates the expert field of cultural policy discourse as a set of ideas that mobilize material resources and competition among states around recognition and management of "cultural diversity." Taking heed of Hall's warnings against an exclusive emphasis on abstract domination by discourse, I try to diagnose the inherent constraints as well as the possibilities opened for activism by the "postmodern" trend in cultural policy. I start by explaining on how the postmodern critique of essentialisms infiltrated international policy think tanks with highly ambiguous consequences for the Mexican defense of maize.

Intangible Heritage: Nostalgia, Postmodernism and Technoscience

People all around the world do not want to be left without a soul. This helps explain the extraordinary upsurge of cultural politics surrounding the loss and transformation of cultural practices, which evolved over millennia in all regions of the world, and which have been disappearing at an alarming rate in only 50 years (Arizpe, "Cultural Politics" 387).

Anthropologist Quetzil Castañeda recently characterized the proliferation of heritage discourse in contemporary archaeology, public debate, policy-making and intergovernmental discussions as a nostalgic response to the postmodern crisis of modern metanarratives. In the aftermath of "the great culture wars" of the 1990s, he explains, "diversity" came to be recognized as "really real reality that could not be uprooted by modernization schemes and political solutions to the problem of the Other" ("Commentary" 109). The wars, however, left "no immanent logic of reintegration for the fragments and shards of cultural wholes" and thus a desire

installed itself “to make the present "whole" by reunifying it with a resuscitated past” (111). Borrowing Walter Benjamin's metaphor, Castañeda concludes that heritage institutions “seek to be the angel of History, trying to stay, awaken the dead and make whole what has been smashed” (111). Whether or not heritage practices are ultimately able to make whole what has been smashed, we must account for their powerful operations. In this section I argue that heritage has emerged as a technoscientific field through the articulation of theories of performativity with economic discourse. Rather than framing this articulation as a “postmodern apocalypse,” I want to explore its ambiguous potential in order to identify possibilities for a subversive engagement on the part of Mexican defenders of maize with the postmodern technoscience of culture.

Until the 1980s, national debates around “folk cultures” had resonated with larger tensions in international policy discourse between economic modernizers at the IMF and the World Bank on the one hand, and UNESCO social scientists on the other hand. The discursive hegemony of the modernizers meant that folk cultures needed to be superseded if “underdeveloped” nation-states were to achieve “development.” The developmental imperative in turn shaped the ambivalent relation between the Mexican post-revolutionary state and the nation's folk cultures.⁷³ Towards the end of the post-revolutionary era and with the decline of the Keynesian paradigm worldwide, more nuanced positions emerged at both ends of the international ideological spectrum. At the modernizing end, a neoliberal understanding of culture as “social capital” was developed. At the anthropological end, a defense of 'diversity' began to take shape on the grounds of a non-essentialist, performative understanding of culture (Arizpe, “Cultural Politics” 372). Intangible cultural heritage eventually emerged from these ideological reformulations as a strategic domain where experts and state officials converged around the need to promote “a different mix of culture and the economy” (372). 1982, the year of the debt crisis that officially inaugurated Mexico's turn towards neoliberalism, was also the year of the World Conference on Cultural Policies, which took place in Mexico City. In that Conference, UNESCO adopted for the first time a definition of culture that went beyond the arts and humanities in order to

⁷³ As previously explains, rural populations in Mexico were encouraged to leave behind the concrete social practices that sustained their “folk cultures”, in return for having these “folk cultures” celebrated as “national patrimony.”

include folk cultures, local worldviews and traditional ways of life. Parallel to the Conference, the National Museum of Popular Cultures opened with a major exhibition called *Maize: the foundation of Mexican popular culture*. The exhibition attempted to illustrate contemporary developments in cultural policy based on the new conception of culture as "living." Besides the usual gathering of objects, artifacts, images and explanatory notes within the space of the museum, the exhibition showcased the results of a larger project involving writing contests and other mechanisms for the participation of citizens across the Mexican republic. Significantly, the narrative of the exhibition explicitly opposed, among many other things, "the diversity and flexibility of traditional agricultural technologies" to the project of "transnational companies that conceive maize as a mere commodity unrelated to the cultural and historical context that gives maize its true importance for the Mexican people" (Bonfil Batalla 154). In the words of Mexican anthropologist Guillermo Bonfil Batalla, founder and first director of the National Museum of Popular Cultures, the whole point of the Museum was "to identify, display and valorize the autonomous cultural production of the popular sectors, a production that makes them *creators* rather than mere *consumers* of an imposed culture" (155). In retrospective, Batalla's words sound like a genuine battle cry within the "great culture wars" that would culminate in the recognition of "cultural diversity." This recognition, Castañeda observes, soon turned into a desire to protect culture from a deconstruction that had already been inflicted on it.

A revalorization of "living" popular cultures was being actively mobilized by the end of the 1980s by Southern state officials protesting against the selection criteria of the World Heritage List. Debates were held at UNESCO over whether to incorporate "living" cultures into the World Heritage List, or rather design a separate "instrument" for them. The preparation of this instrument took off with the 1989 *Recommendation on the Safeguarding of Traditional Culture and Folklore*. During that process, which coincided with the "great culture wars," the relation between culture and development was reconceptualized across the tension between a "postmodern" defense of cultural diversity and a neoliberal drive to integrate cultural diversity into global capitalism. Throughout UNESCO's World Decade for Cultural Development (1987-1997), experts set out to craft new notions of "development" based on a revalorization of the creativity and know-how of "living" traditional cultures. In 1995, the World Commission on Cultural

Development published a report titled *Our Creative Diversity*. While it established that culture is not just a means to material progress, the report did point in new directions. For instance, it claimed that both culture and development were endangered by wars, environmental disaster and “inattentive development.” Moreover, it argued that something needed to be done in order to preserve expressive cultures from expropriation, reification, and elimination. *Our Creative Diversity* thus situated the new problematic of culture the crisis of modern metanarratives of development, industrialization, and the march of universal progress. Significantly, the report claimed to have been conceived “in the questing spirit of our age,” which sought to enrich a debate rather than impose the acceptance of new truths, by subjecting the notion of culture itself to “multiple readings and possibilities.” Yet, the project seemed doomed if it was not somehow articulated with the global economy. Hence, the “questing spirit” of the report was eventually transformed into a programme for the rational management of cultural “skills, enabling factors, products, impacts and economic value” (Arizpe, “Cultural Politics” 381). Thus defined, intangible heritage came to be permeated by neoliberalism as a political rationality of “viability” through cultural performance.

Permeated by neoliberal languages, what I would call a new “technoscience of culture” (that is, an economically oriented task of cultural conservation and production) came to operate through a cosmopolitanist celebration of intangible cultural heritage. Ironically, it was another Mexican anthropologist who watered down in this way Guillermo Bonfil Batalla’s defense of an autonomous cultural production. In her testimonial account of the expert and intergovernmental meetings that took place between 1999 and 2003, Mexican anthropologist and UNESCO advisor Lourdes Arizpe explained that the crafting of intangible heritage involved a “reconstruction of meaning” of the term “intangible” which was meant to mobilize “a people- and process-centred understanding of cultural heritage” (“Cultural Politics” 383). In 2001, Arizpe won a debate over the definition of intangible heritage against Brazilian anthropologist Manuela Da Cunha, who had proposed a broader definition including the management of biodiversity by indigenous peoples. Arizpe argued instead for a concept of intangible heritage as “a process of creation comprising skills, enabling factors, products, impacts and economic value” (381). By restricting itself to oral traditions, practices of social cohesion and “beliefs about nature and the cosmos,” Arizpe’s definition would

prevent conflicts around indigenous property rights with other international bodies such as the World Intellectual Property Organization.⁷⁴ Given that trade-related issues such as intellectual property fall beyond the scope of UNESCO, Arizpe's definition succeeded over da Cunha's. The very definition of intangible cultural heritage was therefore designed to remain neutral in relation to economic disputes between "cultures," states and transnational actors. This economic neutrality does not free intangible cultural heritage from political implications, so it is worth looking into the kind of politics that emerge from the discourse of Arizpe, author of the official UNESCO concept of intangible cultural heritage.

In her essay "Intangible Cultural Heritage, Diversity and Coherence," Arizpe argues that intangible cultural heritage aims at reconciling "cultural coherence" with "cultural freedom" in a world "overloaded" with migration, tourism, television and the Internet. According to Arizpe, these features of globalization induce an experience of "cognitive dissonance" with "deleterious effects for psychological well-being" (133). Fundamentalism, for example, is presented as a psychologically disturbed response to globalization, which "inevitably produces a cultural overload, similar to information overload, but with greater risks of fostering personal anxiety, since cultures provide the nucleus of individuals' personalities and norms of behaviour" (132). In order to avert fundamentalism, it is necessary "to keep a basic cultural coherence, albeit one that does not translate as cultural hostility" (132). Arizpe argues that recognizing "great cultural achievements" as intangible heritage would help to "preserv[e] a certain harmony, a kind of "golden cultural proportion" whereby can people safeguard intimate cultural roots, whether originally ascribed or adopted, while feeling free to embrace whatever they have reasons to value from other cultures" (133). In other words, as a celebration of the "deliberate, conscious choices of groups to assume an identity by defining themselves in certain ways" (131), intangible heritage would help to eradicate fundamentalisms from societies exposed to the psychological challenges of globalization.

Among the problems in Arizpe's discourse are her positivist depiction of globalization as a threat to mental health, her abstract characterization of great

⁷⁴ In 1997, the World Intellectual Property Organization (WIPO) and UNESCO jointly organized a World Forum with the aim of launching an international treaty to protect intellectual property rights of "folklore." Because intellectual property goes beyond UNESCO's mandate, WIPO pursued, as of 1999, the negotiation without UNESCO. The latter in turn set out to pursue its own actions for safeguarding "intangible heritage" (Aikawa-Faure 15).

achievements as free choices made by already constituted groups, and her rationalistic understanding of identity formation processes. In the latter regard, Arizpe recognizes the tendency of all cultural groups to “create a sense of identity by defining themselves towards other groups” (131), yet she seems to overlook the fact that processes of self-definition emerge historically within relations of hierarchy and through antagonism rather than friendly reasoning or smooth cooperation. By downplaying the constitutive role of antagonism in processes of identity formation, Arizpe also underestimates the psychic and epistemic constraints at work in the constitution of culture. One of these requirements would be to acknowledge dimensions of power and violence in all cultural claims, including UNESCO's cultural discourse. Yet, in counterposing (rational) “free choices” and (friendly) “great achievements” to fundamentalisms (or mental illnesses), what Arizpe's discourse actually achieves is a concealment of the symbolic violence at work in UNESCO's own activity. Given that current cultural “choices” still occur within relations of hierarchy and antagonisms, it is just not possible to separate, as Arizpe does, the production of “cultural distinctiveness” from processes which lend “privileges or disadvantages in given political settings” (“Intangible Cultural...” 132). In the context of global capitalism the profitable potential of heritage fosters competition and disputes around the economic appropriation of culture, hence the dimension of power seems inescapable.

Guillermo Bonfil Batalla's inauguration of the National Museum of Popular Cultures in Mexico involved a discourse against cultural imposition. After the “great culture wars,” such a process crystallized in Lourdes Arizpe's cosmopolitan antidote to fundamentalism. Intangible cultural heritage was initially conceived in the hope that it would provide opportunities to interrogate the process through which something comes to be valued as “heritage,” and that such an interrogation would finally include “local people especially in the developing countries” (Smith and Akagawa 46). Lately, however, several researchers have expressed skepticism about the technical and *philosophical* capacity of intangible cultural heritage to address the complexity of contemporary power relations. Icelandic delegate Hafstein, for example, reports that one of the most controversial issues at the 2003 Intergovernmental Meeting of Experts on the Preliminary Draft Convention for the Safeguarding of the Intangible Cultural Heritage was the purpose of registers of intangible cultural heritage. Initially, there would be a list of

“treasures” or “masterpieces” similar to the 1997 Proclamation of Masterpieces of Oral and Intangible Heritage of Humanity. Against this project, some countries argued that selection criteria such as “exceptional value” would divert the democratizing aims of the new Convention by producing a list as “subjective and elitist” as the World Heritage List. A universal register, by contrast, would prevent the repetition of old forms of exclusion (Hafstein 98).⁷⁵

According to Hafstein's account, many delegates agreed with the political arguments in favor of a universal register, yet most of them did not actually support it (102). For instance, a Brazilian delegate argued pragmatically that “we cannot safeguard everything, and this means we cannot value everything equally” (103). After intense confrontations, delegates finally settled on a compromise solution, the “Representative List of the Intangible Cultural Heritage of Humanity.” Accepting selection as a structural mechanism, the Representative List rejected excellence as a criterion in order to prevent hierarchies and competition among states.⁷⁶ In his analysis of these debates, Hafstein observes that “representativity” is even more indeterminate as a criterion of selection, begging the question of what the listed heritage actually represents. Such an unsatisfactory solution illustrates, he concludes, that heritage practices can only work by “creating casualties,” that is, by giving a seal of approval to some practices and condemning others to “the dustbin of history.” Moreover, because intangible cultural heritage is itself nothing but a list, the dustbin of history is perhaps the instrument it can least do without (105).

Hafstein's testimony exposes the limitations of Arizpe's discourse by demonstrating that intangible cultural heritage can only materialize in partial ways within given political contexts. Southern challenges to Authorized Heritage Discourse included from the start a calculation to stake a claim in the benefits of tourism, which in the neoliberal era quickly came to be regarded by states as a means to guarantee the economic survival of places and practices that had lost their former economic function (106). In such a politico-economic conjuncture, intangible heritage is unlikely to operate as a transparent, benign promoter of

⁷⁵ Purely technical requirements such as adequate documentation, exposition of relevant domestic legislation, proper identification of the communities concerned, and a safeguarding plan would be the only conditions to be fulfilled by states in order to inscribe their intangible heritage in the universal register (Hafstein 98).

⁷⁶ In addition, the final text of the 2003 Convention would establish a List of Intangible Heritage in Need of Urgent Safeguarding.

“friendly” cosmopolitan relations. I want to argue that it operates instead as the disseminator of a new subjectivity or “governmentality” (Hall S., “Whose Heritage” 24). Following anthropologist Regina Bendix, I want to situate the governmentality of intangible heritage in relation to the capitalist drive to exploit all potential resources. Bendix describes heritage as a process through which actors weave authenticity/inauthenticity arguments in order to present heritage as emanating from one particular cultural context in order to claim ownership or custodial care over it (259). While the status of heritage seems to depend on who can make the biggest moral claim – for example, friendly “great achievements” as opposed to disturbed “fundamentalisms” – there is no way of achieving or maintaining such a status without articulating it with two mechanisms of the contemporary global economy: competition, which fosters innovation and marketing, and quality control, one of the central elements of a highly regulatory “audit” culture. As the text of the 2003 *Convention for the Safeguarding of Intangible Cultural Heritage* suggests, intangible heritage is no longer about protecting autonomous cultural production, but rather it is about a new educational project based on the concept of “safeguarding.” “Safeguarding” belongs to a context in which culture is figured as a resource that, if actively produced and expertly managed, can allow a country to “survive” globalization.

According to the text of the 2003 *Convention for the Safeguarding of Intangible Cultural Heritage*, national state governments must adopt general policies and designate competent bodies if they are to “ensure the viability” of local cultures in the face of globalization.⁷⁷ The first step in this direction is to build “greater awareness, especially among the younger generations” of the importance of the intangible cultural heritage” (3). Governments must first of all teach young people to identify their local cultures as “intangible cultural heritage” and persuade them about such an identification's potential to produce something with added value, namely: “cultural diversity,” “human creativity,” and “sustainable development” (3). Through “specific educational and training programmes” (6), such as “capacity-building activities” involving “management and scientific research” as well as “non-formal means of transmitting knowledge” (7), governments must harness the “participation” of “communities, groups and

⁷⁷ A disclaimer included in the Convention says that nothing in the Convention affects current IPR legislation (3).

relevant non-governmental organizations” (5) in the task of identifying and inventorying the “elements” of intangible cultural heritage present in their territory. Thus, although the preservation of heritage continues to be, nominally speaking, the responsibility of states, the civil society, including private companies, is encouraged to increase its participation in the active production of intangible cultural heritage.⁷⁸ At this point “cultural mediators,” among them independent “experts” and political activists, as well as entrepreneurs seeking business opportunities in the cultural terrain, are seen as potentially playing an important role (64). Thus, the task of “safeguarding” involves the creation of technoscientific links in the field of culture: links between government, industry and communities who “participate” in the generation of knowledge about themselves, which is now also measured in terms of its economic value. I now turn my attention to the process undertaken by defenders of maize culture in order to have Traditional Mexican Cuisine recognized by UNESCO as intangible cultural heritage.

The People of Maize and the New Technoscience of Culture

(...) the candidature of the ancestral cuisine of Mexico, with its basis on maize, (...) posits traditional cuisine as an engine to go ahead and update our own patterns of progress, development and quality of life, with the certainty of [our cuisine's] universal value as heritage. [The candidature] (...) establishes that the intangible heritage of the communities, inherited from past generations, can reasonably constitute itself as a springboard for the future. (*Pueblo de Maíz* 20)

Mexico was the first member of the United Nations to request inclusion of its national cuisine in UNESCO's registers of intangible cultural heritage. The idea first came up during the Third Latin American Congress of Gastronomic Patrimony and Cultural Tourism, two years before the adoption of the 2003 Convention for the Safeguarding of Intangible Cultural Heritage. At the insistence of anthropologist Yuriria Iturriaga, a group of academics, government officials, popular cooks, professional chefs and food writers gathered again one year later

⁷⁸ As heritage lawyer Janet Blake explains, calls for “community participation” are far from unique in the context of international policy-making, and indeed have older currency in the fields of human rights and environmental law. What is new is the call for “community participation” in cultural policy discourse (50). She also points out that it is rather difficult to measure participation, because it could range simply from spreading information to project planning and facilitation (63).

in order to start drafting a dossier based of the valorization of Mexican food as a cultural asset with the potential of “projecting and dynamizing the life of the country” (*Pueblo de Maíz* 14). The final document was titled *Pueblo de Maíz: The Ancestral Cuisine of Mexico, Rites, Ceremonies and Cultural Practices of Ancient Mexicans*. Headed by Gloria López Morales, the Mexican government's Coordination of Cultural Patrimony, Development and Tourism followed up preliminary studies and coordinated the interdisciplinary contributions by other government agencies, independent experts, academic institutions, and worker organizations devoted to ecology, agriculture and gastronomy. In 2005, *Pueblo de Maíz* was submitted to UNESCO in order to compete for inscription in the Third Proclamation of Masterpieces of Oral and Intangible Heritage.⁷⁹ After it was turned down by a jury presided by Jordanian Princess Basma Bint Talal, a second request was prepared throughout the following five years, this time by the Conservatory of Mexican Gastronomic Culture (CCGM), an NGO presided by Gloria López Morales, the former CONACULTA official who had coordinated the preparation and submission of *Pueblo de Maíz*. In collaboration with the National Institute of Anthropology and History (INAH), the CCGM composed a new document titled *Traditional Mexican Cuisine - ancestral, ongoing community culture: the Michoacán paradigm*. This was the “nomination file” that finally achieved inscription in UNESCO's Representative List of Intangible Heritage of Humanity (2010). In what follows I examine how each dossier, *Pueblo de Maíz* and *Traditional Mexican Cuisine*, present maize-based cuisine as a factor of national identity. In order to compare their arguments and their depiction of what it would mean and what it would take to safeguard maize-based cuisine from the threats of globalization (in particular biotechnology and GMOs), I ask: How does a nationalist discourse take shape in each dossier through the defense of Mexican cuisine against external threats? How does each dossier figure these threats, and how does it respond to them? Is there anything new in the defense of Mexican cuisine as intangible cultural heritage in relation to Mexico's history of cultural nationalism? What opportunities and dangers are posed by the new technoscience of culture to the Mexican defense of traditional maize agriculture?

⁷⁹ Even though the 2003 Convention was already in force, the Representative List of Intangible Heritage of Humanity only superseded the Proclamations of Masterpieces in 2008. Thus, the practical implementation of Convention initially consisted in the biannual selection of aesthetically defined “treasures” by a group of country delegates rather than expert committees.

Pueblo de Maíz presents itself as an exercise of “memory, invention and mechanisms” to preserve an “originary flow of richness” on the basis of an argument “that can today sustain the sense of its cyclical transformations” (18). It describes Mexican cuisine as both “ancestral” and “transcendental” (that is, originary) yet also “diverse” and “open” (that is, in flow) (18). Its “ancestral indigenous roots” are presented as undergoing a “continuous process of *mestizaje*,” intensified by the Conquest and gradually “enriched” by Jewish, Arab and many other cultures from all continents (19). The argument that can sustain, today, the sense of Mexican cuisine's transformation starts with an anthropological perspective on cuisine as a cultural system, that is, as a complex set of sociotechnical practices enacting a “sacred” way of life. Thus, while *Pueblo de Maíz* affirms the “dynamic, crossborder character” of Mexican cuisine – exemplified in the dossier by the culinary practices of Mexican migrants – it also argues that what is at stake is a specific culture, namely milpa culture, that is rooted in Mesoamerican lands. Milpa culture is defined as “an anthropological and philosophical entanglement with cosmogonic foundations still valid in many indigenous and mestizo communities in Mexico” (24). Instead of recounting the numerous interesting facts about Mexican cuisine that are listed by the dossier, I want to highlight the latter's political narrative and specifically the way in which it transfers “identity” from local communities to the whole nation.

Social cohesion is the major political theme throughout *Pueblo de Maíz*. According to the dossier, “the historical sustenance of Mexicans corresponds to that piece of land in which maize, beans and chilli interact with one another, along with a variety of other elements” (24). *Pueblo de Maíz* includes a plan of action to identify, preserve and promote “traditional culinary patrimony.” Because such a patrimony is based “above all on maize and the products of the *milpa*,” the plan focuses on areas “with more traditional richness,” such as the states of Oaxaca, Puebla and Michoacán.⁸⁰ Those states are presented as particularly “authentic” because, for the indigenous and mestizo communities who still dwell in their rural areas, “the act of eating is tightly related to cosmogonic conceptions,” and theirs is a “sacred world” which is particularly urgent to safeguard (122). However, the

⁸⁰ The Plan of Action in *Pueblo de Maíz* includes collecting recipes, documenting culinary aspects of community celebrations and commerce in traditional markets, formal and informal educational programmes, such as research projects and an interactive, and crucially: supporting small-scale agriculture oriented to supplying artisanal food businesses with traditional ingredients.

convergence of Mexican cuisine with territory and language “can no longer be understood as a resource within ethnically isolated circuits” (18). This is because “today’s global displacements pose the challenge to (...) millennial cultures of taking the step into the space of inter-culturality” (18) and in this context maize is re-created, based on its role in the context of milpa agriculture and peasant cuisine, as “the plant of conviviality, reciprocity and shared solidarity” (19). From this perspective, Oaxaca, Puebla and Michoacán appear as merely “emblematic examples” which can contribute to an “exchange of knowledges and experiences” and to “the cohesion of the national social tissue” (20).

More than any other ingredient, maize is presented as giving the Ancestral Cuisine of Mexico the power to act, today, as a “vigorous and efficacious factor of national identity” (22). It is the omnipresence and culinary versatility of maize – which indeed is particularly evident in areas of “traditional richness” – that gives Mexican cuisine its “uniqueness and integrality” in the face of other cuisines, and which even allows it to transcend the territorial boundaries of the Mexican nation. Mexican migrants, for instance, are depicted as remarkably faithful to their “ancestral roots,” because through their selection of ingredients, they maintain a “reference to the origin,” a “space of continuity,” a labor option and a field of knowledge. If they and, presumably, other non-rural Mexicans can still see themselves as “a people of maize,” that is because beyond any particular “ethnic perspective,” Mexicanness is now, metaphorically rather than literally, associated with the entanglement and dynamic interrelation of multiple elements in the milpa.

The “millennial continuity” of milpa culture is now at risk, *Pueblo de Maíz* explains, because traditional knowledges are being displaced by “globalized and inappropriate techniques” (15). Junk food in particular has “deformed the unicity of the food system,” “distorted and supplanted customs,”⁸¹ disrupted nutritional equilibrium and undermined the precarious economy of the popular classes (27). This reference to the popular classes makes it clear that the argument of *Pueblo de Maíz* is far more complex than a plea for recognition of the aesthetic merit of a national gastronomy. Having been written during the years of the worldwide social

⁸¹ Even “the proverbial Mexican family,” the dossier argues, would lose its “sociological structure” without ancestral cuisine (25). It is unclear to me whether it refers to the modern paradigm of a nuclear family or the extended networks of rural and migrant community life – the absence of a specification here may reflect that the dossier needs to ignore that “the proverbial Mexican family” is a product of capitalist social engineering rather than “ancestral traditions.”

mobilization against free trade agreements and GMOs, the dossier argues that it is “cold economic growth” that has favored the expansion of “private practices and public policies detrimental to milpa agriculture in Mexico” (24). Industrial cattle breeding and export-oriented agriculture, environmental degradation, unequal terms of exchange in the global marketplace, chronic emigration and governmental abandonment of the countryside, and more recently GMOs, are among the various threats to the ancestral foundations of Mexican cuisine.⁸² They have already contributed, the dossier alerts, not just to food dependency, but also to an impoverishment of the national culture (27). For instance, Mario Riestra refers to maize as “the father of the Mexican race” and characterizes Mexicans as people who “know themselves of a divine origin” (144). Chauvinistic exaltation aside, Riestra takes a strategic position when he says that more than language, dress or music, it is cuisine that provides “the common root of the Mexican.” As opposed to gratuitously asserting the divinity of “the Mexican race,” in a striking turn towards Schmittian rationality he argues that “[t]he identification of man or the group against extraneous cultural patterns will determine the permanence of customs and will annihilate the threats which weaken or render vulnerable our cultural patrimony” (145). As any post-Marxist philosopher would recognize today, it is precisely such a threat, rather than any common root, that constitutes the source of an identitarian affirmation such as we find it in *Pueblo de Maíz*.

As explained above, the same perceived threat gave rise to the concept of intangible cultural heritage during the last two decades of the twentieth century, yet several researchers have called into question both the technical and philosophical capabilities of intangible heritage as a means to rescue cultural diversity in the age of globalization. *Pueblo de Maíz* firmly asserts that “the future of the country depends on the preservation of its cultural values” (26). In view of the destructive consequences of current alternatives to milpa agriculture – migration and organized crime – the regeneration of food traditions is presented as a viable response to neoliberal dislocation.⁸³ What the dossier calls preservation,

⁸² With regard to GMO's, the dossier asserts that they are “unable to give continuity to autochthonous cultivars and diversity,” and points out that they merely make farmers dependent on seed imports which they cannot afford (27).

⁸³ Expressing disagreement with those “pragmatic economists” who think that milpa agriculture is bad business and therefore irrational, one of the essayists, Jesús Puente Leyva, points out that the vast majority of Mexican people have so few opportunities of decent employment that milpa agriculture is not a matter of business but a matter of survival.

however, requires first of all a valorization of local foods as “the foundation of material and spiritual sustenance of a nation” (26). This call to valorize stands in contrast with the constant description of Mexican identity as an accomplished fact rooted in ancestral traditions. The current state of milpa agriculture in Mexico instead suggests that the cultural values that are to be preserved must be produced in the first place, in response to the threat of disappearance. In this regard, Gloria López Morales, who was in charge of CONACULTA's Coordination of Cultural Patrimony and Tourism during the preparation of *Pueblo de Maíz*, invokes the “prodigious force” of UNESCO to “awaken minds regarding the value of culture in its vast dimensions” and “to trigger preserving and creative actions in all senses” (158-159). Above all López Morales emphasizes the labor of imagination at work in the Mexican request of UNESCO's recognition. The question was, she says, how to construct a solid argument as opposed to a collection of recipes, exotic products or “archaic practices.” However extraordinary our ancestral practices may seem to us, “many other families could propose their aunts and grandmothers as the best cooks in the world” (161). *Pueblo de Maíz* had therefore to invest a labor of imagination in constructing a “scientifically founded argumentation” that could persuade UNESCO about the need to safeguard of Mexican cuisine.

Whereas *Pueblo de Maíz* identifies sacredness, community and milpa culture as that which needs to be preserved from global capitalism – that is, from free trade agreements and genetically modified organisms – the argument about the viability of Mexican cuisine draws on a new understanding of cultural policy as an engine of development. During the launch of *Pueblo de Maíz*, the Director of CONACULTA, Sari Bermúdez declared that “beyond its symbolic and traditional values, culture is a real factor of development, a means to create wealth” (126). Therefore, she says, the government must commit to “a national strategy with a cultural perspective” (126).⁸⁴ The strategy must involve, among other things, policies to recuperate traditional agriculture and to preserve indigenous and popular cuisines through education and research, capacity-building in artisanal production, and even protection of industrial property rights as well as controlled

⁸⁴ The strategy must involve policies to recuperate traditional agriculture, the preservation of indigenous and popular cuisines, capacity-building in artisanal production, nutritional education based on local foods, promotion of culinary patrimony, protection of industrial property rights and controlled origin status for Mexican products (127).

origin status for Mexican products (127). Thus, beyond the sacredness of ancestral roots, it is in order to link culinary patrimony with “other factors of social and economic development” (20) that *Pueblo de Maíz* proposes “a crusade” to educate the public about the cultural, nutritional and economic *value* of traditional cuisine. In this task, emphasis is given to consensus among different actors – private business, grassroots organizations, the government – around the idea that “protecting Mexican gastronomy means conserving an important identity trait, an invaluable legacy in which the coming generations will find a powerful impulse to advance without denying what they are and what they have been” (16).

As the day approached when Mexico would know whether *Pueblo de Maíz* had succeeded in obtaining UNESCO's recognition for Mexican cuisine as a masterpiece of intangible heritage, the author of the “technical justification” of the dossier, food writer Cristina Barros, declared that the point of obtaining such a recognition was to *force* the Mexican government to undertake concrete actions such as “a programme to defend maize as a fundamental food of the Mexican people, a consideration of traditional cuisine as culturally, socially and economically strategic, the participation of environmental authorities in the protection of threatened ecological spaces, the commitment of health and education authorities to support traditional foods against industrial, junk foods, and a long etcetera” (Barros 8). Drawing on the most radical currents of thought that contributed to the crafting of the 2003 *Convention for the Safeguarding of Intangible Cultural Heritage*, Barros warned against conflating traditional cuisine with gastronomy, which belongs to the realm of pleasure, she says, “not the realm of cultural expressions that UNESCO has sought to recognize.” In accordance with the technical, anthropological dimension of intangible cultural heritage, Barros insists, “no dish should be presented in isolation of the social and cultural context that gives it meaning and support. As a society we must remain vigilant that the benefits of this proclamation go directly to indigenous communities, and to prevent usurpation or corruption of their culture. Only in this way we shall fulfill the mandate of UNESCO.” By remarking that the argument in *Pueblo de Maíz* went far beyond a celebration of colorful dishes and exotic flavors, Barros invoked the political aspirations of the Mexican defenders of maize.⁸⁵ For them, UNESCO's

⁸⁵ Issues of environmental damage by foreign and domestic industries, and opposition to the junk food industry, particularly regarding its power to control the media industry and its profitable

recognition was instrumental in counteracting the neoliberal destruction of milpa culture and its historically specific food habits. While there is little reflection throughout the dossier on the ways in which indigenous communities have been historically sacrificed in order to construct the very nationalist discourse that exalts them, there is an effort to valorize the practices of those communities, their knowledges and their techniques, which are said to deserve a serious investment of the state if only because of their potential to help the nation survive in the context of neoliberal globalization.

As it turned out, *Pueblo de Maíz* did not succeed in obtaining a place for Mexican cuisine in the *Third Proclamation of Masterpieces of the Oral and Intangible Heritage of Humanity*. Although UNESCO did not release an official statement explaining the reasons of this outcome, it seems likely that one of the reasons was the complexity of the Mexican candidature combined with the lack of anthropological "experts" who would have been able to deal with it.⁸⁶ One can only speculate that there were too many issues beyond the actual scope of UNESCO (such as free trade agreements, property rights in biotechnology and the very concept of an industrial food system) that, according to the dossier's argument, needed to be addressed in order to safeguard Mexican cuisine. Even though the 2003 Convention was already in force, the *Representative List of Intangible Heritage of Humanity* only superseded the Proclamations of Masterpieces in 2008. Thus, the practical implementation of Convention initially consisted in the selection of aesthetically defined "treasures" by a group of country delegates rather than expert committees. Basma Bint Talal, president of the jury that rejected the dossier, declared in this vein that there was a lack of "focalization" in *Pueblo de Maíz* (Pacheco). Indeed, maize was presented in the latter as a multiplicity of elements – with a corresponding heterogeneity of practitioners – rather than as a single, clearly bounded cultural asset, this in spite of the constant assertions of uniqueness, integrality, millennial continuity and so forth.

In the same year that *Pueblo de Maíz* was rejected by UNESCO, Gloria López Morales was dismissed from CONACULTA and went on to become the

distribution in schools, are very thorny issues in Mexico which have often involved violence, corruption and acute de-legitimation of the corresponding authorities.

⁸⁶ When *Pueblo de Maíz* was rejected on 2005, López Morales attributed the failure to the jury's lack of a specialist perspective (Bucio).

president of the Conservatory of Mexican Gastronomic Culture (CCGM).⁸⁷ The CCGM defines itself as a grassroots organization and a consultant of UNESCO that is dedicated to the preservation of Mexican cuisine through research, education and production. Through the CCGM López Morales continued to pursue recognition of Mexican cuisine as intangible heritage, devoting the following three years to the drafting of a second nomination file titled (in English) *Traditional Mexican Cuisine: Ancestral, Ongoing Community Culture; the Michoacán Paradigm*.⁸⁸ Like *Pueblo de Maíz*, *Traditional Mexican Cuisine* transfers the sacredness of indigenous food habits to the whole nation and emphasizes the need to safeguard the nation by articulating "authentic" agricultural and culinary practices with national development through the novel framework of international cultural policy. Once again we hear that "[h]umankind was made with maize" (5), and that food has a "fundamental role in the life of the group, comprising the most revered local and national heritage" (4). Once again it is stressed that the argument for Mexican cuisine evolved during several years in encounters, congresses, courses and other projects organized in conjunction with numerous public and private institutions.⁸⁹ Yet, whereas *Pueblo de Maíz* called for a cultural exception to free trade agreements and biotech penetration, *Traditional Mexican Cuisine* combines the official argument for cultural diversity with the neoliberal idea of viability through technoscientific articulation of cultural traditions with productive chains.

⁸⁷ López Morales worked as a diplomat for 34 years before joining CONACULTA by invitation of Sari Bermúdez, CONACULTA's director during the presidential administration of Vicente Fox (2000-2006), the first democratically elected government after 70 years of "institutionalized revolution." After her dismissal from CONACULTA, López Morales wrote a book against Bermúdez in which she denounced the arbitrariness of her dismissal and related it to the neoliberal dismantling of public institutions. In interview with *Proceso*, López Morales invoked the post-revolutionary era, in which public intellectuals contributed to cultural policy and in which the state had a clear, inalienable responsibility. By contrast, she denounces, the Fox years were lost in terms of cultural policy because functionaries like Sari Bermúdez administered cultural institutions as "their ranch," that is, for the benefit of the power groups in office. Ironically, López Morales succeeded in obtaining UNESCO recognition through what seems a discursive neoliberalization of *Pueblo de Maíz*.

⁸⁸ In the same period, several countries – including France, Peru, South Korea and Croatia – also prepared nominations of their own traditional cuisines. This time, an expert committee would select the candidates for inscription in the Representative List of Intangible Heritage, which superseded the earlier *Proclamation of Masterpieces* on 2008, when the 2003 Convention finally took effect.

⁸⁹ The Mexican government signed the Convention in December 2005. The Working Group for the Promotion and Safeguarding of Mexico's Intangible Cultural Heritage was created (2002) to put together an initial estimated inventory of intangible cultural heritage elements in 2008, "Traditional Cuisine in Mexican Culture" was inscribed on that inventory as a heritage asset subject to protection by the Mexican government (15).

Traditional Mexican Cuisine fulfills the technoscientific vision, merely anticipated in *Pueblo de Maíz* and explicitly endorsed by the 2003 *Convention*, of linking industry, government and grassroots organizations dedicated to the production of knowledge in the field of cultural patrimony. The first thing to emphasize in this regard is that *Traditional Mexican Cuisine* was prepared by the CCGM in collaboration with the National Institute of Anthropology and History (INAH), with financial sponsorship of Maseca-Gruma, the powerful corporation that commercializes corn flour all over the world and that embodies what was perhaps the single instance of successful technoscientific development in Mexico.⁹⁰ Tellingly, *Traditional Mexican Cuisine* is presented in a standard format provided by UNESCO in which it is explained point by point how the candidate fulfills the selection criteria established by the 2003 *Convention*. For instance, Mexican food is again described as ancestral, but this time the meaning of the term is specified in UNESCO's vocabulary of something preserved "through oral transmission of skills and knowledge between generations" (3). Authenticity is defined as "a desire not to falsify the roots" which explains the fact that, despite "the invasion of other customs and the battering of the market" (5), "communities still prepare food using the time-tested methods" (4). The dossier argues that in order to "ensure ongoing historic continuity" of Mexican cuisine it is necessary to revive products, procedures and techniques through transfer of knowledge and insertion in circuits of sustainable development" (3). Among the time-tested methods specified in the file are *milpa* agriculture, *chinampa* agriculture⁹¹ and the *nixtamalization* of maize kernels. The latter is presented as a "revolutionary" technique that "reflects the very birth of Mexican culinary culture" which has contributed to "a healthy balanced diet for its peoples for thousands of years" (5). Although mechanical mills have largely displaced manual grinding of maize, stone *metates* are also cited in

⁹⁰ The importance of Maseca's sponsorship was stressed by this company's global marketing director, Sylvia Hernández, in an interview with newspaper *La Jornada*. She said, "as leaders in the production of maize and tortilla we were very interested in taking part in this, as a way of promoting the consumption of our products. From the beginning we joined the project. Our culinary expert participated in all gatherings for the elaboration of the nomination file throughout the year 2010; we had a chance to support the Conservatory (CCGM) with all the communication and promotional tools that they required, and which were forceful and important to achieve the inscription" (Caballero 9).

⁹¹ At the time Cortés arrived to Mesoamerica, *chinampas* built in the swamp-lake of Tenochtitlán, now Mexico City, supported an urban population of a million and a half people, larger than Henry VIII's London. The Aztecs had devised a system of dams, aqueducts, dikes, and canals to provide irrigation, cultivation, and transport all at once. The system is still in use today in Xochimilco, south of Mexico City (Fussell, "Translating Maize into Corn" 48-49).

the nomination file among the “singular utensils” that contribute to the authenticity of Mexican cuisine. Hence, the methodologies designed and tested by CCGM are in turn aimed at the viable reactivation of “productive chains” on the assumption that “[i]ncreased production brings more jobs, improved training and education requirements, growth in cultural tourism and, on the whole, better quality of life to the communities” (7). Since it is a requirement of the 2003 Convention that “communities” be clearly identified as conscious guardians of their intangible cultural heritage, attached to the nomination file is a map of the Mexican territory in which communities are classified and ranked as “hubs of culinary knowledge.” On that basis, certain communities proposed as targets for the application of a model that “has already proven to be efficient” (2). The model in question is a project carried out with indigenous communities in the state of Michoacán.

Starting in 2004, the project involved “sustainable marketing of products and training courses given to the tourism sector along culinary heritage routes” (8). Cooks were asked to work in teams made up of mothers, grandmothers, daughters and granddaughters. In order to present their dishes to the public, they were also asked to build a stone and hearth, decorate their stalls, and dress in their traditional outfits (9). *Traditional Mexican Cuisine* insists that the point of all this intervention is to enable communities to “respond to tourism without altering the cultural context characterized by adherence to customs and working as a community” (9). Furthermore, and in accordance with the Convention's requirement of informed consent, it assures the reader that the Michoacán project met with “convincing community support for courses on sanitary food handling, oral transmission of dietary culture or know-how, discussing problems they face “in defending the purity of their traditions” and in finding ways to overcome their “isolation and paralysis of activities, which are in need of greater spaces to expand and develop” (12).⁹² In particular, the Don Vasco Route⁹³ is presented as “a

⁹² In the format's field of “Consent to the Nomination,” it is answered that some families accepted to have their names included in the nomination file, to which there is also attached a *Declaration of Traditional Cooks for the Recognition of Traditional Cuisine*.

⁹³ The Don Vasco Route project comprises cultural tourism itineraries to the towns in which Vasco de Quiroga, a 16th century Spanish humanist, organized indigenous communities around guilds and trades, inspired by Thomas More's *Utopia*. The communities are still organized around handicrafts, and it is argued in *Traditional Mexican Cuisine* that it is handicraft tourism that provides people with a “viable” living. The dossier also explains that, before opening the route to tourism, “information” was provided to cooks, tourist operators and students before opening the route to tourism: “It was also necessary to raise tourist consciousness so as not to belittle the authentic native traits of the communities. Since traditional cuisine is a major aspect of the cultural tour,

showcase” for the nomination file, an example of safeguarding through memory conservation, transmission of knowledge and creation of infrastructure for community development (5). CCGM thus argues:

This is not a utopian pipedream: the already fruitful Michoacán model must be applied to other regions. Inscribing Mexico's traditional culture on the Representative List will push that purpose forward tremendously via an action plan founded on the premises expounded throughout this document. The goal is to make the most of that element of intangible heritage inclined like few others to strengthen dialog [sic] across the culturally diverse map. (Conservatorio de la Cultura Gastronómica Mexicana 7)

Cultural anthropologists Heath and Meneley have highlighted the mutual imbrication of artisanal causes and technoscientific methods through a number of case studies exemplifying the paradoxical ways in which branding strategies combine the celebration of local identities with the technoscientific promises of “quality control” and “safety.” For instance, artisanal producers of *foi gras* in America defend their techniques from the accusations of animal rights activists by insisting that force-feeding is “safe” for geese because such animals have a physiological capacity to fatten their own livers in preparation for migration. While industrial producers could well endorse the same argument, artisanal producers have succeeded in differentiating themselves by invoking culture, locality and sustainability, creating wide consumer support that also surpasses the popularity of animal rights activists (Heath and Meneley 594). In the case of *Traditional Mexican Cuisine*, business administration, marketing lessons and hygiene training courses are presented as being instrumental to the preservation of cultural authenticity. Moreover, the argument is technoscientific in presenting cuisine as a matter of knowledges and techniques that must be linked to socioeconomic development via knowledge transfer and the production of self-reliant, managerial subjectivities – popular cooks joining urban chefs and tourist operators in a big society dedicated to the preservation of cultural patrimony. In sum, what *Traditional Mexican Cuisine* proposes that is different from the proposal at the

those in charge of the project have promoted a program of lodging and eateries that allows cooks to work within their field and improve the conditions in which they can offer their dishes without affecting their authenticity” (14).

heart of *Pueblo de Maíz* is “to continue setting up small enterprises and providing training in business administration, hygiene and marketing” (9). On this basis (and alongside the gastronomic cuisine of France and the Mediterranean diet) *Traditional Mexican Cuisine* was inscribed in the *Representative List of Intangible Heritage* on 16th November 2010. In the months leading up to the event, and during the days that followed it, a series of disagreements among the original promoters of the Mexican candidature became evident in the press – as if maize, instead of giving cohesion to its defenders, only managed to underscore their differences.

Clearly, from the "postmodern" anthropological perspectives that originally informed intangible heritage discourse, safeguarding Mexican cuisine would require preserving the conditions of existence of the living beings that produced Mexican cuisine. Yet as I explained in a previous section, such perspectives were contaminated by neoliberal discourses that attempted to articulate heritage preservation with the capitalist economy. When *Traditional Mexican Cuisine* achieved inscription in UNESCO's List of Intangible Heritage, early promoters of maize-based cuisine resented its explicit technoscientific rationality. For instance, maize defender Cristina Barros publicly called into question the fact that it was the CCGM, a private rather than a public organization that would administer the safeguarding of Mexican cuisine. There was little to expect from this, Barros lamented alongside other disappointed activists, beyond a gentrification of traditional cuisine by elite gastronomy and tourism. In her view it was fundamental to distinguish the nation's culinary heritage from mere gastronomy. Unlike elite gastronomy, Mexican culinary heritage is a complex interdisciplinary field, involving anthropology, philosophy, biology and history, “even more so in our country where food, particularly maize, is sacred.” Barros was not the only one to react against the technoscientific orientation of *Traditional Mexican Cuisine*. There was also anthropologist Yuriria Iturriaga, who is credited in *People of Maize* as having been the first to propose the seeking of UNESCO's recognition for Mexican food. The day after *Traditional Mexican Cuisine* was inscribed in UNESCO's Representative List, a piece by Iturriaga was published by newspaper *La Jornada* in which she decried the outcome of the process that she herself had started eight years before. Her first complaint was that CCGM had presented safeguarding measures not as legal obligations for the Mexican government, but rather as

proposals to be administered by a private organization. She then criticized the strategy of “taking cooks out of their communities to teach them hygiene, techniques, business administration and marketing,” so that their “mini-enterprises can be planted along touristic routes (that is, planted among restaurants of Mexican nouvelle cuisine that those who wrote up the nomination file will set up with the benefits deriving from it).” Third, Iturriaga condemned the fact that the safeguarding plan was accepted as a local project, whereas she had insisted that Mexican cuisine coincides with the territorial boundaries of the Mexican nation as a whole. In Iturriaga's disappointed view, UNESCO should have “ordered” the Mexican nation to “integrate all traditional cuisines of the country” as an absolute responsibility of the state. She concluded that Mexico would have a reason to celebrate only if UNESCO had bound the Mexican authorities to safeguard the milpa, “a food system that is nearly extinct today due to predatory agrarian policies.” UNESCO would have thereby contributed to establishing a “cultural exception” that exempted local maize agriculture from NAFTA “so the people would again eat in a healthy way.” Instead, UNESCO lent its seal to “particulars who would never share their table with an indigenous woman, perhaps because they prefer to present *mole poblano* [a dark, thick sauce typical of Puebla] in little drops over huge plates in order to “raise its category.”

In my view, Iturriaga is right to point out that Mexican rural women are implicitly positioned in *Traditional Mexican Cuisine* as ignorant and needy, that is, as people who need to be taught how to overcome isolation and (a presumed) ignorance about safety and risks. Yet Iturriaga's criticism seemed to be motivated by something other than a critical position about developmental discourse. Earlier in 2010, she had accused López Morales of “forgetting” that that it was Iturriaga herself who had first proposed, in 2002, to seek UNESCO recognition “with the noble end of engaging the Mexican government in a crusade to rescue a people under threat: countryside workers, cooks and artisans” (Iturriaga, “Cocinas Tradicionales”). In a bitter tone, she had anticipated a new failure of the Mexican request, which would be explained by the fact that López Morales had “turned her back” on the “true pioneers.” Thus, while both Iturriaga and Cristina Barros have good arguments against the managerial shift in the second Mexican candidature, their conclusions focus on the more superficial aspects of the problem, namely, Gloria López Morales and the CCGM, as if these empirical agents were the cause

of the Mexican failure to protect maize from globalization. Moreover, their conclusions end in a moralistic accusation that as Wendy Brown would put it, “conveys at best naive political expectations and at worst, patently confused ones” (*Politics out of History* 36). In other words, their outrage implicitly figures a mainstream institution such as UNESCO as if it were not “the codification of various dominant social powers, but was, rather, a momentarily misguided parent who forgot her promise to treat all her children all the same way” (36). By implicitly positioning UNESCO as a misguided parent, the Mexican defense of local maize agriculture is in turn positioned as if it did not represent “a significant political challenge to the norms of the regime” (36). In Brown's argument, such implicit figurations signal a rejection of politics as a domain of power and lead nowhere but to a backward-looking melancholia that is premised on disavowed attachments to oppressive regimes.

In the case of Iturriaga, it has been easy to trace such disavowed attachments. In 2002, she wrote a lengthy piece on Mexican cuisine as a “factor of identity and unity.”⁹⁴ There, she had argued that “Mexican gastronomy does exist,” that it is a “harmonious sensual structure” and that it does not have to exclude an economic strategy of “higher yields.” Her only condition was that the strategy reversed “the perverse side of the globalization process” by drawing on “the cultures of the people” in order to oppose “imperial hegemony.” Iturriaga explained the aims of promoting Mexican cuisine as World Heritage. She wrote that by means of heritagization, it would be come possible:

...to stop the deformation and degradation of regional cuisines that is caused by the junk food industry by preserving the existence and obtaining a better price for vernacular products in the local, national and international markets; 2) to create employment in the agricultural sector and related industries, with its ideological and economic revalorization; 3) to stop the unjustified self-devaluation of the Mexican people in relation to their cuisine and 4) to benefit the palate of humanity (Iturriaga, "Cocinas Tradicionales").

⁹⁴ She says there, among other things, that even if Northern Mexico's culinary habits share a taste for wheat and beef with the neighboring United States, it can be argued that “the frontiers of the Mexican Republic coincide with its culinary frontiers since, from Tijuana to Chetumal, Mexicans share the same set of knowledges and eating practices that are extraneous to their American neighbors” – a passage that makes it plain how important it is for maize nationalists to constantly assert “our traditional differences” against O’Gorman’s Anglo-America (Iturriaga, “Gastronomía Mexicana”).

It thus turns out that Iturriaga herself had promoted the technoscience of culture that later on she would end up condemning moralistically, which suggests to me that her outrage came not so much from the technoscientific discourse of *Traditional Mexican Cuisine* as from the fact that it was a gastronomic entrepreneur rather than a public anthropologist like herself who finally achieved UNESCO's recognition for Mexican food.⁹⁵ This is not so strange, I would argue, since intangible cultural heritage itself emerged from the world of technoscience with the ambiguous purpose of preserving cultural diversity and harnessing cultural difference as an economic resource. Through transnational cultural policy, intangible cultural heritage itself promotes managerial attitudes towards cultural legacies and seeks, implicitly or explicitly, to achieve their productive articulation with the global economy. In view of this, the ideological pitfall of intangible heritage discourse appears to be precisely the intimation that it will put an end to antagonism, hostility and indeed politics itself, as defined by post-Marxist theorist Chantal Mouffe. The rationalist, universalist and individualistic rhetoric at work in UNESCO's intangible heritage discourse is as much of a problem as the unrealistic expectation, on the part of some Mexican defenders of maize, that UNESCO itself would be forceful enough to settle the conflict between biotech corporations and peasant agriculture in Mexico, and between Mexicans themselves as those "originarily" responsible for the future of Mesoamerican maize agriculture.

As an alternative to the apocalyptic thinking that the actual outcome and logic of intangible heritage seems to elicit among disappointed maize defenders, I suggest that culinary activists (including, initially, Barros and Iturriaga) performed a technoscientific form of cultural politics when they resorted to international cultural policy as a way of gaining advocates of a reconsideration of the historic devaluation of indigeneity and popular cultures in Mexico. In other words, the success of *Traditional Mexican Cuisine* depended on a strategic "contamination" of activist discourse by the technoscience of culture. I disagree with activists who

⁹⁵ This is how Iturriaga interpreted the version that *Pueblo de Maíz* was unsuccessful because it was too oriented towards the "anthropological." She even cast doubt on the expert committee who finally accepted to designate *Traditional Mexican Cuisine* as intangible heritage: "perhaps they do not know what intangible heritage is, perhaps because they are not anthropologists but rather politicians sent by state governments?"

see this process as a dead end for Mexican cuisine, and I think it is necessary to undertake a more open-minded interrogation of the political productivity of "contamination" as an inescapable condition in technoscience. In the story of *Traditional Mexican Cuisine*, precisely at the moment when everybody seemed to converge around the urgency to preserve maize as the essence of Mexican identity, multiple disagreements cropped up regarding what exactly the preservation was to involve. The disagreement precluded the desired totalization of the national text. My argument here would be that coming to terms with the impossibility of totalization is what "contaminated" life is all about. It is not an apocalypse, I argue, and it continues to be vital for activists to deploy contamination subversively within the ongoing "gastronomification" and "heritagization" of Mexican indigenous cuisines. At the risk of playing the devil's advocate, I suggest that we welcome inauthenticity of the technoscience of culture, which gathers Mexicans in the urgent (yet necessarily "impure") task of making a creative use of the resources of history as a potential challenge to the capitalist imperative of efficiency.

Conclusion: Seed of Unity, Seed of Discord or Seed of Change?

...the task will always be to try to identify points of potential convergence between the radical desire to break down all concentrations of power (...) and the more immediate desires, hopes and fears of those who do not spontaneously identify themselves with any radical political project (Gilbert, *Anticapitalism and Culture* 187).

Having initially united the heterogeneous defenders of maize, intangible heritage ended up stirring their disagreements around the best way to preserve the nation's cultural patrimony. A fundamental disagreement related to the managerial and neoliberal orientation that UNESCO's policies on intangible heritage shares with technoscientific capitalism more generally. While *Pueblo de Maíz* had drawn on the critical and progressive legacy of anthropological "postmodernism," the second nomination file, *Traditional Mexican Cuisine*, straightforwardly exploited the convergence of "cultural diversity" with the cultural logic of late capitalism. The success of *Traditional Mexican Cuisine* depended on a

"contamination" of activist discourse by the technoscience of culture. Should we reject such a "contamination" in an oppositional way, or should we rather welcome the opportunities it offers to re-articulate Mexican nationalism in a strategic way in order to promote a social re-valorization vital domains such as food and agriculture in the midst of a capitalist colonization of life itself? Rather than an oppositional reassertion of nationalism (which, as I have shown, is prone to getting stuck in melancholy and moralism) the field of intangible heritage requires a subversive deployment of technoscientific discourse. Of course, to recommend "contamination" as a strategic operation within the technoscience of culture is not to exclude further questioning of whether *Traditional Mexican Cuisine* actually achieves anything besides the reproduction of cultural capitalism. My aim is rather to introduce a more nuanced appreciation of the possibilities and limitations of a cultural defense of maize under the hegemony of neoliberal capitalism.

In a contribution to the same book in which cultural historian Jeffrey Pilcher deplors what he calls a "postmodern apocalypse of peasant cuisines," American anthropologist Richard Wilk warns us against describing food culture through linear narratives leading up to a single point in the present ("From Wild Weeds" 18). In a post-Marxist spirit, he advises us not to think of a single unitary capitalism but rather of multiple sites at which capitalism is negotiated in singular ways. Wilk insists that people do usually find "ways to *decommodify* food, to make it personal, meaningful, cultural, and social" (20). To recognize those singular acts of de-commodification need not render us blind to the paradoxical ways in which the very acts that decommodify - for instance, "identifying a food as part of an inalienable *heritage*" - re-commodify it for "high-end gourmets and cultural theorists" (20). I share Wilk's attention to the paradoxical and "impure" logics of de-commodification, and therefore I suggest that even within the neoliberal hegemony that compels cultural managers to capitalize on the designation of "authentic" cuisines, the contemporary technoscience of culture is in principle capable of unsettling previous picturings of Mexicanness as "a cage of melancholy" (Bartra), that is, as a static limbo between "modernity" and "tradition."

In the next and final chapter of this thesis, I explore the ethical and political promises of affirming "contamination" as an originary (as well as generative) condition in technoscience. Opponents of transgenic organisms speak of "contamination" as the cause of an apocalyptic scenario. While I give serious

attention to the many reasons why they do so, I also re-figure the term in a philosophical sense in order to try to imagine different possibilities for the thinking and doing of biotechnology in Mexico.

Chapter V

The Genetic Contamination of Mexican Nationalism

Introduction: A Textual Contamination of Biotechnology Debates

We exist in a sea of powerful stories. (...)
Changing the stories,
in both material and semiotic senses,
is a modest intervention worth making.
(Haraway, *Modest_Witness* 45)

In their introduction to *New Materialisms: Ontology, Agency, Politics*, Diana Coole and Samantha Frost explain what they see as a widespread dissatisfaction with "the more textual approaches associated with the so-called cultural turn" (2-3). Textual approaches, they say, are increasingly deemed inadequate for addressing political issues such as environmental disaster and climate change. In view of the obvious materiality of these phenomena, Coole and Frost ask rhetorically: "how can we be other than materialist?" (1). Their answer is that "radical constructivism" has dominated the theoretical scene since the 1970s and has resulted in a generalized inability to give material factors "their due in shaping society and circumscribing human prospects" (3). From this, Coole and Frost go on to assert that textual approaches are "allergic to matter," allegedly dissuading young researchers "from the more empirical kinds of investigation that material processes require" (6). Given that I want to position my own textual approach to the Mexican defense of maize as materialist in its premises and its critical orientation, I take issue in this chapter with Coole and Frost's construction of a straw opposition between textuality and materiality set up in their justification of the so-called "new materialisms." The latter take on the form, as recently suggested by Dennis Bruining, of a revival of foundationalism which is motivated by a moralistic response to the political challenges of the day. While I share Bruining's line of interpretation, my focus here is on demonstrating the continuing relevance of

textuality for contemporary materialist thinking. In the context of a neo-empiricist backlash against textual approaches, I want to pose the following question: Why would it be important to think and speak of "genetic contamination" in non-empiricist and non-moralistic ways, and what form would such a discourse take?

A key argument of this chapter is that textual entities such as tropes, myths and figurations are part and parcel of a critical materialist engagement with the technoscientific world. On this basis, I attempt to re-figure "genetic contamination" along the ethico-political lines of a deconstructive kind of materialism. This line of thinking can be traced back to the re-conceptualization of technics performed by deconstructive philosopher Bernard Stiegler in the first volume of his *Technics and Time*. Drawing on the empirical work of André Leroi-Gourhan, Stiegler elaborates a philosophical understanding of technics as an evolving, non-deterministic relationship between the living and the non-living. He explains that the archaeological finding of the Zinjanthropian, a tool manipulator with a very small brain, suggested to Leroi-Gourhan that brain development had not been the leading cause of hominization. Hominization was instead set in motion as a co-functioning of body and tool, which Stiegler interprets philosophically as a mirror-effect process "whereby one, looking at itself in the other, is both deformed and formed" (158). By including thinking itself in this process, Stiegler radically challenges the dualistic terms imposed on the thinking of technics by the metaphysical tradition. No longer a mere instrument of *a priori* humanity, technics stands in Stiegler's work for life in general understood as a technical process from which humanity emerges contingently, that is, dependent on specific material conditions. Stiegler's intense engagement with physical anthropology already seems remarkable from a materialist perspective; however, what actually inspired my project of re-figuring "genetic contamination" was Stiegler's mythological elaboration of Leroi Gourhan's work. It is this textual gesture that I find more valuable for my own attempt to re-figure "genetic contamination" along the lines of what we might call a "deconstructive" or non-essentialist and non-empiricist kind of materialism.

In his philosophical reading of the Greek myth of Prometheus, Stiegler suggests that humans emerged as technical beings in more than an empirical sense. There he foregrounds a fault committed in the first place by Epimetheus, who forgot to assign qualities to human beings as had been instructed by the gods

to his brother Prometheus. After the fault Prometheus performed his famous deed, namely, that of stealing "the gift of skill in the arts" (technicity) and fire in order to help human beings survive. As we know, Zeus allowed humans to keep the Promethean gift, if only because his revenge was already included in the gift as the condition of mortality. As Stiegler says, humans were to be forever haunted with "trepidation at the condition of technicity (its power, implying equally the powerlessness of mortals)" (*Technics* 189). This explains the notion of "originary technicity," or Stiegler's own "myth of the absence of foundation" (Marchart 151), according to which human beings emerged "without qualities, without predestination: they must invent, realize, produce qualities, [but] nothing indicates that, once produced, these qualities will bring about humanity (...) they may rather become those of technics" (194). What is the relevance of Stiegler's philosophical elaboration of the Promethean myth in the context of a confrontation between agricultural activism and corporate biotechnology?

Rosi Braidotti has drawn attention to the dangers of traditional philosophy as a machine with a tendency to "cannibalize" or assimilate "all new and even alien bodies" (*Nomadic Subjects* 33). As an alternative to the disciplinary workings of institutionalized philosophy, Braidotti proposes a nomadic style of thinking which consists in "crossing disciplinary boundaries, extensive borrowing of notions and concepts that are deliberately used out of context and derouted from their initial purpose" (37). It is in such a nomadic spirit that I want to borrow originary technicity from Stiegler's deconstructive framework, as a preliminary step in the project of re-thinking "genetic contamination" in ethico-political terms. Such a re-thinking or repurposing seems indispensable in this case because, as Oliver Marchart recently pointed out, Stiegler's technical focus has led him to overlook the ontological specificity of the political – which is, by contrast, rigorously theorized by post-Marxist philosophers Chantal Mouffe and Ernesto Laclau in terms of *antagonism*. For Stiegler, politics is needed to regulate disagreements around the threats posed by technics – for instance, he is particularly concerned about an apparent decline in cognitive and affective dispositions under capitalist media industries. Echoing the feminist criticism of institutional philosophy, Marchart concludes quite forcefully that the generalizing tone with which Stiegler pathologizes the social has the function of absolving the philosopher from analyzing the concrete circumstances that contribute to the emergence of politics

in particular contexts (151-163). By failing to grant any constitutive role to antagonism as such, Stiegler ends up precluding radical politics in favour of bland reformist appeals to regulate the media and teach the youth to "take care" of themselves and others (Marchart 160). Moreover, through his constant use of medical language, Stiegler transforms sociopolitical analysis into a pathologizing discourse that re-inscribes metaphysics by presupposing a non-pathological state of origin (such as a "natural" libidinal economy that can be "destroyed" by consumer capitalism). In a similar vein, Richard Beardsworth accuses Stiegler of overlooking the contextual specificities of the economic domain. Whereas for Stiegler the question of technics is a Greek question, contemporary economic alienation needs to be thought, Beardsworth argues, beyond Greek philosophy and in terms of what kind of regulation of capitalism is possible today for the world as a whole. As Beardsworth says, that is a vast and difficult question that cannot be adequately handled with generalizing, deterministic arguments ("Technology and Politics" 189). My own conclusion is not that philosophical reflection should be regarded as useless in the face of complex material realities, or that we should abandon, as Coole and Frost demand, textual approaches in favour of "more empirical" ones. Rather, I argue in this chapter that the philosophical framework of originary technicity can be deployed in more critical ways, with due attention to the contextual specificities of an "event in technics" such as the Mexican defense of maize agriculture.

Combined with the psychoanalytic insights of post-Marxism, the politically informed practice of figuration by feminist technoscience scholars provides the theoretical basis for my attempt at refiguring "genetic contamination." The purpose of this refiguration would be to provide critical alternatives to the current usage of this term in activist circles, wherein genetic contamination is conceived as an intentional attack on a sovereign entity – whether this sovereign entity is framed in modern developmental terms as "the Mexican nation" or in the radical autonomist terms of indigenous "milpa culture." While the political reasons for the activist opposition to transgenic "contamination" seem clear enough in the context of global capitalism, I want to problematize the human-centred narratives privileged by activists, which tend to lock their own discourse in fruitless moralistic denunciation. It is fruitless, I want to argue, because it merely rehearses the paranoid habits of thinking around modern technology in general, as opposed to

taking ethical and political responsibility for the emergence of a post-human(ist) subjectivity in particular contexts. In order to illustrate this point and argue for alternative associations and becomings *within* a refigured genetic contamination, I undertake a close reading of selected texts in the Mexican biotechnology debates in order to identify to what extent and with what consequences each of them establishes a link between the origin of maize and the origin of national identity.

I begin with the text of the *Master Project of Mexican Maize* (PMMM), which is a technoscientific project partly funded by Monsanto and implemented since 2007 by Mexican research institutions in a controversial collaboration with peasant communities from the state of Puebla. My purpose in engaging with PMMM is to demonstrate that culture matters in the Mexican biotechnology debates, with specific consequences for activism. After diagnosing the activist predicament in the face of the hegemonic narratives mobilized by PMMM, I open up the question of whether the "contamination" denounced by environmental activists can be productively re-figured in terms of a creative ontology inspired by the ethics of deconstruction and feminist affirmative politicization of technoscience. By way of experimenting with this idea, I engage with key chapters from the book *Origin and Diversification of Maize*, a scientific report in which Mexican scientists recreate the origin of maize in the larger context of a cultural and political defense of Mexican biodiversity. By weaving together the science of the origin of maize with the cultural aspects of its diversification, the authors of the report elaborate a renewed national mythology orientated to confront the Mexican Biosafety Law (2005). After locating the "genetic contamination of Mexican nationalism" in the scientific failure to close the national text precisely at the point where the origin of the nation is made to coincide with the origin of maize, I try to discern the political and ethical dimensions of the Mexican biotechnology debates in order to assess the possibilities as well as the limitations of thinking genetic contamination in the way I propose. With this in mind I examine the anticapitalist narratives in *Maize is Not a Thing; It is a Center of Origin*, a book composed by the activist Network in Defense of Maize. I suggest that textual engagements with the cultural terrain in which maize anticapitalism takes place are not only useful when it comes to foregrounding the political nature of all empirical claims in the Mexican biotechnology debates, but they are perhaps also necessary from a (bio)ethical perspective.

Faces of Maize: Why Culture Matters in Technoscience Activism

What seems to be at stake is this culture's stories of the human place in nature, that is, genesis and its endless repetitions. And Western intellectuals, perhaps especially natural scientists and philosophers, have historically been particularly likely to take their cultural stories for universal realities (Haraway, *Modest_Witness* 60).

Are textual approaches "allergic" to the materiality of ecological issues such as the flow of transgenes in Mexican cornfields? In a recent issue of *New Formations*, Jeremy Gilbert seems to agree with Coole and Frost that cultural theory and cultural studies have tended to retreat from ecological issues out of "scepticism regarding anything that might smell of naturalism" (*Editorial* 7). Unlike Coole and Frost, however, Gilbert argues that such a retreat is unnecessary, since ecological issues take place on a cultural terrain. Importantly, a cultural terrain is for Gilbert not just one sphere amongst many, but is rather a complex (we may perhaps say, ecological) field in which the political, the economic and the natural form an inseparable dynamic. In other words, "culture" is a complex *material* affair, and the highly politicized articles in this special issue of *New Formations* on "Imperial Ecologies" amply testify to that. They also illustrate that critical textual approaches do not claim to exhaust or displace matter but rather call into question all kinds of authoritative accounts of material reality. From this perspective, even "new materialism" is seen as a cultural approach, something that becomes evident when Coole and Frost explain that materialism is not so much about an immediate access to matter itself but about a critical engagement with "underlying beliefs about existence that shape our everyday relationships to ourselves, to others, and to the world" (5). Critical textual approaches can indeed share with "new materialisms" the assumption that what humans think and believe is, after all, decisive for shaping current experiments done "with and to matter, nature, life, production, and reproduction" (4). How then do human(ist) beliefs, assumptions and values inherited from cultural histories matter for Mexican activism around maize agriculture and biotechnology?

An early observer of the Mexican biotechnology debates, sociologist Gerard Verschoor pointed out that some environmental activists shared with their pro-industry opponents a modern regime of justification that was unlikely to aid their cause. In particular, by invoking the myth of the noble savage as a means of preserving biodiversity, such activists were unwittingly drawing on the same logic as their pro-industry opponents. Echoing Martin Heidegger's famous critique of modern technology as metaphysics, Verschoor described the industrial logic as anthropocentric and instrumentalist. He wrote:

The main end of all logics that are utilized to distinguish between right and wrong is always an end that is good for humans, according to humans. This common anthropocentric truism makes it possible for all grammars of worth to state with certainty that everything in creation, whether people or things, can be used merely as a means and that only man is an end in himself (49).

Verschoor warned that activists would see their position undermined once industrial actors managed to mobilize the anthropocentric rationality in a more persuasive way, for instance by arguing that biological threats could be managed "by simply extending the production process and monitoring the "health" of the environment" (47). Shortly after Verschoor issued this warning, some sections of the Mexican state apparatus, including research institutions, began collaborating with the biotech giant Monsanto on a project called the Master Project of Mexican Maize (PMMM). PMMM offered to integrate farming communities into the global market economy by designating them as "custodians" of native maize varieties that would simultaneously become the object of technoscientific research. PMMM presented itself on its website as a unique project in the history of Mexico, whose uniqueness derived from bringing together two distinct goals: 1) to preserve maize varieties threatened with extinction and 2) to improve the quality of life of the "custodians" of those varieties. By articulating environmental concerns with hegemonic narratives of development, PMMM came to fulfill Verschoor's prediction about the industry's superior ability to profit from an instrumentalist common sense. In this section I want to argue that the failure to provide alternatives to this rationality has resulted in some activists becoming stuck in a fruitless repetition of moralistic denunciations and naive empirical demands. If this

hypothesis is correct, then culture, discourse and subjectivity still matter decisively in political struggles around material issues such as agriculture, biological diversity and economics. This is not to say that culture, discourse and subjectivity are all that matters, or that they matter more than matter, or that they matter in a radically different way than matter itself. Rather, I argue that they have a decisive role to play in thinking and living materiality otherwise, for instance in non-anthropocentric and non-instrumentalist ways. Following Jeremy Gilbert's argument in *Anticapitalism and Culture*, I aim to show that a textual approach to the activist position *vis à vis* the capitalist discourse of PMMM can usefully generate a deeper understanding of the political challenges confronting the Mexican defense of maize. In this way, I begin to frame my textual approach as materialist not just in the sense that it addresses explicit concerns of so-called "new materialisms" but, more importantly, in the sense that it opens up the question of how theoretical practice can intervene responsibly in ecological issues.

According to activist researcher Silvia Ribeiro, PMMM was first mentioned in a series of requests made by Monsanto, Dow and Dupont-Pioneer to carry out experiments with transgenic maize in the highly industrialized states of Sinaloa and Tamaulipas, both in northern Mexico (*Proyecto Maestro*). As it actually turned out, PMMM was implemented between 2007 and 2011 in the central state of Puebla, where small-scale and subsistence agriculture were (and still are) widely practiced and where maize diversity was relatively high. While the nature and orientation of any activities carried out in such a context by biotech corporations must certainly be scrutinized and called into question by society as a whole, here I want to pay attention to how PMMM communicated its activities to Mexican society. In other words, rather than questioning immediately whether a company like Monsanto lies or tells the truth about the nature and orientation of its activities, I want to understand how PMMM could succeed in persuading a particular public about the rationality and desirability of its role in society. Understanding how an industry of dubious reputation can produce consent among Mexicans might be instructive for activists in many ways, in this particular case in the task of producing genuine alternatives to the inherited narratives of nationhood. My analysis of PMMM is thus not meant to merely inform activists about the ideological traps of their own narratives, but rather to open up the question of how such narratives may be re-figured or re-configured in a critical and creative way.

The website of PMMM was rich in images that associated traditional agricultural methods with the poverty of rural populations. It included a series of video interviews in which individual farmers were shown to support such an association by voicing, through personal testimonies, the argument of PMMM.⁹⁶ At first sight it seemed plain that PMMM reproduced, point by point, the old developmental narrative of turning "backward" peasants into "modern" farmers. However, PMMM also exhibited a neoliberal rhetoric, that is, it updated the modernizing imperative by showcasing ideals of individual self-reliance within a society no longer led by the national state and led instead by technical and industrial actors. While PMMM explicitly described itself as an Integral Project of Rural Development, it also asserted that unlike previous state-led projects, it aimed to "implement strategies for the preservation and multiplication of [the Mexican] *genetic treasure*, and for the *viability and development* of those who *guard* it." According to PMMM, those who guarded Mexico's "genetic treasure" were those who had not benefitted from state programs. They even were portrayed as victims of both inattention and corruption on the part of the state. For the same reason, perhaps, they were the very subjects chosen to perform the role of the noble savage, that of an instrument for "agrodiversity conservation" and economic "development." Through PMMM, private entrepreneurs occupied the place previously assigned to the national state and they did so, I argue, not simply by imposing themselves through sheer force but also through a labour of persuasion that re-articulated the inherited narratives and foundational myths of Mexican nationhood.

The text of PMMM's website started with a series of mythological statements about the supposed link between maize and the Mexican nation. Nobel Prize winner Octavio Paz was quoted as saying that "the invention of maize by the Mexicans can only be compared with the invention of fire by Man". Maize was described as "the heart of the world" and as the origin of a relation "between Mexican culture and civilization." Nearby was the image of a hairy man inside a cave, wearing only a loincloth, and raising his arms solemnly in some kind of religious gesture. Below the image one could read: "these producers make it

⁹⁶ The website was accessed by me on September and October 2012, and it was apparently taken down on 2013. Some of the interviews and video commercials of PMMM are still accessible online (<http://www.youtube.com/user/PMMMproyecto> accessed 11 Ago. 2013) and have been downloaded and saved for future consultation.

possible that Mexico is the richest and most complex center of active genetic diversity of maize [which is also] in continuous improvement." Cave men appeared in the framework of a teleological narrative of "continuous improvement" as producers of "the largest wealth of germplasm in the planet" and (in anticipation of contemporary maize "custodians") as "fundamental agents of germplasm conservation." Their worldview and culture were correspondingly framed in terms of labour, the product of which was to be admired now in "living sculptures, amazingly beautiful and surprising, which express themselves with a prodigious diversity of shapes and colors, as well as potential uses and transformation." That is, maize cobs, cave men and Mexican identity were made to converge foundationally in the mission of germplasm exploitation, and it was not difficult to detect the shifts through which PMMM re-articulated previous civilizatory missions conducted by colonial and state powers.

An old woman was facing us with a sad expression on her face while corn was being hand-harvested in the background. Not far from this image, one could read a quote attributed to a Jesuit missionary: "the poor are those who have not, cannot and know not." It is absurd, the text claimed, that the producers of the largest wealth are also the poorest people in the Mexican countryside. If such producers were given "access to better technological processes, commercialization and added value," they would at last become able to generate "equitable and upward" life conditions. A researcher wearing a PMMM cap was not looking at us because his attention was focused on a small plant, which he was manipulating. Nearby we could read that Mexican public research institutions had previously been guided by "an erroneous belief" that biodiversity conservation could be achieved by storing seeds away from their original creators. The problem was that such an approach to conservation lacked "an integral vision." Guided by a "national vision," PMMM would pursue conservation through development, first of all the development of those whose role in germplasm conservation had been unjustly neglected.

Despite its claim of novelty with respect to the previous approaches to biodiversity conservation, the "integral" and "national" vision embraced by PMMM was quite obviously not new. In the years after the Revolution (1910-1921), the Mexican state had set out to educate and modernize rural populations. The early labour of post-revolutionary rural teachers eventually became an international

scientific enterprise in which North American scientists funded by the Rockefeller Foundation developed high-yield seeds to be used in conjunction with fertilizers and pesticides. Like post-revolutionary rural teachers, PMMM went "out to the centers of origin (...) just there where it is needed." Beyond teaching literacy skills, however, it aimed to remind rural populations about "the value of their germplasm" as their own contribution "to Mexico and humanity" since, according to PMMM, maize was much more than "the vital center of Mexican identity, culture and food." It was above all the most important grain on the planet, an ingredient of thousands of everyday products and a key "input" for technological development and added value. Like the Green Revolution, PMMM offered to provide financial and technical assessment, expert-led research on potential uses of maize varieties, including biochemical and industrial uses, the creation of products, enterprises and commercial strategies and, in a (hardly novel) neoliberal twist, the development of managerial abilities for "custodians" to improve both the environment and their relations with the market.

At the same time it might seem that PMMM's designation of rural subjects as "custodians" shifted an earlier tendency to isolate indigenous and peasant culture "away from its original creators," While classifying and naming maize varieties to be stored away in ex-situ banks, the experts of the Green Revolution had chosen names such as "Ancient Indigenous," "Pre-Columbian Exotic," "Pre-historic Mestizo" and "Modern Incipient" (Fussell). Their acts of naming clearly echoed eurocentric narratives of progress as well as the modern tendency to confine otherness to spaces such as the museum or, in this case, the germplasm bank. Nonetheless, in its defense of in-situ (alongside ex-situ) conservation, PMMM assigned to living rural populations an active role of keeping valuable germplasm in close collaboration with the research industry. At any rate, such a shift re-articulated the racializing logic of modern power/knowledge. The designation of particular individuals as "custodians" of particular maize varieties involved a racializing identification between native subjects and native maize, an identification which operated through the visual and verbal association of individual human faces with maize "races." Like that of its predecessors, the vision of PMMM emerged from a biopolitical, orientalist regime of representation that positioned the rural subject as "usually dark and lacking in historical agency, as if waiting for the (white) Western hand to help subjects along and not infrequently hungry, illiterate,

needy, and oppressed by its own stubbornness, lack of initiative, and traditions" (Escobar, *Encountering Development* 8). It is this long-duration discursive scheme that, I want to argue, deserves careful attention in the task of generating alternatives to the logic of industrial actors.

"Faces of Maize" was one of the promotional spots that could be viewed on the website of PMMM. In the video, men were shown using animal traction to plow soils that appeared to be very dry; a woman removed the leaves from a cob while a child seeded the plot. Labouring hands were subtly foregrounded as they manipulated instruments and animals, as they shelled maize cobs and as they dropped maize kernels one by one along the furrow. The extreme seriousness of hand labourers was framed by an epic soundtrack that suggested that some dramatic event was under way. Towards the end of this musicalized introduction, a child came forward, looking down, for us to inspect him while the older people continued working in the background. Perhaps, one thought, this poor child should be attending school instead of working the land. Once the introduction ended, we were presented with non-musicalized, seemingly spontaneous testimonies of a series of male farmers.

The first farmer was a thin old man with strong indigenous features. He appeared next to a large cluster of dry corn leaves among which could be seen the dark purple cobs of a native variety of maize. The ancient Popocatepetl volcano exhaled picturesque clouds in a dusky background. Somewhat out of the blue, the man lamented in broken Spanish that "nothing comes out from working like this; it is not possible for us to sell maize, yet we have to make a living; we have to work." After him, several farmers appeared speaking individually about the problems faced by Mexican *campesinos*. One after the other the testimonies presented the familiar picture of a needy rural subject, yet their authority seemed to increase as they featured younger, plumper *mestizo* subjects who explained the farmer's predicament in *economic* terms. One of them showed a handful of maize kernels and stated, against the sunny background of an incipiently mechanized plot: "this is the white, Creole maize that we cultivate here." Another one then explained that he usually ate his maize *because* low yield made it difficult to commercialize it. In such a situation, he concluded, "I'd rather keep some goats." He thereby introduced the suggestion that farmers engage in agricultural activities *because* they need cash. In sum, progressing from a dark to a luminous setting, from dark

purple cobs to "Creole maize", from aging indigenous subjects to young and robust *mestizos*, the argument was made that the main problem faced by the Mexican countryside was a lack of monetary capital, curtailing farmers' access to the machinery and fertilizers that would save them (and their maize) from extinction.

In a crucial scene, one of the farmers clarified the role of the government in the rural predicament. He said: "I'm not saying that the president does not give us cash. I'm just saying that they play the milpa game, which is [mil pa ti, mil pa mi] a thousand for you, a thousand for me", so that when it is finally my turn, there is nothing left." As we know, the term *milpa* belongs to the vocabulary of traditional Mesoamerican agriculture and stands in activist discourse for a radical alternative to capitalist agri-business. Yet, through a play of words in Spanish, *milpa* was equated in the farmer's testimony with a trick played on farmers by the government. State agencies, the farmer implied, divided public money among themselves and so they constrained the ability of farmers to increase their monetary capital. Since capital had been already positioned as the only way to survive extinction, the state's failure to fully include farmers in a cash economy was framed as "that which leads us to the loss of what we *campesinos* are." Thus, by weaving together a series of naturalized perceptions, PMMM foreclosed a consideration of the (political) history of rural poverty and of the role of agribusiness in the displacement of rural inhabitants. Voiced by the farmer himself, a commonsensical equation of poverty with the lack of cash and a widely shared opinion that the money was there but was being mismanaged (or even stolen) by state officials were skillfully combined in order to legitimize the neoliberal developmentalism of PMMM. One must ask, of course, whether the Mexican public would buy all of this propaganda and why.

In 2011, PMMM reached the semi-finals of a national TV contest called *Iniciativa México* (iMx). At the time of an unprecedented security crisis sparked by the government's war against drugs, iMx described itself as "a great movement to transform the country" by disseminating "a spirit of change."⁹⁷ As the show's propaganda unapologetically explained, "the most influential politicians and the Mexican business elite" had joined forces with the media in order to communicate

⁹⁷ My description of *Iniciativa México* is based on promotional videos that were broadcasted on 2011 and are still available for online viewing at <http://www.youtube.com/watch?v=wio1LZ8AXDg>.

how "an ordinary Mexican with initiative" could be part of "a national project, an attitude." Their argument was that "a better nation is made of better individuals"; therefore iMx instructed Mexican audiences to transform themselves into "individuals with initiative, courage, will and strength to attain change." More precisely, Mexicans had to "break inertia and evolve" by giving up the belief that "success can only be attained through cheating, corruption and immorality." As if the cause of social problems in Mexico was the corrupt behavior of individual citizens, iMx enjoined Mexicans to transform themselves *morally*. While we might explain PMMM's appearance in this show simply by pointing out Monsanto's privileged access to influential politicians and the business elite, I want to suggest that we should also pay close attention to the narratives mobilized by both *Iniciativa México* and PMMM among other "initiatives" that took part in the contest. By framing peasants alongside agronomic technicians and scientists as heroic individuals who *can and do* "break inertia and evolve," PMMM benefitted from the media's experience and skill at tapping into popular desire. Rather than dismissing the neoliberal narratives of PMMM and IM as mere ideology (in the old sense of distorted representations of reality), I want to consider the seriousness of their challenge by looking into the fortunes of the activist response to PMMM.

PMMM was quickly detected and denounced by activists long before its implementation in Puebla (2008-2011). In 2006, Greenpeace issued the first alert against "Monsanto's Master Project," denouncing that the two Mexican scientists who would become research leaders of PMMM were conducting "agronomic efficacy" tests on Monsanto products. A few months later, activist Silvia Ribeiro described PMMM as a national humiliation. She accused government officials and PMMM researchers of behaving in the same way as Antonio López de Santa Ana, a villain of Mexican history who had supposedly "sold" the fatherland to foreign invaders in the 19th century. Through the "Master project of contamination," as Ribeiro dubbed PMMM, Mexican authorities would sell "the genetic patrimony of the country" against "the interests of Mexico, against the popular will and against the law." Like Greenpeace, Ribeiro had insisted throughout the years on the inevitability of "contamination" in the sense of a biological phenomenon verified by empirical science. This time, however, she equated "contamination" with a "racist attack" on the peasant and indigenous populations of Mexico. In a press article titled "Racist Maicide," she wrote:

Being the centre of origin and diversity of maize, the *unavoidable* transgenic contamination that will occur [in Mexico] will seriously affect the world's genetic reservoir. Worse, maize is the main element of the economies and cultures of peasants and indigenous peoples, its ancestral creators, which means that [the government's decision to authorize experimental sowing of transgenic maize] is *an attack on their rights and a violent act of neocolonialist racism*. (nonpag.; italics mine)

I would certainly agree with Ribeiro that PMMM is structured by a racist and neocolonial logic, which is why I am concerned about her utter failure to challenge such a logic apart from denouncing the poor moral quality and the economic interests of PMMM's promoters. Ribeiro seems to assume that the nation's "genetic patrimony" is as literally given as the territorial boundaries of the nation itself, and she reduces the problem of "genetic contamination" to the existence of a bunch of corrupt individuals who plan to injure the nation by selling the national patrimony to a bunch of predatory foreigners.⁹⁸ By insisting, through nationalistic clichés, on a moral/judicial battle that has already been lost (since, as she herself claims, Mexican legislation has already been co-opted by the biotech lobby) Ribeiro's discourse turns reproachful and bitter to a point that it is not just useless but actually counterproductive. Her outrage at "contamination," in the sense of a national humiliation, reduces activism to a tiresome lamentation around something that has already happened and that (one is forced to conclude) is therefore inevitable, namely: racist attacks, neocolonial violence, corrupt and immoral elites, and so forth. Such a fixation on moral corruption and moral injury seems to stop Ribeiro from interrogating why it is actually not just a few corrupt individuals but also farmers unions, farming associations and even a good share of the Mexican public who seem willing to endure the "contamination" of Mexican maize and Mexican culture.⁹⁹ In her framework, the explanation can only reside in the widespread moral corruption or sheer ignorance of the masses, which suggests a

⁹⁸ PMMM included the creation of a germplasm bank that would concentrate potentially useful genetic information about several "races" of maize. Activists point out that the true goal of PMMM is to facilitate Monsanto's filing of patents on such information (Puga).

⁹⁹ When it was implemented in the state of Puebla, PMMM deployed the National Confederation of Maize Producers (CNPAMM), a branch of the National *Campesina* Confederation (CNC), as a political representative of Mexican *campesinos* (Puga).

rather disturbing resonance with the discourse of the media and business elite behind *Iniciativa México*. Like the latter, Ribeiro's discourse ends up framing the issue of biotechnology in terms of moral corruption, yet unlike the elites' positive injunction to develop "an attitude toward change," Ribeiro's endless recriminations against corrupt elites leave her readers with the feeling that there is little to be done in the face of such age-old problems.

Ribeiro is of course not alone in positioning "genetic contamination" as a deliberate attack on the Mexicans. According to the Network in Defense of Maize, contamination constitutes a deliberate attack on "the territoriality and the common realms that were previously a bastion of our national sovereignty" (*Maize is Not a Thing* 8). In denouncing such an attack, the Network positions itself as reflecting "the ancestral dignity of people, the enormous lucidity of their analysis, their political clarity and their untainted morality" (8). In particular, it positions itself as voicing a cultural ethics of care and healing of the whole world (80). In the last section of this chapter I focus on the Network's positive agricultural alternative to capitalist extraction and financial speculation. At this point, however, I only want to remark that Network members such as GRAIN activist Camila Montecinos also indulge in the moralistic, reproachful tone that makes their denunciations sound nothing but fatalistic. In Montecino's contribution to the activist chronicle *Maize is Not a Thing*, contamination appears as a meaningful process emerging from a dispute among capitalist and noncapitalist humans, and more specifically as the result of "a conscious strategy" on the part of capitalist attackers. Her text begins dramatically with the declaration that "maize is genetically contaminated in its centre of origin" (29). Immediately after this initial statement Montecinos accuses: "despite manipulations, denials, evasives, pseudo-scientific falsities, half-lies, euphemisms, pitiful justifications and attempts at silencing, maize is genetically contaminated in its center of origin" (29). Anyone who attempts to rationalize this fact, Montecinos dictaminates, must feel *deeply ashamed*. If scientists, biotech CEOs, international organizations and research centers have any decency left, she says, "what they must do now is feel shame for what they do or do not do in order to avoid disaster. And their shame should be deep and impossible to conceal" (30). Should one feel ashamed of trying to understand "genetic contamination" as something else than a deliberate attack of certain humans against other humans? Rather than answering this question in a straightforward

way, I want to suggest that Montecinos and other activists who employ the dramatic effects of humanistic moralism are closer than they think to their own opponents.

In order to avoid the logic of the business elite, they would need to go beyond a moralistic reassertion of identitarian clichés. They would need to understand much better than they do now how the business elite mobilizes such clichés in order to interpellate "Mexicans" as such. Despite the fact that successful entrepreneurship requires a good deal more than moral "initiative," iMx's emphasis on the agency of ordinary citizens inspired many Mexicans to a surprising point: while PMMM did not even win the contest, many other "initiatives" involving organic agriculture and environmental care at the community level achieved a degree of visibility that was previously unthinkable in Mexican media culture. This is not to say that we should celebrate the happy discourse of iMx and dismiss the angry discourse of activists. Yet it appears that Verschoor was right in warning the activists that their position would be undermined when the biotech lobby appropriated their own claims of preservation and protection of the environment without really changing economic priorities. Since I do not think that this is merely a contest in rhetorical strategy, I agree with Verschoor about the need to interrogate the philosophical structure that opposing arguments share in the debates around the contamination of native maize.

According to Verschoor, the anti-GM movement can be profoundly political if it dares to go beyond the activist "over-lucid indictment of all that is morally objectionable" (49). It can do this, he suggests, by cultivating a posthumanist sensibility in the face of complex political questions such as how to deal with the loss of biodiversity or the emergence of superweeds (51). By contrast with anthropocentric regimes of justification, a posthumanist politics would stress our "inability to differentiate between subjective and objective," since it would first of all pay attention to "the interrelatedness between all humans and non-human participants in the discourse" (49). Maize, butterflies, and transgenic crops would be themselves acknowledged as agents that are decisive for *campesino* livelihoods, for the political legacy of the Mexican Revolution, for the material status and symbolic import of agricultural knowledges, for the freedom to produce one's own food, and for democracy (50). This argument reinforces my conviction that textual approaches have a central role to play in the exploration of the

distinctive themes of contemporary materialist theory, namely, a posthumanist conception of matter as itself lively or agential, a bioethical concern with the status of life and of the human, and a critical and nondogmatic re-engagement with political economy. Yet when Coole and Frost explain that ecological perspectives consider interactions between different sets of conditions, the cultural (and therefore textual) dimensions of such interactions is not mentioned on their list, as humans figure in their discourse merely as "individuals and governments" who have a responsibility for "the health of the planet" (16). By ignoring cultural texts, they seem to assume that we can simply forget about culture in general when embarking on empirical investigations of "risk and accountability" (16). I have tried to argue in this section that we cannot simply ignore culture because we are already in it whenever we put ourselves in a position that diagnoses "materiality," and we therefore need textual approaches (or, more broadly, philosophy, cultural analysis and discourse) in order to become accountable for the materiality of ecological phenomena.

The problem raised by PMMM is that some actors have more material authority than other actors in determining risk and accountability within a specific symbolic framework. On the one hand, this is a political problem (a problem involving power struggles) that cannot be solved in any straightforward or transparent way, for instance, by producing more and more empirical information about the environmental risks and planetary health. On the other hand, since capitalist "development" is still commonsensically accepted as the founding narrative of the nation,¹⁰⁰ nationalism will not necessarily mobilize Mexican citizens against the agro-industrial occupation of the Mexican countryside. What can be done when moralistic denunciations and empirical information turn out to be ineffective? In the following section, I argue that it is possible and desirable to relate in a more critical way to the humanistic legacy by acknowledging and affirming the "genetic contamination" of the national text – that is, its constitutive dislocation or vulnerability to the threat of time.

¹⁰⁰ I do not know of any statistics that "prove" this, but I can testify from personal experience that "development" is still a term routinely employed in Mexico in everyday conversations, in the media and in political rhetoric in order to signify all that is desirable for the Mexican nation. It is rare to find anyone who would disagree that Mexico needs to "develop." In short, the poststructuralist critique of development discourse has barely touched Mexican common sense.

Becoming Subjects, Becoming Myths: Always Already Material

...there is no ground for ontologically opposing the organic, the technical, and the textual. But neither is there any ground for opposing the *mythical* to the organic, textual, and technical. Their convergences are more important than their residual oppositions (Haraway, "The Biopolitics..." 212).

It is in order to rectify the atrocities of Cartesian dualism that "new materialisms" pursue, according to Coole and Frost, "a creative affirmation of a new ontology, a project that is in turn consistent with the productive, inventive capacities they ascribe to materiality itself" (8). By suggesting that textual approaches are unsuitable to the task, Coole and Frost seem to overlook the decisive role that the critique of metaphysics, and deconstruction in particular, has played in the very formulation of the new materialist project. Beyond their introduction, *New Materialisms* is actually a plural volume in which more than one contributor takes care to foreground the continuing relevance of textuality for thinking materialism today. Rey Chow, for example, argues that poststructuralist theories of the text were never about "a simple swapping of places between materialism and idealism" (227). Rather, their aim was to give up a dogmatic conception of matter as "a preexisting concrete ground" in order to think it politically as "a destabilizable chain of signification, the certitude of which is at best provisional and subject to slippage" (226). By exposing the metaphysical structure of economicist materialism, for example, poststructuralism cleared the ground for "a revamped materialism defined primarily as signification and subjectivity-in-process" (226). In another contribution, Pheng Cheah argues that if we ever mistook deconstruction for a kind of linguistic constructionism, this was because we failed to frame it through the philosophical problem of time (74). For Derrida, the presence of matter is made possible by "a true gift of time ... a pure event" (75). Paradoxically, time also destabilizes presence by subjecting it to "a strict law of radical contamination" (74). According to this law, any form of presence is inherently "riven by a radical alterity that makes it impossible even as it makes it possible" (74). Cheah explains that in Derrida's framework time itself is "more material than matter" since it makes matter possible in the first place. If, as Chow and Cheah contend, poststructuralism and deconstruction already pushed a re-

thinking of materiality beyond the terms of Cartesian dualism, why is it that Coole and Frost seem so keen to exclude textual approaches from the ontological project of so-called "new materialisms"?

In "Structure, Sign and Play in the Discourse of the Human Sciences," Derrida describes metaphysical thinking as an attempt to neutralize time through the postulation of concepts above and beyond "the slowness, the process of maturing, the continuous toil of factual transformations, history" (368). Derrida argues that it is impossible to destroy the totalizing tendency of metaphysics, since it operates structurally as a condition for thinking. However, it is possible to interrupt and criticize metaphysics in more or less consequential ways. Derrida presents Lévi-Strauss's structural analysis of myths as an example of critique by means of conceptual recycling or *bricolage*. According to Derrida, Lévi-Strauss realized that "[t]he focus or the source of the myth are always shadows and virtualities which are elusive, unactualizable, and nonexistent in the first place" (362). Having understood the supplementary function of certain mythological notions, Lévi-Strauss went on to emulate myths, his own work taking the shape of that of which it spoke and becoming itself "mythomorphic" and "mythopoetic." Derrida suggests that this is in fact the best way to interrupt the totalizing logic of metaphysical thinking, because it "makes the philosophical or epistemological requirement of a center appear as mythological, that is to say, as a historical illusion" (363). Yet mythopoetic discourse can always relapse into totalization. By failing to reflect on the philosophical implications of mythopoiesis, Lévi-Strauss ended up presenting his work as "(...) hypotheses resulting from a finite quantity of information and which are subjected to the proof of experience" (364). This is empiricism, or "the matrix of all faults menacing a discourse which continues (...) to consider itself scientific" (364). Derrida understands empiricism as the metaphysical trap of believing that our failure to achieve intellectual totalization is a matter of incomplete information – for example, believing, with Coole and Frost, that "more empirical approaches" will allow us to grasp the essence of materiality much better than "merely textual ones".

Derrida attributes empiricism to an ethic of nostalgia for the origin. In the case of Lévi-Strauss, nostalgia manifested itself as a remorse about certain "archaic" societies (369). Yet such societies are "always already lost", in the sense that they were always subject to the law of time. The same would have to be

acknowledged about matter and materiality, and about life in general: it is always already "lost". An ethic of affirmation would nevertheless regard time itself otherwise than lost. It would undertake a joyous affirmation of language as "a world of signs without fault, without truth, and without origin which is offered to an active interpretation" (369). Derrida sees nostalgia and affirmation as two ethical interpretations of textuality that are "absolutely irreconcilable even if we live them simultaneously" (370). Rather than choosing one of them against the other, he advocates a thinking of their mutual composition "in the formless, mute, infant, and terrifying form of monstrosity" (370). Eschewing the nostalgic relapse into empiricism that Coole and Frost seem to have in common with Lévi-Strauss, feminist scholars of technoscience such as Donna Haraway, Rosi Braidotti and Karen Barad have affirmed the paradoxical materiality of language. Moreover, they have deployed mythopoietic writing as a form of political intervention in the technoscientific world. Despite their critical positionings with respect to Derrida, I would suggest that they all pursue a deconstructive kind of materialism in the sense that for them, materiality is not a fixed essence but rather it is the condition of possibility (a generative source) and of impossibility (a dynamic process) of thinking and acting as part of life in general. Like that of Lévi-Strauss, their work illustrates both the possibility of critique through linguistic play and the impossibility of destroying metaphysical thinking as a whole, once and for all.

In Coole and Frost's introduction to *New Materialisms*, Haraway is mentioned as one of the "more textual" inquirers whose work is no longer adequate either for the understanding or the transformation of the world. Haraway's contribution is reduced to a single image, that of the cyborg as a "fusion of human and technology," which Coole and Frost regard as less sophisticated than Katherine Hayles's more recent theorization of the posthuman as "informational pattern" (17). There is, however, much more in Haraway's work than the image of a human-machine hybrid. In Haraway's own words, figurations such as the cyborg are "performative images that can be inhabited" as "condensed maps of contestable worlds" (*Modest_Witness* 11). There is indeed a complex map of the technoscientific world in the "Cyborg Manifesto" that continues to stimulate a posthumanist disposition to intervene responsibly – that is, otherwise than through moralistic condemnation or empiricist demands.

In a 2006 interview with Nicholas Gane, Haraway explains her position about the persistent ideological belief that "intercourse, communication, conversation, semiotic engagement is trope-free or immaterial" (qtd. in Gane 153-54). On the contrary, Haraway understands semiotic engagement as thoroughly material, and the materiality of semiosis as being subject to stutterings, trippings or breakdowns (152). Figures and tropes such as the cyborg emerge from breakdowns in signification which are not determined as a loss of "empirical reality" but are rather affirmed as a condition for change. Indeed, change is what figuration is all about for Haraway, who deploys figures as mythopoietic antidotes to the apocalyptic thinking and melancholia that threaten to swallow radical politics in the technoscientific world. She celebrated the cyborg insofar as it involved, like all figures, "at least some kind of displacement that can trouble identifications and certainties" (*Modest_Witness* 11). She explains that her legendary cyborg trope emerged as a strategy for "inhabiting the despised place" (156). At the time of her "Cyborg Manifesto," the despised place was technology itself conceived in anthropocentric and instrumentalist ways. While Haraway does acknowledge the temporal limits of her cyborg trope, I find it crucial to remember today the the original point of it was to re-figure technology "beyond function and purpose to something open, something not yet" (qtd. in Gane 154). Although there is clearly an ethical dimension to this project, I want to briefly look at its more strategic side that becomes apparent if we compare Haraway's argument about tropes with post-Marxist argument about politics in a so-called postmodern age.

Haraway's style of intervention resonates strongly with Laclauian post-Marxism. Ernesto Laclau argues in *Emancipation(s)* that "...if the term 'emancipation' is to remain meaningful, it is impossible to renounce any of its incompatible sides. Rather, we have to play one against the other in ways which have to be specified" (7). Prefiguring this argument, Haraway explains in her "Cyborg Manifesto" that the cyborg operates through "the tension of holding incompatible things together" (149). Echoing Laclau's psychoanalytic theory of radical democracy, it is presented as a strategy for "fractured identities" which are not afraid of "contradictory standpoints" (154). The cyborg is "postmodern" in the sense that it is not seduced by "organic wholeness through a final appropriation of all the powers of the parts into a higher unity" (150). At the same time, the cyborg speaks from within the modern tradition of socialist feminism, and from there it

continues to pursue radical emancipation, that is, a free society where all hierarchies have been eliminated. The cyborg can only be an "ironic myth" because there is a sense in which its "postmodern" side makes its "modern" side impossible, and yet necessary. In a postmodern world "the boundary between science fiction and social reality is an optical illusion" (149), and therefore there is no ultimate, transparent ground for the cyborg. Nevertheless the cyborg is necessary because science fiction is "a matter of immense human pain" that becomes increasingly "hard to see," both politically and materially (153).

Like the post-Communist world analyzed by post-Marxist and cultural studies, Haraway's technoscientific world of disrupted unities requires "subtle understanding of emerging pleasures, experiences, and powers with serious potential for changing the rules of the game" (173). With deconstructive insight, she describes transformation as a long-term process that we can pursue through "a slightly perverse shift of perspective," one that enables us "to contest for meanings, as well as for other forms of power and pleasure in technologically mediated societies" (154). In Haraway's diagnosis, these societies are defined by a "confusion of boundaries and moral pollution" (165), a situation that can be formulated, she says, either from a managerial point of view or from a critical perspective (163). Admittedly, Haraway does not associate the critical point of view with "more empirical approaches." Her project has to do with textual engagements that interrupt and ideally *transform* "the systems of myth and meaning structuring our imaginations" (163).¹⁰¹ I have attempted to undertake such engagements with PMMM and many other texts throughout this thesis precisely because I share Haraway's investment in critique as a potential road to transformation. By contrast, Coole and Frost seem to leave room only to managerial perspectives when they mention genetic engineering as a mere technology that "seems destined to change forms of agricultural production and energy use irrevocably" (16). Their language tends to downplay the ongoing cultural struggles around the seemingly irrevocable "destiny" of agricultural

¹⁰¹ I would contend that it is precisely through a critical engagement with "information" that the "Cyborg Manifesto" becomes a materialist intervention. According to Haraway, organisms have ceased to exist as objects of knowledge, giving way to biotic components, i.e., special kinds of information-processing devices (164). Haraway postulates that lived experience is permeated by information in the same way as language and "modern machines [that] are everywhere and they are invisible" (153). Visualizing silicon chips, electromagnetic waves and signals as "floating signifiers moving in pickup trucks across Europe" (153) is not to reduce them to abstractions but rather to call into question our own lived experience and our material obligations to the world.

production and energy use. The Mexican defense of maize is of course one such struggle, and it is my task in this chapter to demonstrate how myth-making matters for those who are engaged in it.

Even though Haraway distances herself from Derrida's thinking about animals because of its masculine "lack of curiosity" (qtd. in Gane 143), I would stress that there is a fundamental affinity between her own feminist thinking about tropes and the deconstructive materialism that Cheah finds in Derrida's conception of textuality. I also want to extend this argument to the work of feminist theorist Rosi Braidotti, who has expressed severe reservations about Derrida's poststructuralist framework. Braidotti develops a vision of subjectivity as "a multilayered and dynamic entity" that can create alternatives to the Eurocentric and patriarchal logic of the metaphysical legacy, first of all by reinventing philosophy as a "pursuit of the singular, in all its complexity and diversity" (*Transpositions* 20). In such a task, figures and tropes are deployed in order "to think through and move across established categories and levels of experience" (*Nomadic Subjects* 4). Braidotti's trope of "nomadic subjectivity," for example, is designed to enact a "critical consciousness that resists settling into socially coded modes of thought and behavior" (5). As Haraway's cyborg trope, nomadic subjectivity is not meant to simply describe reality, but rather to enact a "politically informed account of an alternative subjectivity" (1). Concerned about the historical accountability of nomadic subjectivity, for instance, Braidotti points out a link between nomadism and violence. The sacking and looting of cities, she says, and even the killing of sedentary populations, have marked "the nomad's answer to agriculture" (25). In Braidotti's work, the point of nomadism is not to celebrate violence but rather to "open up in-between spaces where new forms of political subjectivity can be explored" (7). What kind of alternative subjectivity may emerge through a re-figuration of "genetic contamination" as a cyborg and nomadic trope?

In the present age, transnational capitalism enacts a violent kind of nomadism that, in Braidotti's view, is framed ideologically as a threat of ecological disaster, genetic mutation and immunity breakdown (*Transpositions* 33). As an alternative to the "manic-depressive" response that, in her own diagnosis, "is favoured by our culture" (34), Braidotti calls for figurations that "enable us to account in empowering and positive terms for the changes and transformations currently on the way" (31). In this spirit, she draws on Barbara McClintock's theory

of the non-linear behavior of certain genetic elements and borrows its central notion, that of a "transposition," in order to perform "a creative leap that produces a prolific in-between space" (6). Like McClintock's "jumping genes," Braidotti's textual transpositions enact "mobility and cross-referencing between disciplines and discursive levels" (7). They are, she says, "a way of revisiting, reclaiming and relocating a crucial shift in the process of becoming subjects" (9). The shift in question involves, for Braidotti, an invasion of the body by technology. Rather than getting stuck in the pain and despair that a technological invasion of the body may inflict, Braidotti proposes to explore the idea that the body (and hence subjectivity) is by definition embedded in a complex environment of "mutual flows and data transfer", so that it is best understood through "the notion of viral contamination or intensive interconnectedness" (41). In the context of intensive interconnectedness, figurations themselves may operate as transpositions, and so the placenta, the parasite, the cloned animal, the gene and hybrid complexity all become, through figuration, ways of enacting critical and creative leaps in the world. Such "creative leaps" might seem to conflict, however, with the defense of Mexican agriculture. After all, the defense of maize is a defense of territory, of sedentary forms of existence, of identity as a right to inhabit the world according to socially coded modes of thought and behavior. It therefore may appear as unrealistic (and downright offensive to some) to suggest that a nomadic trope of "genetic contamination" could perform better than "nation" or "ethnicity" in the project of defending agriculture against transnational capitalism.

It might seem unimaginable (and I do not expect it to happen) that peasant or environmental activists will ever consider adopting "genetic contamination" as a political slogan, yet something like a dialogue around the critical need to articulate nomadic tropes with grassroots politics has already started to take place. Exemplary in this regard is Braidotti's engagement, in *Transpositions*, with the militant discourse of Vandana Shiva, a guru of anti-GMO movements worldwide, including the Mexican one. Braidotti deals with Shiva's discourse in the context of her own call for "grounded, historicized accounts for the multiply positioned subjects of postmodernity" (79). In Braidotti's self-consciously European vision, activism must eschew a re-assertion of humanist dichotomies and focus on disrupting their social status (55). Braidotti observes that Shiva's dialectical style of neo-humanist argumentation takes it for granted that the life of seeds is "an

externally constituted 'other' which gets invested or taken over by the powers-that-be" (55). Likewise, in European culture, the seed "conveys the notion of purity of the lineage and of direct genetic inheritance"; therefore, it is regarded as "the opposite of the discourse and the practice of hybridity and mixity in genetic engineering and more especially in transgenic species experiments" (54). By contrast, Braidotti argues that objects of biopolitical interest such as seeds are "constructed" in a semiotic-material sense. If one approaches this constructed opposition "in an open-ended and contested manner, in keeping with the cognitive and figural 'style' of philosophical nomadism" (55), it emerges that life is not simply being vampirized by bio-technology but rather that, "as a result of bio-technological material and discursive practices, 'life as bios/zoe' produces ever-growing new areas of activity and intervention" (55). As both Braidotti and Shiva know very well, the problem is that such new areas are increasingly coextensive with neocolonial capitalism, which poses a common threat in European and non-European locations. For this reason, rather than condemning Shiva's militant neo-humanism (and that of post-colonial intellectuals more generally) as a theoretical mistake, Braidotti regards it as "a sort of travelling companion" (56).

Braidotti's solution to the theoretical disagreement with Shiva illustrates a crucial feature of feminist figuration that I have already mentioned, namely, its ability to hold "incompatible things together" (Haraway, "Cyborg Manifesto" 149). In the context of my own topic, the issue seems to be whether and how an attempt to re-figure "genetic contamination" as an alternative (nomadic and deconstructive) subjectivity can remain in solidarity with the territorial defense of maize in Mexico. Since Braidotti's disagreement with Shiva relates to the task of the social critic, which Braidotti explicitly understands as a contestation of "constructed" categories, it seems odd to find Braidotti suddenly opposed to "the linguistic turn in the sense of the postmodernist over-emphasis on textuality, representation, interpretation and the power of the signifier" (*Transpositions* 50). In her more recent work, she has continued to oppose "the power of the signifier" by proposing the post-human as a new kind of subjectivity that moves "altogether beyond the postmodern critique of modernity and is especially opposed to the hegemony gained by linguistic mediation within postmodernist theory" ("Putting the Active" 44). Thus, in her search for "a neo-materialist, embodied and embedded approach" (40), Braidotti ends up rejecting the poststructuralist legacy she initially

claimed to embrace and which she now describes as an extension of representational thinking. It seems clear, however, that her practice of figuration cannot do without textuality, representation, interpretation and the power of the signifier, and it is at least doubtful that "nomadic subjects" and "transpositions" can take us to another world that is free of such things. Yet Braidotti implies that we can at least imagine such a world when she claims that it is possible to over-emphasize language to the detriment of material and bodily forces. Like Coole and Frost, she seems to underestimate the generative and open-ended characteristics of textual materiality.

It might be that Braidotti's impatience with "linguistic mediation" and "the power of the signifier" signals a metaphysical yearning for some kind of unpolluted signified that could have been "lost" or sacrificed. However, I would rather suggest, alongside Derrida's view of the mutual composition of negativity and affirmation, that Braidotti's fundamental motivation is an ethical one. Braidotti detects too much negativity in dominant varieties of poststructuralism such as Lacanian psychoanalysis, Derridean deconstruction and neo-Heideggerian meditations on "bare life" ("Putting the Active" 44). She therefore tries to differentiate her project from such approaches by embracing "a dynamic view of all affects, even those that freeze us in pain, horror or mourning" (50). Following Deleuze, she advocates "generative desire" and "an openended web-like subject" (50) as promising alternatives to "structural lack" and "constitutive outsides." The point for her is that an active engagement with the world requires something more important than a rigorous intellectual framework. It requires, she says, an affective capacity to "live with the open wound" (52). Thus, even if she cannot prove at the epistemological level that a figurative affirmation of "the power of life itself" will bring about a world free of lack, constitutive outsides, and linguistic mediation, Braidotti will insist that an affirmation of "generative desire" promises a more ethical being-in-the-world than a constant reminder of "constitutive lack." Thus, rather than side with Braidotti against "linguistic mediation," I interpret her "affective" engagement with Shiva as indicative of an ethical motivation.

In *Transpositions*, Braidotti declares that what matters to her project is "the synchronization of the different elements, their affective dimension, the affinity, not the political or theoretical correctness" (56). In this vein, since Braidotti does not seem to think it possible to agree with Shiva at the theoretical level she invokes

another level of agreement which is defined by "openness to others, in the positive sense of affecting and being affected by others, through couples and mutually dependent co-realities" (49). What I find attractive in this solution to an apparently fundamental theoretical conflict is that it seems to allow me to theorize "genetic contamination" not in opposition to activists but rather in alliance with them and against capitalism as a human-centred cultural narrative that is at the root of contemporary technoscientific practices, including crop biotechnology. A relevant precedent in this regard is postcolonial critic María José Saldaña-Portillo's theorization of Zapatista politics. Saldaña's approach not only illustrates the critical power of textual approaches in general. It also provides an opportunity for me to show how a combination of feminist critical openness to technoscience and post-Marxist political theory can strengthen such approaches along the lines of a deconstructive materialism.

In a comparative analysis of Latin American revolutionary texts from the 1950s and 1960s, Saldaña-Portillo argues that their authors had been "captured" by the discourse of development, a "regime of subjection" that re-articulated and re-deployed the logic of European colonialism (21). In her view, it is not possible to simply escape the logic of developmental discourse, but it is possible to subvert it through "performative acts" (10). Among other Latin American examples of performative subversion, Saldaña analyzes the political discourse of Mexican Zapatistas. Drawing on Laclau's political theory, she argues that the Zapatistas were able to disrupt the semiotic chain of national meanings through a re-signification of "Indian difference." By locating the reason for their rebellion in the lack of democracy and in the government's betrayal of the Mexican Revolution, the Zapatistas generalized their situation in order to include millions of Mexicans who would otherwise not regard themselves "Indian" (231, 255). In other words, they "stretched" indigeneity beyond its role as folkloric origin and abject residuality and transformed it into a new ground for multiple democratic identifications at the national (and in fact international) level. This analysis certainly focuses on the narrative strategies deployed by Zapatismo in its revolutionary struggle against neoliberalism, and yet it would be unfair to qualify Saldaña's textual approach as merely subjectivist or forgetful of material factors.

Saldaña takes care to explain that Zapatismo did not emerge spontaneously from anything like "Indian culture" but was instead a contingent

outcome of the boom and boost of an oil-based economy (213). During the boom, indigenous peasants from the highlands of Chiapas migrated to construction sites in the jungle, where jobs and wages depended on international oil prices. Those who continued farming became increasingly dependent on rural development programs, which allowed them to sell maize at the local markets. When international oil prices fell and development programs stopped, many farmers were caught in a cycle of debt and poverty (218). From this semi-industrialized context, Zapatismo emerged as an "active reconstruction" and "collective investigation by mediating, self-reflective subjects" (236). While Saldaña is careful to materially circumscribe the cultural agency of the latter, her post-Marxist point is that "[e]conomic changes alone cannot explain what occurred in Chiapas" (214). Rather, Zapatista "self-reflecting subjects" emerged in response to a complex set of dislocations that cannot be reduced to political economy. In keeping with her post-Marxist orientation, Saldaña points towards the political specificity of what happened in the jungle during the oil boom. Activities such as clearing the jungle, establishing towns and petitioning the state for land grants and services during the oil boom demanded an unprecedented amount of organization and cooperation among previously isolated communities (239). Such activities in turn re-articulated traditional hierarchies by favoring more horizontal structures of community governance (240). Now, what I find interesting about this analysis goes beyond the fact that it foregrounds the material context of Zapatista politics, and thereby the latter's contingency with respect to material factors. In foregrounding contingency and re-articulation of nationalist narratives Saldaña-Portillo does not merely "apply" (in cannibalistic fashion) the formulae of Laclauian post-Marxism. Rather, she attempts to subvert the post-Marxist theorization of the political precisely by taking the form of that of which she speaks, namely, Zapatista myth-making.

According to Laclau, we will only be able to undertake "a realistic analysis of socio-political processes" once we have abandoned "the objectivist prejudice that social forces are something" and undertake instead "an examination of what they do not manage to be" (*New Reflections* 138). What socio-political processes do not manage to be in Laclau's psychoanalytic approach is exclusion-free and violence-free, since "the constitution of a social identity is an act of power and that identity as such is power" (32). As an act of power, any identity will tend to assume "the form of a mere objective presence" and become "sedimented." It will tend, in

other words, to conceal its own contingency, or the traces of the exclusion, power and antagonism on which it is necessarily based (34). Such is the basis of Laclau's neo-Gramscian theory of hegemony, in which the exercise of political power is understood not as coercion or repression but rather as persuasion and leadership through myth-making. Saldaña argues that Zapatista discourse both enacts the Laclauian formula of hegemony and transcends its roots in antagonism through "a counterpunctual discourse emerging from silence" (223). In order to make her point, Saldaña narrates an activist meeting in which Zapatistas requested that foreign attendants remained absolutely silent for at least ten minutes, in the course of which they would be slowly and silently surrounded by their hosts. That night in Oventic, Saldaña says, the Zapatistas "brought all of us into a relationship of abstract and temporary parity (...) with each other, through our identification with their silence" (196). At the same time, silence re-created the ontological conditions for a positive achievement of radical democracy. She writes:

Silence is the clearing that makes speech possible, not because it stands in a dichotomous relation to speech, as contentless space, but precisely because it is in the fullness of silence where differences take shape: "In silence, we are speaking." Silence is the noise of democracy (235).

As opposed to the structural "lack" that a Laclauian "realistic analysis" would detect in Zapatista discourse, Saldaña's mythologically-oriented account detects a "fullness" in the non-verbal aspects of Zapatista political performance. Saldaña's mythological figuration of silence as an infinite, generative process that exceeds the boundaries of the human world promises to subvert the humanism implicit in post-Marxist political theory. Concerned as he is with human identities, Laclau associates democracy with the recognition of "the purely human and discursive nature of truth" (4). Unfortunately, Saldaña-Portillo ends up re-inscribing such a humanism in a particularistic form. That is, she re-humanizes silence by associating it with the communitarian politics of indigenous Zapatista communities. She explains that the Zapatistas are proposing a new form of government that is in direct contradiction with the party system. Whereas the party system is based on the idea of irreconcilable differences or antagonism, the indigenous proposal is based on the belief that "you can reach consensus as a community" (251). Even if

disagreements persist among the Zapatistas over the kind of autonomy they want to have (247), Saldaña insists that they have finally achieved "fullness," transcending thereby the antagonistic logic of signification as theorized by post-Marxist political philosophers. She writes:

I am suggesting that the empty signifier is no longer empty. The Zapatistas twice challenge Laclau's antagonistic formulation of hegemonic politics when they fill the "empty" signifier of Indian difference with their own particularity even as they universalize this particularity to represent the fullness of the Mexican community. They fill Indian difference with a specificity – with the aesthetics of silence and the politics of the común – capable of encompassing the abstract national community in struggle and in difference (256).

By postulating that Zapatistas are above and beyond the dynamics of power and antagonism that define political life from a post-Marxist perspective, Saldaña re-inscribes the modern utopian vision that "a free society is one from which power has been totally eliminated" (Laclau, *New Reflections* 33). Perhaps there is indeed something radically new and important about Zapatista politics, yet to say that Zapatistas have overcome antagonism (which is, for the post-Marxists, the threat of temporality itself) and finally achieved a power-free society is not merely to re-inscribe metaphysical thinking but also to depoliticize the social dynamics of Zapatista communities. It amounts to forgetting that democracy is a political commitment that is premised on "an all-embracing subversion of the space of representability in general, which is the same as the subversion of spatiality itself" (Laclau, *New Reflections* 79). Thus, democracy necessitates a rigorous acknowledgment of the radical contingency, or the constitutive temporality, of all political identities. To say, with the post-Marxists, that antagonism is ineradicable is not to recommend exclusion and violence but rather to acknowledge the relational dynamics of identity in order to understand why, historically, emancipatory projects have often disappointed and continue to disappoint humankind. As Wendy Brown cautions in a "Freedom's Silences":

Silence calls for speech, yet speech, because it is always particular speech, vanquishes other possible speech, thus canceling the promise of full representation heralded by silence. Silence, both constituted and broken by

particular speech, is neither more nor less "truthful" than speech is, and neither more nor less regulatory (*Edgework* 83).

As an alternative to Saldaña's figuration of silence as power-free communitarian fullness, I want to re-figure genetic contamination along the more critical lines of technoscience feminism. When Haraway asks "what might be learned from personal and political pollution?" (*Modest_Witness* 174), she fully acknowledges the fact that, as unequally positioned inhabitants of technoscience, we are traversed by power relations and contradictory attachments which we must negotiate in a critical and responsible way. In this vein, Haraway reminds us:

Believing that somehow there is this seamless, friction-free becoming is an ideological mistake that we ought to be astonished that we can still make. If we're going to get at why we still make it, we need psychoanalytic mechanisms. We need to understand how our investment in these fantasies works (Haraway in Gane 148).

While Saldaña's silence echoes Braidotti's affirmation of generative desire as opposed to psychoanalytic lack, the "fullness" which she attributes to silence might benefit from some contamination with Braidotti's early philosophical nomadism, that is, with the search for a "critical consciousness that resists settling into socially coded modes of thought and behavior" (*Nomadic* 5). Nomadic subjectivity entails a psychoanalytic acknowledgment of the ineradicability of antagonism while nevertheless seeking to create an ethical "openness to others, in the positive sense of affecting and being affected by others, through couples and mutually dependent co-realities" (*Transpositions* 49). With a careful dosage of contamination, Saldaña's trope of silence might become, alongside Haraway's cyborg, an "ironic myth" for "fractured identities" (Haraway, "Cyborg Manifesto" 154). In order to avoid an uncritical re-inscription of metaphysics that would merely celebrate the Mexican defense of maize as a moral crusade, my own trope of "genetic contamination" would fundamentally attend to the mutual composition of negativity and affirmation, lack and generative desire, critique and creativity, political violence and an ethical openness to the other, and in the last instance, death and life. By holding such incompatible things together "in the formless, mute,

infant, and terrifying form of monstrosity" (Derrida, "Structure, Sign..." 370), "genetic contamination" would allow for a non-empiricist reading of the Mexican defense of maize. Contamination would no longer be just the despised place in a particular political programme, but would figure positively as "a name for experience itself, which is always experience of the other" (Derrida, *Echographies* 11). How does experience itself positively resist empirical determination? I want to explore this question through a reading of Mexican scientists' efforts to intervene in biosafety legislation that would protect native maize from genetic contamination in an empirical sense.

Scientists Before the (Biosafety) Law: In Search of the Origin of Maize

In absolute chance, affirmation also surrenders itself to *genetic* indetermination, to the *seminal* adventure of the trace (Derrida, "Structure, Sign..." 369).

In his essay "Before the Law," Derrida undertakes a reading of Kafka's short story in which he demonstrates how an "act of literature" is able to suspend the conventions of the literary institution by foregrounding the operations of the Law of time itself. In Kafka's story, which was part of his novel *The Trial*, a man from the country waits for a gatekeeper's permission to enter the premises of the Law. Permission is never denied to him, but rather it is repeatedly deferred by the gatekeeper, who warns the man that once inside the gate he will encounter other gatekeepers like himself (202). The man chooses to wait, grows old and dies without ever entering the premises of the Law. As he dies, the gatekeeper approaches to inform him that the gate will now close, since it was made only for this particular man. Perhaps, Derrida says, the man from the country did not know that "the law is not to be seen or touched but deciphered" (197). What must be deciphered is the operation of the Law that "fuels desire for the origin and genealogical drive" (197).

According to Derrida, what makes Kafka's text an "act of literature" is that not just the man in the story but ultimately also the reader of the story is brought "before the law" (211). Whereas initially the Law insinuates itself "as a kind of personal identity entitled to absolute respect" (211), by the end of the story we come up against the Law of the text itself. In this vein, Derrida writes that the text

"guards itself, maintains itself—like the law, speaking only of itself, that is to say, of its non-identity with itself. It neither arrives nor lets anyone arrive. It is the law, makes the law and leaves the reader before the law" (211). What Kafka's act reveals is the operation of Law that makes particular laws appear as "beyond history, genesis, or any possible derivation" (191). Such an operation has nothing to do with the inclusion of a work within literature as "a field, a domain, a region whose frontiers would be pure and whose titles indivisible" (215). Rather, it has to do with letting oneself be "tempted by the impossible" (192). Sigmund Freud, for example, let himself be tempted when he conceived a theory about the origin of the moral law (192). Like Kafka, he wanted to write a history of the Law. Since, according to Derrida, "the law is not to be seen or touched but deciphered" (197), the literal improbability of Freud's tale of parricide in *Totem and Taboo* in no way diminishes, in Derrida's view, "the imperious necessity of what it tells, its law" (199). Like Kafka's story, it is a text that operates in "the simulacrum of narration" rather than merely in "the narration of an imaginary history" (199). What counts here is the fact that parricide can be neither proved nor disproved by psychoanalysis, and yet it remains constitutive of it.

In this section I want to engage with the textual activities of Mexican scientists who seem to have let themselves be "tempted by the impossible" in their defense of Mexican maize biodiversity. *The Origin and Diversification of Maize: An Analytical Review* is a scientific report commissioned by the Mexican government¹⁰² in the context of disputes around biosafety legislation. The authors of the report position their assessment of scientific theories about the origin and diversification of maize as "a serious contribution of scientific information for the authorities responsible for discerning the country's opening to strictly regulated experimentation with transgenic maize" (6). In my reading of this contribution, I pay attention to how scientists re-articulate a national myth by interweaving scientific stories with national stories and, more precisely, by making the origin of maize coincide with the origin of the nation. I suggest that such a textual mobilization on the part of scientists injects into the cultural politics of biotechnology in Mexico a

¹⁰² These were the National Commission for the Knowledge and Use of Biodiversity (CONABIO), the Ministry for Agriculture, Cattle Breeding, Rural Development, Fishing and Food (SAGARPA), the Ministry for the Environment and Natural Resources (SEMARNAT), the Intersecretarial Commission for the Biosafety of Genetically Modified Organisms (CIBIOGEM), the National Institute of Agricultural, Cattle Breeding and Forestry Research (INIFAP) and the National Institute of Ecology (INE).

paradox that has to do with the impossibility of fixing the origin. In spite of the scientists' claims to empirical reality, the impossibility of fixing the origin is not just empirical but, as Derrida would claim, it is quasi-transcendental. From this perspective, which is certainly not the one embraced by most scientists, no evidence about the true origin of maize could ever guarantee the closure of the national text, and yet the search for the origin would remain constitutive of maize nationalism. Hence the ontological condition that I propose to frame as the "genetic contamination of Mexican nationalism."

The Origin and Diversity of Maize is introduced by José Sarukhán, president of the National Commission for Biodiversity (CONABIO), who begins by alluding to the familiar contrast between the Mexican meanings of maize and its "more utilitarian" uses in the rest of the world. Even though the latter account for the current designation of maize as "the grain of humanity," the origin of maize resides in Mexico, and it is the link between the origin of maize and the Mexican nation that will be illuminated in the report by the best of representatives of science (6). Sarukhán warns us, however, that the origin of maize cannot be known with absolute precision, but he also anticipates the report's emphasis on the theory that the origin of maize "occurred simultaneously in several regions and extended to all the national territory, which was inhabited by hundreds of indigenous groups who have constituted the historical roots of that which our country is today" (6). Thus, he concludes by exhorting Mexican authorities to make decisions on the basis of two *simultaneous* considerations: scientific evidence on the one hand and the status of biodiversity as "national and international heritage" (6) on the other hand. In a subsequent preface to the actual report, UNAM ethnobiologist Dr. Robert Arthur Bye Boettler regrets that Mexican maize has been the victim of development policies rooted in "complacency, ignorance and lack of attention to critical issues" (14). Such issues, Bye argues, must fall within the dynamics of scientific knowledge, in which error and disagreement play a central role. Bye reflects on the heterogeneity and incommensurability of the available evidence on the origin of maize. While archaeological information seems too heterogeneous to give us a precise image of such an event, the techniques and methods of molecular genetics seem incommensurable with archaeological data. In his view, it is necessary to overcome heterogeneity and incommensurability through systematic monitoring and standard methodologies in order to fill the gaps in our

knowledge about the origin and diversification of maize. Could this scientific call for overcoming heterogeneity and incommensurability be seen in reality a call for national unification? In his conclusion, Bye calls for the authorities (including researchers) to adopt a commitment based on the economic and strategic importance of maize as a national resource, a vision in which farmers appear (one again) as instrumental for the conservation of genetic information that is represented as a cultural and historical gift from Mesoamerica to the whole of humanity.

In the chapter "Theories about the Origin of Maize," maize cytogeneticist Takeo Angel Kato, reviews the scientific search for the origin of maize in the context of 20th century biological paradigms. Despite its impersonal style and highly technical vocabulary, Kato's review unfolds like an adventure story. Once upon a time in the nineteenth century a certain Ascherson suggested that the wild grass *teocintle* might be the direct ancestor of maize. Ever since, scientists have restlessly searched for a complete explanation of the origin of maize by deciphering the "mysterious" relation between maize and *teocintle*. In order to explain the morphological differences between these two plants, Paul Mangelsdorf and his colleague Robert Reeves postulated in 1938 that maize had a complicated hybrid origin. According to their tripartite hypothesis, *teocintle* is not the direct ancestor of maize, but rather the descendant of an ancient variety of wild maize that spontaneously crossed with *Tripsacum*. Via *teocintle*, genes from *Tripsacum* were incorporated into wild maize, detonating the genetic variability that was a precondition of human domestication of *teocintle*. The role of *Tripsacum* as represented in this theory eventually met with many objections,¹⁰³ in response to which Mangelsdorf and Reeves dropped the *Tripsacum* hypothesis out of the theory. Yet they stuck to the hypothesis of a hybridization event protagonized by ancestral maize. In Kato's interpretation, at any rate, the tripartite hypothesis was never a theory about the origin of maize; rather, it was about the origin of *teocintle* (48). For all of Kato's rational style of presentation and argument, his search for a

¹⁰³ First, the ancestral maize invoked by the tripartite theory could only be 'monstruous' and therefore unfit to survive in the wild. Second, the spontaneous crossing of maize and *Tripsacum* is highly improbable under natural conditions, given that experimental crosses have yielded unconvincing results. Third, there was early evidence that chromosomes in maize differ from those in *Tripsacum* both in number and in constitution. Fourth, it seems impossible to tell from the archaeological record whether gene transfer from *Tripsacum* to maize first took place at the origin of maize or long after maize had been domesticated.

mysterious origin of maize has a literary resonance and even echoes debates about the origin of writing. In *Proust and the Squid*, a neuroscientific review of the scientific debates around the development of writing, Maryanne Wolf observes with amusement the anthropocentric tone of the discussion that figures the Greek alphabet as either the "sister" or the "daughter" of a previous writing system. Either the origin of the Greek alphabet must be fixed in a single most likely "parent," or the search must continue until another "missing ancestor" is found that accounts for the origin of all the "relatives" acknowledged so far. As far as neuroscience is concerned, these disputes about where to fix the origin may continue forever and have little or no impact on current pedagogical issues, such as how to develop a reading brain in the fast-paced world of digital media. Like the origin of the Greek alphabet, the origin of maize has involved human-centred genealogical disputes.

In the late 1960s molecular biologist George Beadle argued that the morphological differences between maize and *teocintle* were not so large as to require an extinct ancestor. He proposed that maize was simply a form of *teocintle* arrived at through the human selection of several major genes, each of which would control a single difference between the two plants. Humans may have noticed promising mutations, such as a softer glume in some *teocintle* plants, and may have started selecting them for cultivation (Buckler and Stevens 81). The ascent of molecular biology in the 1960s led to the increasing popularity of Beadle's theory. Over the decades, however, Beadle's theory had to be re-elaborated on the basis of a non-reductionistic understanding of the complex, uncertain interaction between genetic elements, the cytological environment and morphological expression.¹⁰⁴ Even though, according to Kato, it seems clear enough today from taxonomical, morphological, cytological and genetic perspectives that *teocintle* alone is the closest relative of maize (49),¹⁰⁵ the differences between *teocintle* and maize are now seen as affected by multiple genetic interactions rather than being simply determined by individual genes (51). Since most genes in fact have modest effects, even Beadle came to recognize

¹⁰⁴ In 1983 the American biologist Barbara McClintock received the Nobel Prize in Physiology for her discovery of the mobile genetic elements in the chromosomes of maize. These genetic elements are also known as "jumping genes," due to their ability to "jump" from one part to another in the chromosomes. Evelyn Fox Keller narrates the life and work of McClintock in the context of 20th century biological paradigms in her book *A Feeling for the Organism* (1983).

¹⁰⁵ Contemporary proponents of Beadle's theory argue that maize was developed through human selection of specific traits of one particular *teocintle*, *Zea mays ssp. Parviglumis* (Buckler & Stevens 73).

that perhaps hundreds or thousands of additional "modifier" genes would be necessary to achieve transformation, as well as environmental factors (75). Ironically, given that the interplay between genetic and environmental factors remains mysterious and unpredictable, science has kept the door open to the investigation of events other than human selection that supposedly triggered the origin of maize.¹⁰⁶ Yet, under the dominant *teocintle* hypothesis of human domestication as the origin of maize, the debate among scientists shifted towards the question of the origin's location. Significantly, both theories depend on the excavation of further fossil evidence from archaeological sites (87).

In the penultimate chapter of the report, titled "The Biosecurity Law and the Centers of Origin and Diversification," José Antonio Serratos picks up on Kato's conclusion that there is a lack of definitive evidence for current theories about the geographical origin of maize. The "unicentric" and "multicentric" theories each give a particular answer to the question about where and how domestication took place. The unicentric theory holds that maize was domesticated in a single event in the Balsas river basin in Mexico, after which it spread out to the whole American continent. The multicentric theory claims that maize was domesticated in different areas at the same time, drawing support from cytogenetic research describing correlations between chromosomal nodes and geographic distribution of "landraces." As Serratos explains, assuming the correctness of the unicentric theory has huge implications for the definition of the center of origin. If maize originated through a single event of domestication, its center of origin must be located at one specific point along the basin of the Balsas River. Yet if maize had a multicentric origin, many other regions, "practically in the whole country," (91) would have to be included in the determination of maize's center of origin and genetic diversity. Serratos concludes that as long as we lack "definitive evidence" for the unicentric theory, "the most conservative position must prevail" (91).

¹⁰⁶ In a modern version of the tripartite theory, Eubanks argues that *Tripsacum* introgression into *teocintle* could have provided the "mutagenic action" leading to an "explosive" origin and diversification of maize (Kato 96). Kato also mentions Hugh Iltis' 1983 theory of "The Catastrophic Sexual Transmutation." According to this theory, environmental factors induced drastic changes in the morphology of *teocintle* which derived in a "feminization" of male organs and their substitution for the small *teocintle* fruits. The maize cob would have originated not through genetic mutation but rather through "genetic assimilation" of an acquired trait (Serratos 8). While the theory was mostly criticized as "pure and simple Lamarckism," Kato argues that the morphological changes it describes would be insufficient anyway to bring about the effects that Iltis attributes to them. According to Kato's own cytogenetic research, the maize cob has an explanation directly at the genetic level.

In Article 3 of the *Ley de Bioseguridad de Organismos Genéticamente Modificados* (LBOGM) the "center of origin" is defined as a geographic area where the domestication of a given species took place. The "center of genetic diversity" is defined separately as a geographic area where 1) there is genetic or morphological diversity of a given species; 2) there is a population of wild ancestors and 3) there is a "genetic reservoir" (88). The problem with these definitions, Serratos argues, is that they separate the human and biological factors that were joined in Vavilov's classical understanding of origin and diversity. In his view, it is also important to consider biological, human and social aspects of the domestication process that impinge on the definition of the center of origin and diversity of maize. Human labour, Serratos points out, cannot be dissociated from the origin of maize if the origin is understood as a process of diversification. Since crop diversification occurs when human beings orientate natural selection towards their own purposes, Vavilov had included the persistence of widespread cultivation in the definition of the crop's center of origin. Yet LBOGM "breaks the unity" of origin, domestication and diversity by reducing origin to a geographical area and by separating domestication from genetic diversity (89-90). Moreover, LBOGM contains "unnecessary and incorrect restrictions" (90) within the definition of the center of diversity. According to the law, in order to be regarded as the center of diversity, a geographical area must not only host a population of wild relatives but it must also be classified as a genetic reservoir. Both of these conditions exclude large areas of Mexico in which maize agriculture is widespread. On the one hand, the presence of wild relatives is in fact much more localized than the presence of maize diversity. On the other hand, the status of genetic reservoir implies confinement, which is both inconsistent with diversification and impossible without adequate information and operational measures (90). By reducing and impoverishing the concepts of origin, domestication and diversity, LBOGM exposes the nation's "genetic resources" to all the threats posed by genetically modified organisms (90).

In order to correct such a failure in the Mexican biosecurity law, Serratos proposes to re-unify the concepts of center of origin and center of diversity, and to incorporate archaeological, ecological and cultural considerations into their definition. On this basis, Serratos proposes new definitions for the Law, formulated as follows:

Centers of origin are those geographical areas within the national territory where the ancestors and wild relatives of a crop are found today or were once found, as well as those in which a crop's domestication took place in association with specific cultural trajectories. Likewise, centers of origin include those areas in which there is either or both morphological and genetic diversity that might constitute a genetic reservoir (96).

Serratos's proposed definition promises to satisfy the activist demand that all of the Mexican territory be considered as a centre of origin of maize (*El Maíz No es una Cosa* 169), since there is no geographical area within the national territory where native maize was *never* found, cultivated or consumed. Very subtly, the definition makes the theoretical boundaries of a Vavilov center of origin coincide with the territorial boundaries of the Mexican nation-state. At the same time, Serratos points out the need for a new characterization of the existing maize diversity that takes into account the changes in land use and economic activity that have taken place since the last samples were taken several decades ago. An accurate characterization would have to rely, moreover, on new physical explorations across the Mexican territory and then on "risk maps" for the "vigilance of native maize" (91). What sounds like a project to maintain the boundaries of the nation through the scientific protection of maize diversity is accompanied, in other words, by an acknowledgment that such a diversity cannot be determined or even approached in isolation from the complex processes of social and technical transformation that have already taken place. Thus, while Serratos re-asserts the national boundaries through his defense of maize biodiversity, he also gives up any guarantee that the latter can be described as "pure" or un-contaminated. In this regard, Wainwright and Mercer observed that the activist demand for "decontamination" gives rise to a political dilemma that consists in the fact that such a task exceeds the capacity of scientists as the hegemonic group in the dispute. While ecological scientists such as Bye, Kato and Serratos can mobilize uncertainty about the actual origin of maize and thereby about the actual risk of "contamination," they cannot actually produce "decontaminated maize" (Wainwright and Mercer 351).

For Wainwright and Mercer, the impossibility of producing an effective decontamination indicates that Gramsci was right in defining science as culture, that is, as a relationship between humanity and reality that is necessarily mediated by technology (351). In my own interpretation, what *The Origin and Diversification of Maize* helps to foreground in the Mexican biotechnology debates is a paradox that has to do with the actual impossibility of closing the national text by fixing the origin of maize. Even though the search for the origin of maize appears to be necessary for a debate around the nation's response to biotechnology, no empirical evidence about the origin or diversity of maize could guarantee the purity and integrity of any national response to the threat of contamination. In fact, I would suggest that the scientists' search for the origin of maize is "genetically contaminated" the sense that it tends to subvert the founding narratives of the nation that the scientists themselves seem to embrace, namely, that maize is a given entity which the nation can fully identify, control and protect through scientific expertise. I am thus suggesting that what *The Origin and Diversification of Maize* produces is very different from what it attempts to represent.

If, as Kato's scientific review implies, an undisputed "origin of maize" is irretrievable and if, as Serratos wants, the "center of origin of maize" is seen to coincide with the boundaries of the Mexican nation, the latter appear as more unstable and questionable than they are usually assumed to be. It is as if the history of the Mexican nation-state became "contaminated" by the biological history of maize, which is paradoxical considering that the biological history of maize is in fact a cultural/technical history, that is, it is a history of theoretical and empirical disputes that can reach no closure unless it is closed in an authoritarian way. This is what happened on March 2009, when a 10-year moratorium on the experimental sowing of transgenic crops in Mexico was ended by presidential decree. In response, the activist Network in Defense of Maize – which counts scientists among its prominent members – launched a series of public protests denouncing the government's decision as a "historical crime" and a "wound to the identity of Mesoamerican peoples" (*El Maíz No es una Cosa* 82). I now turn to the Network's argument that "maize is not a commodity but the origin of a civilization and the basis of peasant lives and economies" (182). From the Network's perspective, an origin is "a complex entanglement of relations, a civilizational process" (14). This argument is developed in *Maize is not a Thing, It is a Center of*

Origin, a two-volume book that chronicles and reflects on the 10-year struggle of the Network in Defense of Maize. In the following section, I interrogate the political program of the Network from the standpoint of the "genetic contamination" of the search for the origin of maize. How does the Network's figuration of the origin simultaneously open up and close down the future of maize?

Not a Thing But A Myth: Autonomy and its Discontents

Only with proper, native maize (not its disfigured transgenic version), sown so that the community eats with minimal dependence, can the realm of the "us" [sic] be lived: collective work, our own justice, self-government, assembly, in a life against the tide of planetary systems (Red en Defensa del Maíz, *El Maíz No es una Cosa* 43).

Maize is Not a Thing; It is a Centre of Origin was co-edited in 2011 by several members of the Network in Defense of Maize, namely, the Collective for Autonomy (Coa), the Centre for Social Analysis, Information and Popular Education (Casifop), GRAIN and Itaca Editorial. Its purpose was to reflect on the lessons learned throughout ten years of the Network's struggle against "contamination." In the first of several prologues to the book, Mexican anthropologist Guillermo Bonfil Batalla is made to remind readers that maize is more than a human creation;¹⁰⁷ it is an active agent, he says, that organizes human life according to its own rhythms, demanding from human beings both cultural and technological creativity. In Mexico, Batalla declares, maize has sustained a "popular project" based on community and directly opposed to the abstraction and commodification of crops under capitalism (12). His founding statements are followed by a list of eighteen "inescapable points" about transgenic contamination.¹⁰⁸ From the list emerges the Network's current position that

¹⁰⁷ Bonfil Batalla died in 1991; a fragment of his writings appears as a "prologue" to the book.

¹⁰⁸ The points are: 1) transgenic seeds belong to a legal system that criminalizes the victims of contamination; 2) transgenic seeds benefit companies rather than farmers; 3) contamination of non-transgenic crops is inevitable; 4) transgenics are dangerous to humans; 5) transgenics are an attack on small-scale, independent food production; 6) *in Mexico, this attack is a historical crime because Mexico is the center of origin of maize*; 7) *maize is not a crop but a complex entanglement of relations, a civilizational process*; 8) health risks are higher in Mexico because Mexicans eat a lot of maize; 9) contamination is destruction of a genetic reservoir that is indispensable to confront climate change; 10) contamination is an attack on Mexican campesinos; 11) contamination could cause deformity and sterility of Mexican maize; 12) biosafety laws pave the way to large-scale cultivation of transgenic maize; 13) contamination has been detected in Mexican fields since 2001;

contamination does not amount to, as activists themselves had initially thought, accidental gene spilling. Rather, contamination is a deliberate attack on agriculture understood as a "popular project." In opposition to profit-driven agro-industry, agriculture is described as a process of taking care of the world through taking care of the natural and social environment. When such a process is accomplished, "it grounds autonomy, history, a present and a future of [one's] own" (14). Autonomy is indeed presented as the whole point of agriculture and as the road that many members of the Network have decided to take in response to "the abandonment and contempt of all kinds of institutions; [which] made them understand that the whole world can be seen from the milpa" (120). Such an anticapitalist turn of the Mexican defense of maize seems to me more critical and, in a sense, more realistic than the nationalist rhetoric of urban middle-classes. Yet, it also seems to me that the Network's assertion of autonomy carries its own serious disadvantages, which are unlikely to be overcome without the help of some "contamination" in a refigured sense.

After ten years of struggle, the Network seems to have gained a more realistic picture as well as a historical perspective of what is going on with Mexican laws and institutions now that transgenic experiments have reached the Mexican countryside. In the first essay of *Maize is Not a Thing*, GRAIN activist Ramón Vera explains that from its beginnings in the European Renaissance, capitalism set out to "kill agriculture" through land theft, enclosure and forced migration to the cities. The Green Revolution continued the killing by expelling farmers' knowledge from the countryside. More recently transgenic seeds were invented in order "to disfigure crops, exhaust farmers' varieties and promote dependency on industry" (19). At present, neoliberal capitalism seeks to consummate its historical project by imposing everywhere a standardized "series of laws destined to privatize our resources and rights" (168). In addition to LBOGM, a seed law was passed in Mexico which is virtually identical to seed laws passed in other countries, since it was written by seed corporations grouped under the International Seed Federation

14) independent civil organizations have protested against contamination; 15) thousands of scientists have publicly stated their disagreement with the end the 1998 moratorium on transgenic maize; 16) the government has systematically dismissed the legal resources mobilized by civil organizations and has even changed the law in order to proceed with the release of transgenics; 17) the government's attitude has been 'violating laws' in order to promote the release of transgenic maize; 18) relevant instances of the United Nations, the FAO and the CBD, have also ignored civil organizations when these requested their support (*El Maíz No es una Cosa* 13-15).

(ISF). In Mexico, ISF is represented by the Mexican Seeds Association (AMSAC), which demands that only “certified” seeds are legally sown. Seeds must be stable in order to be certified, and only certified, patented seeds can be used in rural development programs involving technical assistance and credit. In view of their repeated failure to influence the law, activists have increasingly realized that the nation-state acts today, and has in fact always acted, as a facilitator for capitalism by either directly repressing non-cooperative agricultural communities or by fragmenting them through co-optation into developmentalism. No longer a simple defense of national identity, the defense of maize has grown into a more focused critique of the complicity of state institutions with transnational capitalism.

The historic de-indigenization of peasant identity under developmentalist hegemony, for example, did play a decisive role in the fracturing of the defense of maize and in the subsequent radicalization of the Network's discourse. In 2002, a coalition of independent indigenous and unionized *mestizo* peasants launched a campaign called *El Campo No Aguanta Más* (The Countryside Bears it No More). They demanded a renegotiation of NAFTA and a general reorientation of economic policy towards the protection of national agriculture. After four months of nationwide demonstrations, a National Agreement for the Countryside was proposed by the government and was accepted by peasant unions that had historically emerged through political pacts with the post-revolutionary government (84). Since the Agreement positively excluded a renegotiation of international free trade agreements, many independent organizations felt betrayed and progressively radicalized their discourse by aligning it more closely with anticapitalist movements such as Zapatismo and *Vía Campesina*. The testimony of Aldo González, included in *Maize is Not a Thing*, contributes an interesting reflection in this regard, that is, regarding the question of why indigenous activists have been more active in the defense of maize. "They touched us on our essence," he says, "our essence as indigenous peoples" (65). For indigenous peasants such as González, defending maize is about defending collective rights, community government, history and the environment (43). Collective rights, history and the environment, however, are particular cultural values that capitalism has undermined by means more subtle than land-theft, enclosure and forced migration. As I have tried to show in my analysis of PMMM, it is through hegemonic operations that capitalism has undermined resistance from within, and

the hegemonic power of capitalism (which historically includes nationalism) continues to be the main challenge of a radicalized defense of maize agriculture. Realistically, González takes for granted that "they will not pay attention to us" (66), so it makes no sense for "us" to go out on the street and demonstrate against globalization. Neither does it make sense to wait for international NGOs to come and tell "us" about laws. It is dangerous to make laws when the people are not well informed, and so mobilization must take place "inside our communities" (66). Communities must learn by themselves that transgenics "disfigure maize in its essence" (38), an essence that he describes in terms of variety and meaningfulness, knowledge and adaptability. They must learn by themselves that transgenics are good "only to poison the lands and to destroy the economy of communities" (38).

From the Network's current perspective, contamination is not a matter of technical discussion among juridical and ecological experts. Rather, it is a political problem involving threat and antagonism from the industry. Capitalism, after all, has always attacked the peasant's way, that is, autonomy, because this is "the way that generates freedom, critical vision and the possibility to fight" (19). Activists have come to the conclusion that contamination as a weapon deliberately employed by the industry. In their view, the industry knows very well that many Mexican peasants will not comply with pro-capitalist legislation imposed by the nation-state. According to Vera, for example, it is in view of an unusual resistance to the individualization of land titles on the part of Mexican peasants that the World Bank started promoting research-based agricultural contracts (such as PMMM) involving experiments with transgenic crops (21).¹⁰⁹ While the government "tries to convince subsistence and commercial farmers without an ancestral past of their own that transgenics mean progress" (25), activists spread information and debate about the actual meaning of relations between urban and rural areas, and particularly about "the effects of rural devastation on cities and how urban growth is creating sustainability problems for both the rural and the urban environment"

¹⁰⁹ After PMMM, a new partnership was announced between Bill Gates and Carlos Slim to promote "Green Revolution 2.0" in the International Maize and Wheat Improvement Research Center. As Dolia Estevez reports in *Forbes Magazine* (13/2/2013), Gates was invited by Mexico's International Maize and Wheat Improvement Center (CIMMYT) to open new facilities that were funded by the Slim Foundation. As Gates pointed out, new digital infrastructure (provided by his own foundation) will allow CIMMYT to apply its latest agriculture findings on a gene bank that holds the genetic diversity of 130,000 wheat and 28,000 maize varieties worldwide.

(23). Assuming that the biotech industry wants to "kill" agriculture, and assuming that transgenic flows constitute a weapon in such a project, what kind of exercise of power would it take to win this battle against the biothreats of contemporary capitalism? The Network's own diagnosis clearly points towards the need for a hegemonic strategy, that is, a strategy of persuasion that is able to articulate multiple struggles.

In the last chapters of *Maize is Not a Thing*, we read that even though people are rising everywhere in defense of water, petroleum, and the forests, the defense of maize does not appear as a "strategic axis" for a truly viable alternative. In Mexico, the imminent privatization of oil and other energy sources seems to have "drained the energy of the struggles" (158). The problem is that oil defenders "are not having the capacity to address or face the situation from an integral perspective, in which all of the struggles can be articulated into a single one, but which also allows to recognize many of the other necessary spaces of defense, such as maize and water" (158). The absence of an integral perspective, as the activists call it, is strange considering that maize is the primary target of the new biofuels ideology, which promotes the idea that everything can be used as fuel or as energy source. Agroecological systems such as the milpa, where several species coexist and thrive as long as the soils are taken care of, are now seen as mere raw material for the production of biofuel. An integral strategy, besides "a categorical no to transgenics," would promote the "ruralization of the city against the savage urbanization that the countryside is suffering" (160). Yet activists recognize that resistance can only be "a slow, dispersed and fragmentary process" (157). It is easily dismantled by uncontrolled urbanization, land theft and speculation, which increase the pressure on rural inhabitants to migrate. Depopulation of the countryside leads those who stay to replace labour with more agrochemicals. Money, including migrant remittances and government allowances, breaks their will to preserve agriculture as a way of life. Government programs such as OPORTUNIDADES "make people lazy and dependent (even alcoholic) by giving them money in exchange for nothing" (165). When money dominates everything, the healthy diversity of the milpa is replaced by low-quality industrial food, and health problems come to plague the most vulnerable people (165). New sources of instant gratification make it difficult for new generations to understand the economic importance of agricultural work – not to even mention its cultural and

political meaning for older generations. Rather than working in the field, young people from the countryside are driven, voluntarily or by force, to the ranks of organized crime, which offers quick money and a false solution to the enduring problem of discrimination against poor and indigenous persons. Of course, the Network provides an accurate empirical description of the effect money has had in Mexican rural life so far. What it fails to provide is a convincing account of the future that can be shared by the wider public, whose support they evidently need in order to position their cause. It seems, however, that they "do not have the necessary words in order to enter into dialogue with the defenders of energy resources in Mexico" (158). Finding the words is necessary because the Mexican public has not said a forceful "no" to transgenic food, not to mention the industrialization and commodification of food. While the Network seems to have arrived at a precise diagnosis of the challenges it faces at the hegemonic level, its proposed solution seems to alienate it even further from the society that it seeks to change.

For activists, maize is not "mere culture." Rather, it is about a politics of "not asking for permission to be" (116). In "A Life in Sowing," Ramón Vera (GRAIN) and Verónica Villa (ETC) argue that the defense of maize demands "a sense of being different from those who accept impositions from the government and the companies" (35). They propose to call maize "a sovereign crop" and associate it with a "creative act that has nothing to do with making money. A creative act is free, whereas making money through wages makes one dependent" (41). In this libertarian spirit, activists insist that "something is always possible," that "history is not set in stone" and that "options are not mere illusions" (162). In a chapter titled "The Lessons of Maize," Camila Montecinos holds that "we must support processes that include technologies designed to generate autonomy and to strengthen local capabilities" (31). It would be not just a matter of promoting different kinds of research but also of changing the researchers, meaning that indigenous peoples should now be regarded as "the true experts" of agriculture (34). Only they, by becoming "custodians" of the land, are capable of maintaining autonomy from capital today (33). Here we finally come across the myth of the noble savage, which I have argued is more convincingly deployed by PMMM.

As we know, PMMM assigns peasants the role of "custodians" of maize varieties. However, instead of promoting "a life against the tide of planetary

systems" (*El Maíz No es una Cosa* 43), PMMM promises survival and individual autonomy through money – that is, through social recognition and connection with the world. Because money is not, in itself, equivalent to exploitation, PMMM is able to argue that the problem is not money itself, but rather the lack of it – since it is the lack of money that puts people at a disadvantage in a world structured by competition. Thus, PMMM has the advantage of common sense on top of all the other advantages that it possesses, namely, money, political power, and technoscientific power. By contrast, the activist rejection of both money and state institutions isolates the cause of maize agriculture from the public, whose heart and mind activists would need to win in order to effectively survive what they call "the tide of planetary systems," namely, capitalism itself. If we accept, as a necessary evil, the reproduction of humanist narratives involving "custodians" of the land and the environment, the challenge would then be to make "autonomy against capital" appear as more promising than the compromises offered by a project such as PMMM.

While history is certainly not set in stone, activists might need to think of an imaginative strategy within (the history of) capitalism rather than in frontal opposition to it. In my view, they are already working in this direction, such as when they argue that all maize varieties "are part of the same tissue" which is the "sacred" tissue of collective humanity. Autonomy is humanized and humanity is sacralized in their discourse, yet what emerges from this discourse does not merely reproduce the modern masculinist and humanist narratives of sovereignty which, as Saldaña-Portillo and others have repeatedly pointed out, sustain the colonial logic of developmentalist discourse. The Network's sacralization of human collectivity also produces maize as a progressive image of "decentralized decision-making, diverse strategies and tools, diverse and even divergent aims, all of which will in turn allow to restore and strengthen the richness and diversity of maize" (32). I associate such an image of collective humanity with what I call the "genetic contamination" of the national text, which can also be understood as a search for democracy that is made possible by the fact that the national text is not self-identical or unitary.

By associating "genetic contamination" with democracy, I also mean that democracy cannot be pursued without acts of power seeking to define the tissue of humanity as collective in one sense or another. Yet, as a search that is not

merely human, democracy cannot be pursued without an acknowledgement of the constitutive vulnerability and dependency of "collective humanity" on something radically other than itself. Can these two dimensions of genetic contamination be made to fit together so that my contribution to the Mexican biotechnology debates appears as a definite political solution to the activist predicament in the face of capitalist hegemony? If not, is there a risk of overlooking or downplaying the urgent stakes of the Mexican defense of maize agriculture through a textual emphasis on its paradoxical nature? I would say that there is always a risk in questioning the assumptions of a political narrative that one might prefer to fully identify with, but also that taking such a risk is necessary in order to "become answerable for what we learn how to see" (Haraway, "Situated Knowledges" 583). It is not "maize itself" but rather antagonism, or the threat of time itself, that gives rise to the political defense of Mexican maize agriculture at the same time that it undermines its identitarian affirmation.¹¹⁰ Regarding the productive role of antagonism, Jeremy Valentine explains:

Antagonism is a subjective experience of being incomplete being expressed as resentment towards the other on which the subject is dependent for completion, or that against which the subject defines itself. To try and make the point easier to understand, it is like those cases analysed by Freud when the memory of some traumatic experience which you do not even realise you had forgotten suddenly enters your thoughts, thus undermining your self-confidence. In Laclau and Mouffe, such moments are positive in that they are the only occurrences when anything happens. Things happen, not because they are grounded and complete, but because they are not (Valentine 61).

What "happens" in response to the other is politics itself understood as acts of power that nevertheless remain "genetically contaminated," or dislocated, by their own constitutive temporality. If we understand acts of power as necessarily dependent on technical supplements, it becomes clear that the mark of nationalism is an experience of resentment against technicity. As even Stiegler points out, technicity unfolds today as a violent conquest of time and space,

¹¹⁰ As I explain in previous chapters, the temporality of being constitutes a threat in response to which the subject emerges through (political) acts of spatialization. Such acts, however, can never be fully achieved because dislocation is "spatially unrepresentable" (Laclau, *New Reflections* 42).

"uprooting from the ground" and "corroding idiomatic differences" ("Fidelity..." 260). He also attributes the crisis of emancipatory discourses to the technological aspect of globalization, or "the media in all its guises including biotechnologies" (238). The latter would be responsible for the proliferation of fundamentalisms and nationalisms, which Stiegler sees as "ritual automatisms and reflex behavior" and as "compensatory reactions to the loss of the proper" (238). Yet as Stiegler routinely insists, technicity gives "the very possibility of idiomatic differentiation, that which *constitutes* one's home in the first place by opening it to what is other than oneself" (260). If a political response to "otherness" necessarily presupposes antagonism (that is, an experience of resentment) what about the ethical nature of such a response?

As an ontological trope, the "genetic contamination of Mexican nationalism" does not merely seek to foreground the political (that is contingent and contestable) "origin" of Mexican identity but at the same time, its ethical predicament. From this perspective, "genetic contamination" refuses to insert itself transparently in a determinate political programme, such as a national project to protect "Mexican nature" from the threats of technology. It also refuses to operate as a political slogan that celebrates new technologies as instruments for progress, development or freedom. As an ontological trope that is also "deconstructive" in an ethical sense, "genetic contamination" sets out to undermine the self-righteous certainty that political programmes invariably demand. How can we understand the relationship between the ethical and the political in a deconstructive trope such as "genetic contamination"?

Richard Beardsworth has pointed out that *Echographies of Television*, which is a conversation between Derrida and Stiegler, serves as a reminder of the ethical importance of deconstruction at a time when its political credentials are still suspected ("Towards a Critical..."). In that book, Derrida and Stiegler deconstruct a common polarization of opinion between, on the one hand, capitalist celebration of new technologies and on the other hand, intellectual aversion to technology as such. They carry out such a deconstruction by inscribing all technologies, old and new, within Derrida's philosophy of time and arche-writing. From this perspective, contemporary teletechnologies "have always been there, they [were] always there, even when we wrote by hand, even during so-called live conversation" (Derrida,

Echographies 38).¹¹¹ Beardsworth identifies a tension, however, between Derrida and Stiegler, since for Stiegler there is an absolute specificity of contemporary teletechnologies which calls for a new "political will" to increase consciousness and open the future by bringing about "new forms of intelligibility" (Stiegler, *Echographies* 117). Whereas Stiegler calls for the elaboration of a definite "politics of memory," Derrida insists on the need to remain critical of *any* politics of memory. In his own words, "we are only ever opposed to those events that we think obstruct the future or bring death, to those events that put an end to the possibility of the event, to the affirmative opening for the coming of the other" (11). Derrida and Stiegler's discussion of the French resistance to the inclusion of French cinema within free trade agreements in 1993 seems particularly relevant for thinking about what is to be done with maize culture in the face of technoscientific capitalism.

Derrida upholds the so-called "cultural exception" to the extent that it makes possible that a certain type of cultural innovation is not foreclosed in advance. Yet the cultural exception is for him merely a strategy for resisting short-term calculation. As soon as resistance to the market inhibits the very flexibility and productivity of consumption, he says, the market should be affirmed. After all, the historical link between democracy and the market precludes one from making any axiomatic opposition between the values of democracy and those of the market. Neither for the state nor against it, Derrida deploys here, as Beardsworth explains, a reflective logic that is predicated on the impossible "experience" of aporia. The most inventive political intervention in response to the cultural threats of technological globalization would be "letting time happen/take place," or "accompanying the taking-place of time" ("Towards a Critical..."). In other words, alternatives to short-term calculation must come from the future as an absolute horizon, that is, from the absolute futurity of time as a "promise" (*Echographies* 140-3). Derrida's response could be called "political," Beardsworth says, if one

¹¹¹ As Stiegler explains, Derrida borrowed Husserl's treatment of time as a play of protentions and retentions when he argued that experience qua temporal synthesis is made possible and inhabited by "arche-writing" in the sense of traces from a nonlived past (Stiegler, "Fidelity..." 242-243). Derrida's theory of "arche-writing" holds together two kinds of non-lived past that are irreducible to each other. On the one hand, it relates to an empirical past made up of "traces" such as memory supports, writing systems, archives or historical legacies. On the other hand, it relates to a past that has never been present, an absolute past which accompanies experience in the manner of specters. No reactivation of the origin, Stiegler says, could fully master or awaken this absolute past (255).

understands by political imagination "the reinvention of a critical relation to actuality," rather than "a gesture of organization and decision shaped by a particular territory, by a particular temporality, by a particular subject or by particular rules" ("Towards a Critical..."). In Beardsworth's view, the difference between Derrida and Stiegler is irreconcilable. For Stiegler, the imperative of "letting the other be other" runs the risk of leaving actuality as it is. For Derrida, any call for a particular political program is a form of calculation which risks closing the very future that it seeks to make possible.

As to my own trope of "genetic contamination," rather than siding with Derrida against Stiegler or vice versa, I want to suggest that the tension between them reflects an irreducible tension between politics and ethics that is played out in deconstructive philosophy. Politics and ethics are both inseparable and irreducible to each other; their relationship can only be thought as singular acts of mutual "contamination." In *Specters of Marx*, Derrida refers to deconstruction as an occurrence between life and death, a "learning to live" that "can only maintain itself with some ghost, can only talk with or about some ghost [...]" (xvii). No ethics or politics would be possible, Derrida argues, if we did not feel any respect and responsibility "for those who are no longer or for those who are not yet there" (xviii). How then can we develop of an ethical sense of respect and responsibility for the materiality of maize agriculture, for those who have lived and died in it, and for those who might yet depend on its continuity? Regarding deconstruction and ethics, Geoffrey Bennington explains that a "compromise of purity" is necessary for the ethical relation to avoid the absolute violence of purity itself ("Derrida and Politics" 70). More precisely, he suggests that ethics must "protect itself from itself by a necessarily risky inoculatory contamination of itself by its apparent other(s)" (72). I would include political power among the latter, but also technoscience and even the ambiguous pleasures of popular culture under capitalism.

By contrast with familiar research methods aiming to produce accurate representations of the world, deconstruction seeks an "opening to freedom, responsibility, decision, ethics and politics" (Derrida, "Before the Law" 200). To affirm the "genetic contamination" of Mexican nationalism is not to celebrate the "transgenic contamination" of native maize; rather, it is to point out that the criteria for deciding how to deal with the threats of corporate biotechnology come from an open future rather than from a pre-determined past. Thus, rather than positioning

my acts of questioning maize nationalism as more truthful than the "more empirical" accounts of biotechnology debates, my argument is that it is ethically important to attend to the "genetic contamination" of all narratives of maize-based identity. "Genetic contamination" is not a material presence that can be verified empirically or transcendently. I want to position it instead as a deconstructive myth the acknowledgment of which might actually help to diversify both the content and the orientation of the Mexican biotechnology debates. If conceived as a sort of genetic engineering at the philosophical level, the aim of my "contaminating" intervention would be to release cultural myth-making from calculative nationalism in order to create conditions for the emergence of as yet unimagined creative engagements with technoscience understood as "a form of life, a generative matrix" (Haraway, *Modest_Witness* 50). While I do not intend to produce political recipes for activists, it seems to me that an ethical attention to "genetic contamination" in a deconstructive sense might do more in the long run for "a life against the tide of planetary systems" than a constant rehearsal of moralistic recriminations for the loss of the proper. It might, for example, begin to reconnect the country and the city through the creation of something new and urgent for the world as a whole, namely, a posthumanist sense of shared responsibility for life as well as death.

Conclusion: Contamination as a Bioethical Perspective

It is not even respect, in the traditional sense of the word, for the other as *human subject*. It is the experience of the other as other, the fact that I let the other be other, which presupposes a gift without restitution, without reappropriation, and without jurisdiction (Derrida, *Echographies* 21).

In *Bioethics in the Age of New Media*, Joanna Zylińska develops a critique of moral panics as the most frequent way in which bioethical issues tend to enter the public domain. By resorting to ready-made and dogmatic positions, she says, moral panics foreclose discussion about "the role of technology and new media in the changing status and nature of the human" (21). Drawing on the work of Emmanuel Levinas, Zylińska theorizes a suspended condition between materiality and language as the source for a bioethical alternative to moralistic rejections of

new media and technologies. She describes the bioethics of such a condition as being based on the assumption "of there being an alterity that exceeds the conceptual grasp, and the very being, of what we understand as the self" (30). For Zylinska, the Levinasian philosophy of difference would need to be "supplemented" with the acknowledgment of technicity in order to really "take issue with the myth of the originary self-sufficient, total man, living in the state of nature – a myth which is still rather potent in many contemporary articulations of the fears and anxieties concerning technology" (45). In Zylinska's reading of Stiegler, the being of the human emerges "as always already related to, and connected with, the alterity that is not part of him" (45). Her recognition of the constitutive relationality of the human does not merely "correct" anthropocentric residues in the philosophy of difference, but more importantly it radically expands the scope of bioethics beyond the clinic and into the multiple territories of everyday life (33). Thus, while conventional bioethics has typically been more preoccupied with the "raw" biological life of organisms that with social or political location, Zylinska's bioethics would remind us that when making decisions about life "we are always already situated in, and drawing on, a broader political context" (66). In this vein, prior to and beyond political economy at the molecular level, there exists agriculture as a skilled practice within a specific social and cultural context.

Cultural anthropologist Arturo Escobar has argued that we must take seriously the politics of a cultural affirmation of peasant worlds, which he describes as a world of caring, of "intimate and ongoing dialogue between all living beings" (*Encountering Development* 169). Theirs is "above all a struggle over symbols and meanings, a cultural struggle" (167). In the *milpa* maize is not a resource used to top up the energies of laboring individuals, but a communal activity that produces communal life according to local customs and traditions. Such an activity cannot be reduced to a commercial contract between a single plant and an abstract human being, because both plant and human being are enabled and constrained by a wider biocultural context in which multiple reciprocities take place (Visvanathan 317). A bioethically oriented media and cultural studies can stress this point while it pushes for the recognition of the fact that technicity is "the condition and foundation of culture, not its opponent" (Zylinska 44). Biotechnical practices such as *milpa* agriculture gave Mesoamerican societies and their colonized descendants healthy and diverse diets, allowing them to survive

centuries of colonial and neo-colonial exploitation. Contemporary environmental concerns have implied a re-valorization of pre-industrial biotechnology, yet I think it is important to remember that maize agriculture always existed technically and politically rather than in an uncontaminated state of cultural purity. It is important, I argue, in order to take them seriously as ethico-political alternatives to straw oppositions between "hard" political economy and "mere" culture and, at the level of theory, between "empirical" and "textual" approaches. Deconstructive versions of "new materialisms" prove instructive in this regard.

In a critical version of "new materialism," feminist philosopher Karen Barad attempts to rethink the causal powers of materiality through an ontological interpretation of quantum physics as theorized by Niels Bohr. In Barad's reading of quantum physics, discourses amount to the local physical conditions that enable and constrain knowledge practices such as conceptualizing and measuring the behavior of electrons.¹¹² Such practices, she says, are not authored by human beings, since human beings themselves emerge as already part of them, which is to say as "part of the world in its open-ended becoming" (*Posthumanist Performativity* 822). Barad refigures materiality as "the ongoing reconfigurings of the world" (818), and the world itself "a doing, a congealing of agency" (822). Through an informed and creative practice of scientific figuration, she takes the discussion beyond traditional humanist metaphysics. Significantly, she takes the discussion towards ethics in a deconstructive sense. Echoing Braidotti's "transpositions" and Haraway's "cyborgs," Barad writes:

Like the diffraction patterns illuminating the indefinite nature of boundaries – displaying shadows in "light" regions and bright spots in "dark" regions – the relation of the social and the scientific is a relation of "exteriority within." This is not a static relation but a doing – the enactment of boundaries – that always entails constitutive exclusions and therefore requisite questions of accountability (*Posthumanist Performativity* 803).

¹¹² As Barad explains in more detail in *Meeting the Universe Halfway*, theoretical concepts (such as "electron," "momentum" and "position") are for Bohr indissociable from specific physical arrangements, that is, from specific configurations of the world that are produced by apparatuses qua material-discursive practices (*Posthumanist Performativity* 816).

The relation between "the social" and "the scientific," which can also be read as the relation between "culture" and "materiality," is for Barad fundamentally an ethical question. From her perspective, ethical questions in general have an ontological priority over the formulation of human-centered politics. Like Derrida, Barad frames justice as a relation to the other which is made possible by a fracture inherent to identity itself. From a quantum perspective, identity "is performed differently given different experimental circumstances" (*Quantum Entanglements* 259, 261). Theoretical concepts emerge by excluding other sets of possibilities, calling into question identity itself and inspiring "a new sense of a-count-ability, a new arithmetic, a new calculus of responsibility" (251). Commenting upon the controversial role of quantum science in the making of the atomic bomb, Barad interrogates a general tendency to reduce ethical questions to questions of rights, calculation or blame (262). This is an epistemological reduction of ethics, as if ethical responsibility depended on the possibility of humans achieving theoretical certainty. No longer a matter of "making amends finally" (264), quantum ethics is necessarily "a matter of différance, of intra-action, in which no one/ no thing is given in advance or ever remains the same" (264). Aligning her quantum ethics with Derrida's hauntology, Barad declares that "being/becoming is an indeterminate matter: there simply is not a determinate fact of the matter concerning the cat's state of being alive or dead. It is a ghostly matter!" (251)¹¹³

A (bio)ethical framework for the Mexican defense of maize agriculture would require taking the issue of "contamination" beyond nationalism, juridical thinking and, last but not least, moral panics about technological invasion. In this vein, rather than figuring maize and the human as individual agents interacting with each other, my bioethical trope of "genetic contamination" locates agency in the unstable mutual relations through which the human and the non-human constitute each other dynamically as they both take part in a wider technical process which it is impossible to calculate or appropriate as a whole or once and for all. This process *is* the world and therefore it includes everything I address throughout my thesis: agricultural histories, cultural nationalism, academic research disciplines

¹¹³ Barad explains that an electron makes a quantum leap "in a discontinuous fashion," thus troubling "the very dichotomy between discontinuity and continuity" and indeed "the very notion of dichotomy – the cutting into two – itself (including the notion of 'itself!')" (246). Since any theoretical concept "will, by necessity, always produce its constitutive exclusion," "[e]very concept is haunted by its mutually constituted excluded other" (253).

and anti-disciplines, psychoanalysis, science policy, cultural policy, popular gastronomies, tourism, environmental activism, indigenous rebellion, political disappointment and "the deepest personal and collective experiences of embodiment, vulnerability, power, and mortality" (Haraway, "The Biopolitics..." 204-205). My argument is that we do not come to terms with the constitutive vulnerability of the human by merely describing empirical situations or by denouncing human greed. Witnessing and investigating empirical causes and effects might be indispensable for human survival, yet the point at which we humans transform our ethical relation to the nonhuman (including the nonhuman in us) involves a deeper and perhaps unconscious aspect of our being – which I locate in the experience of the other. It is in this experience, neither empirical nor transcendental, that I trace the bioethical promise of the genetic contamination of Mexican nationalism.

Conclusion

Life is a window of vulnerability. It seems a mistake to close it. The perfection of the fully defended, "victorious" self is a chilling fantasy (...) whether located in the abstract spaces of national discourse, or in the equally abstract spaces of our interior bodies (Haraway, "The Biopolitics..." 224).

"Why do you want to do a PhD?" was a question that one of my supervisors asked me during our first meeting in 2009. I have to say that I took this question rather personally, which was not perhaps the most efficient strategy for dealing with the transnational industry that higher education has become. All I knew at the time was that I needed to answer another question that had been posed to me one year earlier in a different institution where I had already started a PhD project exploring the contributions of feminism to contemporary thinking around technology. The question had been: "It sounds interesting but specifically where and how does your work intervene?" The question had struck me deeply, making me feel vulnerable at an intellectual and a personal level. From then on, I could no longer read, write or speak without simultaneously asking myself: "Why am I doing this?" "Why this and not something else?" "Who and what am I doing this for?" "What is this anyway?" All these questions were already in my mind in 2009, when the Mexican government awarded me a grant to continue my PhD studies in England. A fully-funded PhD appeared to offer the time and space to find out what "intervention" meant. What followed was a personal effort to explicitly relate seemingly abstract concerns with technology, politics and subjectivity to the context in which I had grown up and in which I was planning to work and live. In the process, the feeling of vulnerability did not recede; on the contrary, it increased alongside my understanding of the complexity of the "case study" that I had, somewhat opportunistically, chosen to work on. Who was I to describe, judge, criticize or support –at a safe distance, from within the UK university system – those Mexicans who were trying to save "native maize" from the threats of global capitalism?

As I thought about this question, I came to realize that one of my deeper motivations in choosing maize as a topic was to understand the context in which my father chose to study Agricultural Engineering only to give up the plot and dedicate his life to promoting technoscientific links *within* the university. I was also trying to decipher the context in which my mother, a chemist specializing in soil fertility, decided to become an entrepreneur in ecological tourism. The fact that my father's father was a disappointed *campesino* and the fact that my mother's father was a modest shopkeeper with a solitary interest in birdwatching did not take me very far. My father's mixed feelings about the actual practice of agriculture and my mother's idealization of "nature" in terms of peace and harmony had to respond to a larger set of narratives in relation to which I wanted to elaborate my own position. Moreover, I wanted to situate in this way the philosophical ideas that I had become most interested in through my training first in the Humanities and then in Media Studies.

Of course, I have not discovered a final explanation for the life decisions of my parents through my PhD research of the historical relationships between Mexican nationalism, maize and biotechnology. Neither have I attained any certainty that such a research can "intervene fully," if one understands by this to radically transform the dominant ways in which knowledge (including activist knowledge) is produced in Mexico and in technoscientific laboratories. What I have developed instead is a strong conviction around the ethico-political importance of "theory" in the broad sense of a practice of contextualization, denaturalization and creative interrogation of all knowledge-claims. I have also learned from my own attempt to show that such an interrogation can productively "contaminate" academic and non-academic discourses. What I have come to appreciate is that a theoretical "contamination" of knowledge disciplines and educational institutions within specific contexts cannot yield instant empirical "results" and, perhaps more importantly, cannot be done individually. Rather, "contamination" can only operate as a long-term, non-individualistic project premised on a recognition of the "genetic" or "originary" character of intellectual and personal vulnerability. No "intervention" seems to be possible without acknowledging the embodiment, the partiality and incompleteness of this and every intellectual enterprise and, on that very basis, its ethical obligations towards that which it excludes or ignores. Thus, "intervention" appears as an attempt to connect democratically oriented efforts to

unsettle epistemic boundaries set up by the family, the nation and the knowledge disciplines in particular contexts.

In my own partial attempt to "intervene," I have argued for the public relevance of a cultural and political analysis of the Mexican debates around maize biotechnology. I undertook such a project originally because, personally and intellectually, I doubted that anything like a "Mexican" being that was represented or even caused by "native" maize actually existed. To be more specific, I doubted both the political virtues and the ethicality of asserting an identitarian link between maize and "Mexicanness." Soon I realized that I had to temporarily suspend my personal judgment of nationalism and try to understand why maize continues to be framed as an identitarian resource. As a hegemonic construct of very recent appearance and with very poor democratic credentials, the biopolitical narrative of maize nationalism must be distinguished from the longer and infinitely more complex history of maize agriculture in Mexico. There is no point for me in denying that such a history (which remains a contested terrain and which certainly involves many other life forms besides human beings and maize) includes particular human groups for whom maize is a sacred and essential aspect of their self-definition. By questioning the "naturalness" of such groups and their self-definitions I have not meant to undermine or harm their political struggles but rather to avoid further appropriations of their symbolic and material legacy by the capitalist narratives of the Mexican nation-state. I have not found a way to fully avoid or eradicate the violence of appropriation but I have tried to elaborate an alternative way of relating to the struggle for maize by thinking about the "the genetic contamination of Mexican nationalism."

From the post-Marxist perspective I adopted in Chapter II, *A Theoretical Approach to Mexican Nationalism*, it appears that the drive to construct and naturalize a social identity is structurally inherent to all politics. For historical reasons, nationalism is in Mexico more powerful and appealing than environmentalism, feminism, anarchism and many other particular struggles against domination. It has therefore made sense for the Mexican defense of maize agriculture to infiltrate and re-articulate the national text as opposed to ignoring it or rejecting it completely. Since any social identity is inherently unstable and subject to contestation from a post-Marxist point of view, it is in principle possible to re-articulate the national text in a way that favours democratization, and this is

precisely the promise of grassroots movements such as the defense of Mexican maize. From this perspective, nationalism can be seen as "necessary" in a strategic rather than in an absolute sense. Still, rather than simply supporting or prescribing the use of nationalism as a rhetorical tool, I have emphasized that Mexican nationalism has historically operated by concealing the exclusion and exploitation of the Mexican majorities under modernizing "development" policies. Since I was concerned about the consequences of "forgetting" such a history, I set out to expand my critique of Mexican nationalism to the ways in which it limits the discussion and practice of biotechnology in Mexico beyond the perspective of grassroots agricultural activism.

In Chapter III, *Revolutionary Science Meets Biotechnology*, I addressed the relationship between Mexican nationalism and Eurocentric conceptions of science and technology. I first outlined the conceptual crisis of both sets of narratives and then diagnosed the response of the Mexican scientific community to the changing role of the nation-state in the context of global technoscientific capitalism. The discredited status of Eurocentric narratives of science and technology has impinged on the self-definition and cultural prestige of Mexican scientists as well as on their relationships with the state. While their resistance to technoscience cannot be reduced to a problem of "wrong attitudes," I have tried to show that a focus on cultural and political narratives does illuminate relevant aspects of the scientists' predicament, of their political agency and of their historical responsibility. Scientists (and not just Mexican scientists) are of course being reasonable when they warn against the extrapolation of productivist parameters to the field of academic knowledge. My argument was, nevertheless, that disciplinary defensiveness and purist contempt for technoscientific research merely frustrates the scientists' own desire for "effective interlocution and direct participation, with original projects for national development, in the broad and shared sense which today is missing" (Cano 166). Rather than leading us to downplay the challenges of technoscientific capitalism, an acknowledgment of the historical "impurity" of science and technology might help "us" Mexican knowledge producers to give up melancholy, moralism and wishful thinking in order to start valorizing the increasing politicization and interrogation of our role in the wider society, for it is society as a whole that is exposed to the transformations entailed by technoscientific capitalism.

Regarding my own intellectual contribution to the Mexican biotechnology debates, I have posed the question: "Can cultural studies, in alliance with post-Marxism and feminist studies of technoscience, contribute anything to the Mexican biotechnology debates that is more creative than a purely negative critique of nationalism?" As I have explained, from such a combined perspective the task is not only to understand the ontological mechanisms of the political. The task is to investigate and make explicit "how *this* (each and every "this" of academic intellectual work) might already be ensnared within a complexly reticulated political context, and how it might thereby seek to make a difference to it, within it, and "beyond" it" (Bowman 82). As the neoliberal reorganization of social labor renders the divisions between "mental" and "manual" labor increasingly untenable (de Bary 6), I have suggested that we take the opportunity to expose the metaphysical structure as well as the material effects of such divisions in order to clear the way for renewed political articulations across traditional academic boundaries. This is a necessary condition, I argue, for a critical imagination and a viable practice of different forms of biotechnology, including media and cultural studies as one form of biotechnology. To re-frame biotechnology beyond of "the genetic informationalisation of life itself" (Kember 236), I have argued, is a political decision that can contribute to modify what counts as the proper experience and practice of biotechnology.

In Chapter IV, *The People of Maize and the Technoscience of Culture*, I analyzed the story of cultural activism that led to the recent inscription of "Traditional Mexican Cuisine" in UNESCO's List of Intangible Cultural Heritage (2010). My guiding hypothesis in this chapter was that it is necessary to undertake a more open-minded interrogation of the political productivity of "contamination" as an inescapable condition in technoscience. While the inscription of "Traditional Mexican Cuisine" implied a "contamination" of activist discourse by neoliberal discourses that reduce "culture" to an economic resource, I suggested that as an alternative to rejecting such a "contamination" in an oppositional way, we should welcome the opportunities it offers to re-articulate Mexican nationalism in unprecedented directions. In other words, I argued that the field of intangible heritage requires a subversive deployment of neoliberal and technoscientific vocabularies as an alternative to reactive and moralistic nationalism which might already be considered as a creative engagement with the challenges of neoliberal

biotechnology. Of course, to recommend "contamination" as a strategic operation within what I call "the technoscience of culture" is not to exclude further questioning of whether "Traditional Mexican Cuisine" actually achieves anything besides the reproduction of cultural capitalism. Rather, my aim has been to introduce a more nuanced appreciation of the possibilities and limitations of a cultural defense of maize under the hegemony of neoliberal capitalism.

While attending to the many reasons why corporate biotechnology has been figured as a foreign invasion in Mexico, I have also re-figured "genetic contamination" by drawing on anti-essentialist philosophy, feminist studies of technoscience and media and cultural studies in order to try to imagine different possibilities for the thinking and doing of biotechnology in Mexico. In Chapter V, *The Genetic Contamination of Mexican Nationalism*, I argued for the ethical relevance of "textuality" for a materialist engagement with Mexican biotechnology debates. An ethical materialism would require taking the issue of "contamination" beyond nationalism, juridical thinking and, last but not least, moral panics about technological invasion. My argument in this chapter was that we do not come to terms with the constitutive vulnerability of the human by merely describing empirical situations or by denouncing human greed. While a thorough investigation of empirical causes and effects might be indispensable for the survival of particular human groups, the point at which we humans transform our ethical relation to the nonhuman (including the nonhuman in us) involves a deeper and perhaps unconscious aspect of our being – which I locate in the experience of the other. It is in this experience, neither empirical nor transcendental, that I trace the ethical promise of acknowledging the "genetic contamination" of Mexican nationalism. In this vein, rather than figuring maize and the human as individual agents interacting with each other, the trope of "genetic contamination" locates agency in the unstable mutual relations through which the human and the non-human constitute each other dynamically as they both take part in a wider technical process which it is impossible to calculate or appropriate as a whole or once and for all. Such a process *is* the world and therefore it includes everything I address throughout my thesis: agricultural histories, cultural nationalism, academic research disciplines and anti-disciplines, psychoanalysis, science policy, cultural policy, popular gastronomies, tourism, environmental activism, popular rebellions, political disappointment and "the deepest personal and collective experiences of

embodiment, vulnerability, power, and mortality" (Haraway, "The Biopolitics..." 204-205).

Parallel to my writing of this thesis a plurality of creative engagements with technoscience have been developed in Mexico. In 2012, an art exhibition called *Sin Origen/Sin Semilla* ("Without Origin/Without Seed") was mounted at UNAM's museum in Mexico City. Curated by two philosophers in collaboration with the Art + Science collective, the exhibition included artworks that reflected on the inherent technicity of "life," several of which illuminated the struggle in defense of maize from a non-identitarian and non-moralistic perspective. In the mountains of Oaxaca, a project called *Ojos de la Milpa* ("Eyes of the Milpa") involved the use of mobile phones by Mexican farming communities who thereby recorded the complex life growing in their *milpas* and share it online. Food and agricultural co-operatives have proliferated across the Mexican countryside and have reached the cities through a growing network of "gourmet" and "health" food shops catering to the urban middle classes. Global urbanite trends such as green roofs and cycling have been incorporated to the sense of political urgency in the face of environmental disaster, rising inequality and threat of social dissolution through violence and forced displacement. From my own temporary location the British university system, I edited in 2011 an online "Living Book" on Agriculture which, like all "Living Books," remains open to contributions, modifications and appropriations by readers throughout the world. By mentioning this what I want to highlight is the collective, heterogeneous, transnational and open-ended nature of process of interrogating both the history and the dominant orientation of technoscientific practices. My thesis presents itself as merely one among many contributions to this process and points towards further investigation of how they can be articulated in particular circumstances in order to expand and deepen the democratization of social life.

I am writing this conclusion on the eve of National Independence Day in Mexico. Tonight, many Mexicans will gather in the main square of their cities and shout, after their state and city governors: *¡Viva México! ¡Vivan los Héroes que nos dieron patria!* There will be maize-based *antojitos*, plenty of tequila and *mariachi* music throughout the night. Tomorrow, Mexicans will wake up to attend the traditional street parades in which school children play the drums and the Mexican military boasts its maneuvers around the main square or *zócalo* in Mexico

City. Yet the main event of the patriotic festivities remains the so-called *Grito de Independencia*, that is, the collective "shout" that celebrates Mexican sovereignty on the eve of National Independence Day. As I prepare to witness my first *Grito* after four years abroad, I remind myself that not all Mexicans will shout tonight. Many of them will prefer to keep silent out of anger, disappointment or disaffection; others will be unable to decide whether to shout or not because they have either been "disappeared" or killed by either organized crime or by the state apparatus itself. Others still will have to shout, if they decide to, from under shelters set up in response to the hurricanes "Ingrid" and "Manuel." Others will be in a situation that I cannot even imagine, celebrate or lament. To all of them I dedicate my own silent shout for the genetic contamination of Mexican nationalism.

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