

**HABERMAS, BIOPOWER, AND THE REGULATION OF
GENETICALLY MODIFIED CROPS AND FOODS**

by

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Abstract

In this paper I combine insights from Habermas's analysis of the democratic public sphere and Foucault's concept of biopower to delineate barriers to democratic engagement in health and environmental policy processes, with a focus on rational-critical debate in the public sphere. I begin by demonstrating how Habermas's approach provides a normative basis for critiquing certain power relations based on how they affect the information and opinions circulating in the public sphere and the development of forums for rational-critical debate. I then explain how Foucault's concept of biopower draws attention to the more specific mechanisms through which those power relations have the effects that they do in health and environmental policy processes, especially over time. Finally, I apply these insights to the regulation of genetically modified crops and foods in Canada and argue that democratic engagement in this policy process will only improve if unequal power relations that hinder rational-critical debate are mitigated.

Preface

This thesis did not require an ethics review, has not been published before, and was written by the sole author, Emily Atkinson.

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Introduction

Over the past two decades, at least 63 varieties of genetically modified (GM) crops and 84 GM foods have been approved for introduction into the Canadian agri-food system (Peekhaus 2013, 3). This has not occurred without controversy. For instance, many civil society organizations campaigned against Monsanto's GM wheat between 2001 and 2004, and have also campaigned against Monsanto's GM alfalfa since 2006 (Andrée and Sharratt 2009, 16; Peekhaus 2013, 96, 99-102). Biotechnology advocates argue that GM crops and foods do not harm consumers or the environment, while others are concerned about the potential links between GM foods and allergies, as well as a decrease in the genetic diversity of plant species, and argue for stricter regulations (Magnan 2006, 35; Peekhaus 2013, 1). These conflicting viewpoints underscore the complexity of factors at play in the regulation of GM crops and foods, as well as the improbability that state bureaucrats alone can take all relevant concerns into account without engaging with the public throughout the regulatory process. The problem, from a democratic standpoint, is that there is little encouragement of democratic engagement in the regulation of GM crops and foods in Canada. For instance, precise safety data used to approve GM products has been classified as "confidential business information" and is unavailable to the public (Andrée and Sharatt 2009, 18-19). What is more, the only committee meant to advise the government on biotechnology policies that included members of the public was amalgamated in 2007 into a larger advisory body from which the public is currently excluded (Canada, Industry Canada, Science and Innovation Sector 2007, 86-88). The regulation of GM crops and foods in Canada therefore exemplifies a policy process that detracts from the democratic character of the Canadian state.

My aim here is to use two different critical-interpretive approaches to foster greater understanding of why such democratic deficits are concerning, precisely what causes them, and if there are opportunities for improvement. Specifically, Critical Theory can help to identify democratic deficits and opportunities for democratization since, as a general approach, it seeks to explain problems of domination and provide clear norms for criticism, thus combining interpretation with grounds for reform (Chambers 2004, 219-223, 229). Most importantly, Habermas's critical theory provides a practical focus on the public sphere as the locus for democratic engagement through rational-critical debate among citizens (Chambers 2004, 229-232). While the guiding tenets of Foucault's theory differ from Habermas's critical theory, especially with regards to the validity of universalist claims and how rationality and subjecthood should be recast, Foucault's work also speaks to democratic engagement because of how it draws attention to the contingencies that exist and conflicts that can arise in the democratic process (Hanssen 2004, 280, 294; McCarthy 1994, 248-249). His work can be used to develop practical strategies for improving democracy because of, in McCarthy's terms, his "nominalism, descriptivism, and historicism" (1994, 272-273).

In this paper I build off of scholarly literature that compares the work of Habermas and Foucault. I argue that Habermas's analysis of the democratic public sphere in combination with Foucault's concept of biopower constitutes an especially useful interpretive approach for analyzing democratic deficits in health and environmental policy processes. While Habermas's approach provides insights for developing a normative critique of the level of citizen engagement in these policy processes, the concept of biopower can help us to identify more specific claims and mechanisms of power that should be the focus of this critique. I begin by describing how this paper builds upon existing comparisons of the work of Foucault and Habermas. I then situate

Habermas's analysis of structural changes to the public sphere within his broader critical theory and explain why I focus on rational-critical debate in the public sphere to illuminate democratic deficits in health and environmental policy processes, such as the regulation of GM crops and foods. I go on to outline points of comparison between Habermas's critical theory and Foucault's concept of biopower, along with his related account of the interplay between power and knowledge, and outline the theoretical tools each theorist provides for assessing barriers to rational-critical debate. Finally, I use these insights to analyze the barriers to rational-critical debate in the public sphere regarding the regulation of GM crops and foods in Canada.

I advance and defend three main claims. First, Habermas's analysis provides a normative basis for identifying certain power relations as illegitimate for how they impede the circulation of information and opinions in the public sphere, as well as the development of forums for rational-critical debate. Second, Foucault's concept of biopower draws attention to more specific power mechanisms and knowledge claims that reinforce one another to perpetuate those illegitimate power relations, an ineffective circulation of information and opinions in the public sphere, and minimal forums for rational-critical debate. Third, upon examination of the regulation of GM crops and foods in Canada, I contend that while the attempts of civil society organizations to disseminate information and share various perspectives about GM crops and foods can foster some rational-critical debate, this avenue for democratic engagement will likely remain limited because of unequal power relations among citizens. The reinforcing effects between certain mechanisms of biopower and knowledge claims perpetuate these inequalities, which may have significant implications for citizens' ability to deliberate. Ultimately, I argue that the state must manage unequal power relations that affect the policy process so that meaningful democratic

politics, based on full engagement of citizens through substantive rational-critical debate about the issues that affect them, can occur.

Combining Insights From Habermas and Foucault

Given the theoretical disputes between Habermas and Foucault and ongoing debates about the compatibility of their respective critical perspectives, I will begin by explaining how my present effort to combine their approaches builds off of the literature that compares their work. The critiques that Habermas and Foucault have advanced against each other's work provide an important starting point for clarifying their differences. Habermas has recognized the utility of Foucault's empirical analyses of society for democratic theory, but has also charged him with cryptonormativism and has suggested that his critique of power is potentially self-refuting if critique itself is just another form of power (Hanssen 2004, 293; Kelly 1994, 5-6, 9). While Foucault acknowledged that insights from the Frankfurt School would have been useful starting points in the early development of his own theory, he criticized Habermas's transcendentalism and rejected the normative grid he understood critical theorists to be applying to his own critical project (Foucault 1994, 117; Hanssen 2004, 285, 294; Kelly 1994, 7). Thus while Habermas and Foucault have identified aspects of each other's work as useful in addressing the problems of modernity, there were serious differences between them that must be worked through in any approach that combines elements of each for addressing democratic deficits in modern societies.

Other theorists have addressed the differences between Habermas and Foucault to illustrate how their approaches might complement one another. For instance, Flyvbjerg argues that Foucault's analysis of the dynamics of power in modern societies and Habermas's normative criteria for a democratic process, taken together, are useful for addressing "the question of democracy and civil society" (1998, 210, 228). McCarthy notes that Foucault's focus on "transformable singularities" and historical contexts challenges critical theorists to detranscendentalize "their guiding conceptions of reason, truth, and freedom" (1994, 272-273).

Furthermore, Hanssen argues that the impasse that critical theorists and poststructuralists often perceive between each other's approaches are due more to "reciprocal misreadings and misunderstandings" than irreconcilable differences, and that this is especially the case between Foucault and Habermas (2004, 284-285, 295, 306).¹ I agree that the approaches of Foucault and Habermas complement on another when applied to issues of democratic engagement and defend this line of thought with a specific focus on how Foucault's concept of biopower and Habermas's analysis of the democratic public sphere, taken together, elucidate barriers to rational-critical debate regarding health and environmental policy issues. While several theorists have compared the approaches of Habermas and Foucault in general, I show how a focus on particular concepts helps to clarify which aspects of each approach are suitable for addressing particular kinds of democratic deficits in a specific policy area. As such I offer insight into more specific ways that the approaches of Habermas and Foucault can be fruitfully combined to analyze democratic deficits in modern societies.²

While my concerns are largely theoretical, I also understand my analysis as building off of the scholarly literature on biotechnology in Canada. While Magnan (2006) and Andrée (2002, 2007) have applied Habermas's analysis of the democratic public sphere and Foucault's concept of biopower, respectively, to the regulation of GM crops and foods in Canada, there are few if any studies that systematically combine insights from Habermas and Foucault to analyze the controversies in Canada over GM products. I show how combining insights from these two theorists can help to clarify the kinds of barriers to democratic engagement at work in the

¹ While Hanssen (2004) focuses on Foucault's later work to make her argument, I will show that Foucault's earlier work also shares common ground with Habermas's critical theory. In addition, I classify Foucault as a poststructuralist, as does Hanssen, for the purposes of this paper, even though Foucault himself rejected both poststructuralism and postmodernism as classifications for his work (Foucault 1994, 112-114, 124-125; Hanssen 2004, 285).

² This analysis may also have important implications for considering the compatibility of Critical Theory and poststructuralism more generally.

regulation of GM crops and foods in Canada. I will now lay the groundwork for combining insights from Habermas's critical theory and Foucault's concept of biopower.

Habermas's Analysis of the Democratic Public Sphere

In this section I contextualize and explain Habermas's analysis of structural changes to the public sphere. I draw on other aspects of his broader critical theory and explain why my focus on rational-critical debate in the public sphere is appropriate for addressing democratic deficits in modern societies. I then examine Habermas's explanation for the decline of rational-critical debate in the public sphere in order to develop a basis for assessing barriers to rational-critical debate and for comparing Habermas's work with Foucault's concept of biopower.

Rational-Critical Debate in the Public Sphere and Habermas's Critical Theory

Habermas's analysis of structural changes to the public sphere can be understood as part of a broader Critical Theory approach based on the "emancipatory potential" of intersubjective communicative processes (Calhoun 1992, 4-6). In *The Structural Transformation of the Public Sphere*, Habermas focuses on the "institutional construction of a public sphere as the basis for democratic will formation" and analyzes the historical development and deterioration of rational-critical debate in the public sphere from the 17th century to the mid-20th century (Calhoun 1992, 1-3, 31). His focus then shifted to the "transhistorical capacity of human communication" more generally (Calhoun 1992, 31). This led him to develop the concept of communicative action: a mode of social integration (the development of relationships between social groups) whereby subjects "seek to reach an understanding" about a given situation and their plans for action so that they can agree on coordinated actions (Habermas [1981] 1984, 86; [1992] 1996, 18, 42). The ideal is that participants would come to an agreement not through coercion but through communicative rationality: a form of argumentation through which "participants thematize contested validity claims and attempt to vindicate or criticize them" (Habermas [1981] 1984, 18). Habermas later developed several procedural requirements for ideal discourse as well as a more

comprehensive model for deliberative democracy (Chambers 2004, 230-232). Overall, his concept of communicative action can be understood as elucidating the kind of rational-critical debate that can and should occur in the public sphere, while his later model of deliberative democracy establishes the legitimating role of deliberation in the public sphere for decision-making in state apparatuses. I therefore consider his work that follows *The Structural Transformation of the Public Sphere* as a critical extension of his socio-historical analysis of the public sphere.

This suggests that reference to parts of Habermas's later work may complete his analysis of structural changes to the public sphere and help to develop useful theoretical tools for my own analysis. For the purposes of this paper I will focus on identifying the conditions that may inhibit rational-critical debate in the public sphere, as opposed to how rational-critical debate might influence policy directly or more specific procedural requirements for deliberation among citizens. Furthermore, I will not focus on the idea of consensus-formation, for which Habermas has been criticized, because of the potential for significant ethical and cultural differences to surface in the process of deliberation (Bohman 1996, 206). Finally, I use the term "rational-critical debate" to refer to informed argumentation aimed at mutual understanding that challenges the status quo.

Having contextualized Habermas's analysis of structural changes to the public sphere, I will now justify my focus on rational-critical debate in the public sphere with an explanation of its role in upholding democracy. For present purposes I will define democracy with Dahl's five criteria for a democratic process and will begin by outlining these five criteria, taking the value of each as a given. First, "effective participation" is achieved if each citizen has an adequate and equal opportunity to place questions on the agenda for collective decision-making and express

reasons for favouring certain outcomes over others (Dahl 1989, 109). Second, “voting equality at the decisive stage” is maintained if each citizen has an equal opportunity “to express a choice that will be counted as equal in weight to the choice expressed by any other citizen” and that only these choices are considered when collective decisions are made (Dahl 1989, 109). Third, “enlightened understanding” is achieved if each citizen has adequate and equal opportunities to understand the implications of collective decisions and outcomes for his or her interests and the interests of all other citizens (Dahl 1989, 108, 111-112). Fourth, the collective of citizens (the demos) maintains “control of the agenda” if it has “the exclusive opportunity” to choose what it is qualified to “decide for itself,” as well as the terms under which it delegates authority (Dahl 1989, 113-114). Finally, “inclusion” is achieved if “all adult members of the association except transients and persons proved to be mentally defective” are included in the demos (Dahl 1989, 129). Fulfillment of one criterion, moreover, can aid in achieving others. For instance, effective participation and enlightened understanding can help citizens to make informed judgments about policy outcomes. This can bring more meaning to their votes and enhance their ability to control the agenda. In addition, inclusion of a wide range of citizens can enrich processes for reaching enlightened understanding and democratic participation, which can lead to more informed votes and enlightened control of the agenda as well.

A focus on rational-critical debate in the public sphere, then, is justified from a democratic standpoint because of how rational-critical debate contributes directly to some of these criteria and indirectly to others. Since rational-critical debate requires interlocutors to hear and assess each other’s validity claims with reason-giving, it encourages citizens to confront opinions other than their own and truly understand both their own positions and those of others. It is therefore a necessary condition for citizens to understand the reasoning behind policies and then perhaps

agree with or criticize those policies. That is, it contributes to enlightened understanding.³ It also provides an opportunity for democratic participation because it allows citizens to voice their opinions about matters that bear on collective decisions.

A focus on the public sphere as the locus for rational-critical debate is also useful for critiquing democratic deficits in modern societies. Habermas defines the public sphere as “a network for communicating information and points of view” characterized by “informal, highly differentiated and cross-linked channels of communication” as well as “open, permeable, and shifting horizons” ([1992] 1996, 355-356, 360). That is, the public sphere is potentially porous enough to allow for a wide range of citizens to consider a wide variety of concerns voiced through the private organizations of civil society, as well as information from the state, about policies relevant to private life (Habermas [1992] 1996, 359-360). It is therefore a social space that can provide plentiful resources for rational-critical debate and enhance inclusion, effective participation, and enlightened understanding. It can also serve as a link between the “lifeworld” (the “background convictions” of a social group that provide “situation definitions that are presupposed by participants” in communication) and the political system (all institutions and activities that engage the state such as parliamentary bodies and elections) (Habermas [1981] 1984, 70-72; [1992] 1996, 334-335, 354-355, 373). While collective decisions are not made in the public sphere because the political system alone is “specialized for collectively binding decisions,” citizens can identify and magnify social problems in the public sphere, a process that can then pressure policy-makers to consider public opinion (Habermas [1992] 1996, 300, 359-360, 380, 385). This would allow citizens to influence the agenda and the policy process.

Overall, since rational-critical debate in the public sphere can contribute to fulfilling Dahl’s five

³ Rational-critical debate is not, however, a sufficient condition for enlightened understanding given the role of power in the dissemination of information and in forming the public agenda, which I will address in subsequent sections.

criteria for a democratic process, a deficiency in rational-critical debate or defects in the public sphere indicate a potentially significant democratic deficit in any policy process, including health and environmental policy processes more specifically.

Barriers to Rational-Critical Debate in the Public Sphere

Having justified a focus on rational-critical debate in the public sphere, I will now outline Habermas's socio-historical analysis of structural changes to the public sphere in order to uncover some specific barriers to rational-critical debate. Habermas argues that meaningful rational-critical debate occurred in the bourgeois public sphere amongst a number of educated, property-owning citizens who reflected on the needs of society, especially regarding commodity exchange and social labour (Habermas [1962] 1989, 27, 85). Since the state, at the time, had not yet taken an active role in these potential policy areas, the bourgeois public sphere represented a social sphere that was independent from the state (Habermas [1962] 1989, 73-74). These conditions changed as it became exceedingly difficult to bracket economic and social inequalities from discussion in the public sphere (Habermas [1962] 1989, 85-88, 127-128, 144-146).⁴ Not only did these inequalities grow with the advent of monopolies and large corporations, but disadvantaged members of society also began to assert their interests in the public sphere (Calhoun 1992, 21-22). As Eley notes, "the positive values of the liberal public sphere quickly acquired broader democratic resonance, with the resulting emergence of impressive popular movements" consisting of the peasantry and the working class striving for democratic inclusion (1992, 304-305). As they began to assert their interests in the public sphere, these disadvantaged groups demanded protection from the technical dysfunctions of the market in the form of social

⁴ Habermas controversially describes this as the beginning of the blurring of the public and private realms and defines "private" as the realm of commodity exchange and social labour ([1962] 1989, 30, 141-142). I do not focus on critiquing his distinction between public and private realms because, as my subsequent analysis suggests, it does not bear directly on barriers to rational-critical debate.

rights such that discussion “shifted from rational-critical debate to negotiation” (Calhoun 1992, 21-22).

Circumstances became increasingly unfavourable to rational-critical debate when, in response to demands for social rights and the need to address the technical dysfunctions of the market, the state began to intervene in the areas of commodity exchange and social labour (Habermas [1962] 1989, 141-142; [1968, 1969] 1970, 100-101). Corporate bodies then took on public functions as they also began to assert their interests in the public sphere (Habermas [1962] 1989, 141-142). As they continued to assume one another’s roles, self-interested corporations and a state increasingly occupied with technical dysfunctions of the market, as opposed to normative problems whose resolution requires public discussion, would be easily motivated to neglect sharing information and consulting with the public (Habermas [1968, 1969] 1970, 102-103). Thus the public sphere could easily become obsolete as the link between the political system and the lifeworld.

Habermas’s analysis suggests that the public sphere has indeed become somewhat obsolete and inhospitable to rational-critical debate, although improvement is possible under certain conditions. He argues that policy-making now involves bureaucracies, special interest groups, parties, and the public administration who all seek acquiescence from the public, while the public sphere has become a “pseudo-public or sham-private world of [individualistic] culture consumption” (Habermas [1962] 1989, 160, 175-178). Thus the public is manipulated into agreeing with certain opinions and “manipulative publicity” is at work (Habermas [1962] 1989 177-178, 236-237, 246-248). The problem here is a deficiency in meaningful information and opinions pertaining to specific policy issues circulating in the public sphere. Rational-critical debate can only re-emerge, Habermas contends, with the intra-democratization of private

organizations and organs of the state (Habermas [1962] 1989, 208-210). This would entail their subjection to “critical publicity”: the exposure of their internal affairs and private opinions to debate in intra-organizational public spheres (Habermas [1962] 1989, 236-237, 248-250). The media could contribute, moreover, if it were to “presuppose, demand, and reinforce” the public’s critical capacities by disseminating information and making citizens’ concerns widely known (Habermas [1992] 1996, 377-379). Rational-critical debate therefore depends on citizens’ access to meaningful information and opinions about policy issues, as well as to social spaces or forums where discussion is encouraged.

In summary, Habermas’s analysis provides several indicators of the quality of rational-critical debate in the public sphere. To begin, the circulation of meaningful information and opinions about policy issues, along with the existence of accessible social spaces where discussion is encouraged, can be understood as the two basic conditions that enable citizens to engage in rational-critical debate if they so choose. Habermas’s analysis also brings to light more specific conditions that hinder the achievement of these two basic criteria. These more specific conditions include neglect on the part of private corporations and the state to consult with the public as they assume one another’s roles, the media’s neglect to facilitate communication between private organizations, the state, and citizens, and the unwillingness or inability of the state and private organizations to foster forums for rational-critical debate. I will now compare the analyses of Habermas and Foucault to elucidate additional barriers to rational-critical debate in the public sphere.

Habermas's Critical Theory and Biopower: Points of Comparison

In this section I explain how, with respect to health and environmental policy issues, the concept of biopower can supplement an interpretive approach based on Habermas's analysis of the democratic public sphere. Since biopower emanates from Foucault's basic understanding of the interplay between power and knowledge, and since power and knowledge are also important concepts in Habermas's analysis of the democratic public sphere, I compare each theorist's understanding of these concepts in addition to explaining how biopower can illuminate barriers to rational-critical debate.⁵ I begin by introducing the concept of biopower and explaining how it relates to health and environmental policy issues. I then compare each theorist's understanding of power and knowledge and explain how the concept of biopower can supplement Habermas's approach. I will conclude with an overview of the complementary theoretical insights that Habermas and Foucault offer for assessing barriers to rational-critical debate in the public sphere regarding health and environmental policy issues.

Biopower: An Introduction

To begin, Foucault depicts biopower as a specific instance of power that emerged when the human species became an object of political strategies. Indeed, technologies of power centered on biological life arose in the 17th century when governing "the economic and political body of a society that was undergoing both demographic explosion and industrialization" became increasingly difficult through the exercise of sovereign power alone (Foucault [1997] 2003, 241-242, 249-250). While this "power over life" initially took the form of disciplinary power (techniques focused on individual bodies), biopower developed in the mid- to late 18th century as its second pole, integrated and modified existing disciplinary techniques, and was focused on

⁵ I focus on Foucault's conception of power as elaborated in the 1970s, when he conceptualized power as diffuse and focused on its relation to social structures (McCarthy 1994, 268, 272).

“the [human] species body” (Foucault [1976] 1990, 139-140; [1997] 2003, 241-243). Indeed, biopower centers on biological processes at the level of the population including “propagation, birth and mortality, the level of health, life expectancy and longevity, with all the conditions that can cause these to vary” (Foucault [1976] 1990, 139). Among these conditions are elements directly necessary for human survival, such as food supply, as well as the relationship between “human beings [...] and their environment” (Foucault [1997] 2003, 243-246). Understood as concerned with the “biological health” of the population, then, the concept of biopower is tailored to analyzing health and environmental policy processes that bear on the physical well-being of the population, as opposed to Habermas’s approach, which can be applied to any policy area.⁶ The regulation of GM crops and foods, moreover, is a suitable example of a health and environmental policy process. Indeed, GM products affect the environment in which humans live, as well as the food supply either directly as products of consumption or through cross-pollination with plants destined for consumption.

There are, however, several points of clarification regarding the concept of biopower that bear on the analysis to follow. The first is the definition of the “population.” While the “population” can be generally understood as the object of biopower and “a global mass” affected by “overall processes characteristic of birth, death, production, illness” and the like, its more specific characteristics can change depending on the context, time frame, and who is harnessing mechanisms of biopower (Foucault [1997] 2003, 242-243; [2004] 2009, 70-71, 79, 365-366). For instance, in the late 18th century, the state understood the population as the mass of individuals who adapted and conformed “to the new economic order” whereas “the people,” in contrast,

⁶ While the concept of biopower can be interpreted so that it applies to any policy area that bears on the health of the population in general, I interpret it as applying most to policies that bear on the physical well-being of the population, since Foucault’s analysis itself focuses on mechanisms of biopower that bear on the physical health of the population.

were understood as those who repudiated this economic order instead (Foucault [2004] 2009, 42-44). Foucault evokes here the idea of the “norm”: a benchmark that expresses the most favourable average or normal state of the population and the point at which disciplinary power and biopower intersect (Foucault [1997] 2003, 252-253; [2004] 2009, 62-63). Thus actors who make use of mechanisms of biopower may conceptualize the “norm” in a certain way and understand the population as those capable of living within the “normal” range. The population that I will be concerned with is the national population of Canada, and, more specifically, all those that may be affected by the regulation of GM crops and foods. This is related to the concern of both Habermas and Dahl that the interests of all those affected by a collective decision be taken into account (Dahl 1989, 306; Habermas [1992] 1996, 157-162). Thus the notion that all those affected by the regulation of GM crops and foods constitute the relevant population is suitable for assessing democratic engagement in the regulatory process. I will, furthermore, use Foucault’s insight to note the kind of “norm” certain actors may seek to impose on the population.

The second and third points of clarification relate to the use of the term “biopower.” Rabinow and Rose address the applicability of the concept through time when they note that Foucault’s concept of biopower is not “trans-historical or metaphoric” but is rather “grounded in historical, or genealogical, analysis” (2006, 199). This implies that interpretations of biopower have likely changed through time and that its exercise is likely different in the 21st century than it would have been when it emerged in the 18th century. I therefore suggest that something like Foucault’s concept of biopower is at work in the regulation of GM crops and foods in Canada. There is also the differentiation between “biopower” and “biopolitics.” Foucault defines biopolitics as “the attempt [...] to rationalize the problems posed to governmental practice by

phenomena characteristic of a set of living beings forming a population” ([2004] 2010, 317).

That is, biopolitics is the attempt to harness biopower through a certain set of mechanisms to address problems emanating from the population. Thus biopolitics may be distinguished from the power - biopower - that circulates through its mechanisms.

Habermas and Foucault on Power and Knowledge

Having introduced the concept of biopower, I will now compare each theorist’s understanding of the links between power and knowledge, starting with power and then explaining how knowledge is related to it. Habermas categorizes various exercises of power based on their institutional context. He conceptualizes political power as presupposed by law and exercised by the state (Habermas [1992] 1996, 134, 141-142). While it always involves administrative power (“sanctioning, organizing, and executive functions”) at its end point, it may involve either “communicative” or “social” power at its genesis (Habermas [1992] 1996, 149-150, 170-175). Communicative power is generated when public influence, developed from rational-critical debate in the public sphere, passes “through the filters of the institutionalized *procedures* of democratic opinion-and-will formation and enters through parliamentary debates into legitimate lawmaking” (Habermas [1992] 1996, 170-176, 371-372). Thus ideally, administrative power results from a “change in aggregate condition” in communicative power through the medium of law (Habermas [1992] 1996, 149-150). The less than ideal alternative would be when social power, which Habermas defines as “a measure for the possibilities an actor has in social relationships to assert his own will and interests, even against the opposition of others,” is directly converted into administrative power and bypasses the communicative stage (Habermas [1992] 1996, 150, 174-176). But social power is neither detrimental nor beneficial in and of itself, since it can “facilitate and restrict the formation of communicative power”

(Habermas [1992] 1996, 175). If inequalities in social power are managed correctly, “the necessary material conditions for an autonomous exercise of equal liberties and communicative freedoms” is met, while if they are managed incorrectly, some parties have “a privileged opportunity to influence the political process” to suit their interests (Habermas [1992] 1996, 150, 175). Thus insofar as equal liberties and communicative freedoms facilitate rational-critical debate, inequalities in social power must be managed properly to foster rational-critical debate as well as the development and exercise of communicative power more generally. Overall, these categorizations draw attention to how certain exercises of power should be scrutinized for their tendency to promote or preclude rational-critical debate.

Foucault’s concept of power shares some affinities with that of Habermas. The most important similarity for my purposes is that both theorists understand members of society as capable of countering the power exercised by the state. On Habermas’s account, the engagement of citizens in rational-critical debate contributes to the formation of communicative power that can then influence the political system ([1992] 1996, 371-372). Foucault notes that while power relations may be unequal for power to be exercised “from above to below” in the first place, “there has to be a capillary from below to above at the same time,” such that individuals can engage in acts of resistance under certain conditions (1980, 141-142, 200-201).⁷ Thus both Habermas and Foucault provide concepts for understanding how citizens can resist acts of power that preclude rational-critical debate. They therefore call attention to the potential role of citizens in changing the conditions for rational-critical debate in the public sphere.

⁷ As Pickett notes, Foucault’s notion of resistance is somewhat unclear as presented in his writing (1996). Broadly speaking, resistance can be understood as the “adversary” of power, that which escapes power, and as a force that can both make use of the techniques of power and serve as a resource for power (Pickett 1996, 457-459). For my purposes, I understand “resistance” as referring to the potential among citizens to act against the power that larger organizations or bodies (such as the state) have harnessed. It is also important to note that fulfilling this potential for resistance depends on citizens’ ability and motivation to take advantage of it.

The most significant difference between their understandings of power lies in how they each conceptualize power in relation to the political system. While Foucault issues a call to “cut off the head of the king” in political analysis and to cease conceptualizing power as existing only in law and sovereignty, Habermas argues that sovereignty is required “for the regulation of power by law” and emphasizes the importance of tracing how power is exercised through law to understand the democratic process (Flyvbjerg 1998, 214). Furthermore, Habermas contends that citizens can only exert influence (not power) in the public sphere, which is then taken up in political institutions as it is transformed into communicative power ([1992] 1996, 371-372). Conversely, Foucault understands power as always circulating outside of the political system as well, since many relations of power “permeate, characterize and constitute the social body” and exist amongst members of society who are both vehicles and targets of power (1980, 59-60, 93, 98, 122). The question thus arises: what exactly is the difference between “influence” and “power” for Habermas? Is social power, which can operate outside of the political system, akin to “influence”? Since “influence” and “social power” involve the capacity to affect change or accomplish certain objectives, the difference between the two is likely more semantic than substantial. Thus for present purposes I understand power as the capacity to accomplish any kind of action, which is compatible with both Foucault’s understanding of power as circulating throughout the social body and Habermas’s focus on the flow of power through the political system.

Foucault’s understanding of power permeating the social body beyond state institutions also prompts attention to a wide variety of “technologies” or “mechanisms” of power, which I understand as apparatuses used to produce certain effects (1980, 99). These mechanisms can range from more general mechanisms, such as a system of law, to more specific mechanisms,

such as surveillance or social conventions (Foucault 1980, 99-101). Analyses of power mechanisms that span this range can therefore elucidate “the subtle fashion in which more general power or economic interests” can engage with the “infinitesimal” technologies of power (Foucault 1980, 99). The interventions and regulatory controls involved in the exercise of biopower more specifically include “campaigns” meant to bring about “changes in attitudes, ways of doing things, and ways of living” as well as “insurance, individual and collective savings” and “safety measures” (Foucault [1997] 2003, 244; [2004] 2009, 365-366).

Furthermore, these mechanisms are designed to secure an “equilibrium” or “homeostasis” and to “optimize a state of life” in the population - that is, to uphold the “norm” (Foucault [1997] 2003, 246-247, 252-253). Attention to these specific mechanisms of biopower can certainly illuminate different aspects of health and environmental policies beyond official regulation rules that may impact citizens’ ability to engage in rational-critical debate about those policies.

Having compared Foucault and Habermas’s understandings of power, I will now compare their understandings of how power, including biopower for Foucault, is connected to knowledge. Habermas explains that knowledge is “required for political supervision and steering” and thus for the exercise of administrative power, but that the administration must draw that knowledge from experts ([1968, 1969] 1970, 79-80; [1992] 1996, 372-373). He also states that citizens need access to expert knowledge claims, as well as translations of those claims into ordinary language, to engage in rational-critical debate about the social and cultural implications of various technical problems (Habermas [1968, 1969] 1970, 74-76, 78-80, 118-119; [1992] 1996, 372-373). That is, expert knowledge claims can be understood as part of the information that must circulate in the public sphere for citizens to understand the technical problems that face society and to make informed arguments in rational-critical debate about them. There is, however, an

undemocratic tendency for specialized knowledge to be used directly for policy development in state bureaucracies instead of being disseminated to the public at large (Habermas [1968, 1969] 1970, 75-76, 79-80). The state's tendency, as noted previously, to focus on the technical problems of the market without addressing their sociocultural implications, which would require public engagement, as well as the difficulty of translating expert knowledge claims in general both facilitate this undemocratic tendency (Habermas [1968, 1969] 1970, 76-80, 102-103). Thus the "specialization of large-scale research" and the "bureaucratized apparatus of power" within the state can reinforce one another to preclude the public from exercising political influence (Habermas [1968, 1969] 1970, 79-80). Habermas therefore underscores how knowledge claims can circulate in more or less democratic ways and thus improve upon or worsen the conditions for rational-critical debate in the public sphere.

Foucault, on the other hand, focuses more on the reinforcing effects between certain power relations and the circulation of particular knowledge claims. He explains that "relations of power cannot themselves be established, consolidated nor implemented without the production, accumulation, circulation and functioning" of a discourse of truth (Foucault 1980, 93). Since, for Foucault, knowledge claims are communicated through discourses of truth, the exercise of power depends on knowledge production and circulation through discourses of truth (1980, 69-70, 93, 102, 131). But power also produces knowledge because mechanisms of power can simultaneously constitute "apparatuses of knowledge": mechanisms allowing for observation and the collection of information (Foucault 1980, 93, 102). Thus there is a constant mutual influence, embodied in discourses of truth, between exercises of power on the one hand and knowledge production and dissemination on the other. A discourse of truth, furthermore, can be understood as "both an instrument and an effect of power" as well as "a point of resistance" and starting

point for “reverse” discourses that propose alternatives to the dominant discourse (Foucault [1976] 1990, 100-102). Indeed, if truth is “a thing of this world” and produced through the effects of power, as Foucault contends, several competing discourses of truth that communicate different sets of knowledge claims and opinions can exist (1980, 131-133).

With regards to rational-critical debate, then, certain exercises of power can influence the specific knowledge claims and opinions that circulate in the public sphere and are available for citizens to draw upon. Those knowledge claims and opinions can then contribute to a discourse of truth that supports the exercises of power that put them into circulation in the first place such that the process can repeat itself. Furthermore, since each discourse of truth communicates only a sample of all possible knowledge claims and opinions about a given topic, citizens must at least be in a position to question and alter the dominant discourse of truth to engage in meaningful rational-critical debate. Foucault’s analysis therefore draws attention to how encouraging rational-critical debate requires, in addition to the dissemination and translation of expert knowledge claims, an examination of the particular knowledge claims circulating in the public sphere, the discourses of truth and hence perspectives on policy matters that they support, and the power relations that are both implicated in producing and are upheld by those discourses. That is, Foucault’s analysis draws attention to how it is through the circulation of particular discourses of truth that certain exercises of power may detract from rational-critical debate.

The reinforcing effects between biopower and claims about what is “normal” or “healthy” for the population are a more specific example of the reinforcing effects between power and knowledge and can affect rational-critical debate. Biopolitics is said to “derive its knowledge” from statistics such as the birth rate and mortality rate (Foucault [1997] 2003, 245). These inputs can serve to develop the “norm” that then informs further exercises of biopower through

discourses of truth and other mechanisms, which can then reinforce the “norm”.⁸ The “norm” may also be supported by certain disciplinary mechanisms, since biopower integrates mechanisms of disciplinary power (Foucault [1997] 2003, 242-243, 250-253). Examining how the body processes food in order to develop food regulation policies, for instance, is at once disciplinary and biopolitical because it involves studying the human body to implement regulations aimed at the population. Thus the concept of biopower draws attention to a wide variety of specific power mechanisms potentially at work in health and environmental policy processes that can hinder rational-critical debate. They can do so directly or indirectly if they support a “norm” that justifies the use of other power mechanisms and discourses of truth that detract from rational-critical debate.

Biopower’s relation to the capitalist market is a final factor that is compatible with and enhances Habermas’s critique of corporate influence on the political system. Not only was biopower born into a system of liberal capitalism, but its objects are directly related to the workings of the market as well (Foucault [2004] 2009, 345; [2004] 2010, 317, 320-321). For instance, the population provides producers and consumers that feed into the capitalist system, while resources necessary to sustain the population are produced and distributed through the capitalist system. This suggests that the state might be interested in controlling elements of the market while corporations might be interested in harnessing biopower to secure a producer and consumer base. Indeed, Rabinow and Rose note that non-state bodies can and have been involved in “biopolitical struggles” (2006, 202-203). Overall, this elucidates more specific reasons for why and in what ways corporate bodies might assume roles of the state and vice

⁸ An important point of clarification is how the “norm” can be understood in relation to discourses of truth and a society’s overall “regime of truth,” defined as “the types of discourses which it accepts and makes function as true” (Foucault 1980, 131). As an idea of “what is healthy” for the population, the “norm” can contribute to the greater “regime of truth” on the one hand, but is supported by various discourses of truth, which privilege certain knowledge claims, on the other.

versa in health and environmental policy processes, which may lead to worsening the conditions for rational-critical debate in the public sphere.

Insights for Analyzing Barriers to Rational-Critical Debate in the Public Sphere

Overall, Habermas's analysis of the democratic public sphere and Foucault's concept of biopower provide some similar and dissimilar insights for assessing barriers to rational-critical debate about health and environmental policies in the public sphere. Both encourage attention to the use of knowledge in the exercise of power, the potential exclusion of the public from political influence on the part of corporations and the state, and the potential for citizens to resist that exclusion. Habermas's analysis in particular provides a starting point for focusing on the public sphere as the locus for rational-critical debate, as well as certain institutions (such as the state and the media) and actors who may be involved in hindering rational-critical debate. It also provides a normative basis for critiquing policy processes in democratic societies because it implies that if the value of democracy is taken as a given, rational-critical debate should be encouraged among citizens in the public sphere. This encourages attention to how certain exercises of power may be more or less legitimate depending on whether they facilitate the circulation of a variety of information and opinions, as well as the development of forums for rational critical debate, in the public sphere. Foucault's concept of biopower provides a complementary starting point for focusing on particular mechanisms of power and knowledge claims that are likely related to health and environmental policies. His analysis also details how these particular power mechanisms and knowledge claims can systematically reinforce one another such that the variety of information and perspectives circulating in the public sphere remains limited through time. Taken together, these insights constitute points of focus for

assessing the potential for rational-critical debate in the public sphere regarding health and environmental policy issues such as the regulation of GM crops and foods.

Rational-Critical Debate and the Regulation of GM Crops and Foods

I will now use the insights of Habermas and Foucault to assess the barriers to rational-critical debate among citizens in the Canadian public sphere regarding the regulation of GM crops and foods. I will begin by explaining Canada's regulatory framework for biotechnology products and then outline citizens' engagement with the regulatory process with a focus on events from the year 2000 onwards. I will then analyze this engagement with Habermas's insights about the democratic public sphere and Foucault's concept of biopower to identify specific barriers to rational-critical debate among Canadians regarding GM crops and foods.

The Regulation of GM Crops and Foods in Canada

Genetically modified organisms (GMOs), henceforth understood as “organisms whose DNA has been purposefully altered in a way that does not occur naturally by mating or natural recombination,” have been a source of controversy since their initial development in the 1980s (Andrée 2007, 1-2). Since then, two approaches to biotechnology, defined as a technology that uses biological systems and living organisms to make new products, and of which genetic modification is an example, have dominated discussion (United Nations, Treaty Section 1992, 3). One, characterized by substantial risk tolerance, is based on the belief that any harms potentially stemming from GMOs “are easily characterized and calculated” and that hazards associated with GMOs are “easily managed,” while the other is based on the precautionary principle, which states that these hazards are not, in fact, “necessarily easily understood and managed” at all (Andrée 2007, 10). The precautionary principle in particular originates from a German concept that “expresses the belief that society should seek to avoid environmental problems by careful forward-looking planning that blocks the flow of potentially harmful activities” and evolved predominantly in the European Union throughout the 1990s, although “elements of a

precautionary approach” can be found in some North American environmental laws (Andrée 2007, 5). The precautionary principle was enshrined, moreover, in the UN Cartagena Protocol on Biosafety, an international treaty that governs the trade of living GMOs, which Canada has signed but has not yet ratified (Andrée 2007, 3, 5-6, 271; United Nations Environment Programme, Secretariat of the Convention on Biological Diversity 2013, 1).

In fact, the regulation of GM crops and foods in Canada does not fully embrace the precautionary ethos of the Cartagena Protocol mainly because it is centered on the traits of specific products rather than the process through which they are developed. Since the introduction of the Federal Regulatory Framework for Biotechnology in 1993, GM foods have been classified as “novel foods” and GM crops have been classified as “plants with novel traits” (PNTs), along with plants and foods developed using other means (Peekhaus 2013, 19-20). The assessment of “novel foods,” defined as foods that “have never been used as a food,” are developed through “a process not previously used for food,” or “have been modified by genetic manipulation,” is centered on the particular components of those foods (Canada, Health Canada 2008). So too is the assessment of PNTs: plants containing traits that are “new to the Canadian environment” and have “the potential to affect the specific use and safety of the plant with respect to the environment and human health” (Canada, Canadian Food Inspection Agency 2013). Thus the process of genetic modification itself is not considered important in determining the safety of GM products. Rather, these classifications rest on the assumption that genetic manipulation only produces changes in an organism that are “directly attributable to the novel gene” (Peekhaus 2013, 159-160). Thus a GM product can be deemed “familiar” and “substantially equivalent” to its traditional counterpart already grown and consumed in Canada and is approved once evidence suggests that its novel gene poses no unmanageable risks (Andrée

2007, 94-95; Peekhaus 2013, 159-160). Given mounting evidence of “the imprecision of genetic engineering techniques,” working off of the 1993 framework arguably involves accepting significant risk, as does following subsequent policies that build off of the 1993 framework, such as the 1998 Canadian Biotechnology Strategy (CBS) and the voluntary labeling strategy for GM foods adopted in 2003 (Peekhaus 2013, 20-23, 104-105).

Democratic Engagement and the Regulatory Process

Having contextualized Canada’s regulatory framework for GM crops and foods, I can now outline in broad terms the opportunities for democratic engagement in the regulatory process. I will outline three broad indicators of democratic engagement, the first of which is the government’s efforts to sponsor forums for rational-critical debate in the development and revision of the regulatory framework. A notable example is the Canadian Biotechnology Advisory Committee (CBAC), which was launched in 1999 to facilitate a “national conversation” about biotechnology and advise the government on biotechnology policies (Magnan 2006, 35-36). It hosted a review of the regulatory framework between 1999 and 2003 in response to consumer concern regarding GM foods (Magnan 2006, 35-36). Biotechnology advocates, however, were over-represented since 12 committee members represented the biotech industry and advocacy, only six members represented other academic disciplines, one represented consumer advocacy, and three were drawn from the public at large (Magnan 2006, 37-38). Magnan has also noted that debates were framed from the outset around questions of how to improve upon the regulation strategies already in use instead of being open-ended about the desirability of GMOs in the first place (2006, 39-42). Overall, CBAC’s final 2002 report supported the standing regulatory regime (Magnan 2006, 44-45). This potential forum for rational-critical debate, moreover, was closed off to the public in 2007 when CBAC was

amalgamated with two other bodies into an advisory council that does not include members of the public (Canada, Industry Canada, Science and Innovation Sector 2007, 86-88). Thus the Canadian government has sponsored few meaningful forums for rational-critical debate regarding GM crops and foods amongst members of the public.

A second indicator of democratic engagement is the degree to which information about the approval of particular GM crops and foods is currently made available to the public at large. At both the Canadian Food Inspection Agency (CFIA) and Health Canada, the government departments involved in the regulation of PNTs and novel foods, respectively, roughly ten scientists use information provided by applicants (biotechnology companies) as well as “extensive published peer-reviewed scientific and technical literature” and “expert reports and international guidance documents” to assess the safety of GM crops and foods (Doern and Prince 2012, 122-123). That is, there is no explicit place for third parties, such as environmental and consumer groups, to witness and then foster discussion about the assessments that scientists at Health Canada and the CFIA conduct. There is, moreover, no public notice of confined research field trial sites approved by the CFIA (Doern and Prince 2012, 129). This hinders the ability of citizens to voice their opinions about GM products in the early stages of their development, as well as the desirability of testing sites in certain areas. The only information that is directly accessible to citizens is a list of approved PNTs and novel foods on each department’s website, as well as a list of proposed changes to biotechnology regulations in the *Canada Gazette* (Doern and Prince 2012, 115-117, 124, 130).⁹ Thus pertinent information about specific GM crops and

⁹ The *Canada Gazette* is the official newspaper of the Government of Canada, published since 1841 and available in most public libraries (Canada, Public Works and Government Services Canada, 2013). While Canadians can submit their comments for proposed regulations to the editors as a way of engaging in the policy process, there is no indication as to whether many Canadians read this newspaper or not (Canada, Public Works and Government Services Canada, 2013).

foods is not made readily available to citizens at large prior to their approval, which means there is less for citizens to draw upon to engage in rational-critical debate about GM crops and foods.

A third indicator of democratic engagement is the mobilization of civil society organizations (CSOs) around the issue of GM crops and foods in light of deficiencies in the regulatory process. Several CSOs criticize not only the current regulatory process, but the desirability of GMOs as well. For instance, the Canadian Biotechnology Action Network (CBAN) criticizes the government's lack of consideration of socio-economic factors, such as corporate control of seeds, in the regulatory process and argues that the process should be democratized so that the various implications of biotechnology can be further explored (Peekhaus 2013, 28-30). It pressures the government to be more transparent and accountable to citizens, conducts research to uncover potentially controversial government decisions, and provides information to Canadians by organizing public lectures and publishing information on its website (Peekhaus 2013, 29-31). A second example is Greenpeace. Its members are concerned about the environmental release of GM plants and focus in Canada on encouraging mandatory labeling of GM foods (Peekhaus 2013, 33-34). The organization even publishes a shopper's guide about GM foods that are sold in Canada (Peekhaus 2013, 107-108). Furthermore, farmers' organizations have voiced concerns about the implications of GM products for their industry. The National Farmers Union (NFU), for example, seeks to promote and preserve family farming "as a basic food production unit" in contrast to corporate farming by organizing campaigns, producing opposite-the editorial pieces for newspapers, and developing papers that discuss the implications of biotechnology (Peekhaus 2013, 35-36).

CSOs have also voiced concerns amidst controversy surrounding the introduction of specific GM plants into Canada. For instance, Greenpeace and the NFU organized an alliance of over 210

organizations against the introduction of Monsanto's GM wheat in 2001, which split into two camps the following year (Andrée and Sharatt 2009, 24). One camp, headed by the Canadian Wheat Board, focused on pressuring Monsanto to withdraw its application and raised concerns about the economic implications of GM wheat, while the other camp (headed by Greenpeace, the NFU, and the Council of Canadians) engaged with citizens by organizing town hall meetings as well as disseminating information in newspapers and online about the consequences of GM wheat for the economy, environment, consumers, and farmers (Andrée and Sharatt 2009, 24-25; Peekhaus 2013, 86-90). A more recent example is the response of CSOs to GM alfalfa. The Saskatchewan Organic Directorate launched a "no to GMO Alfalfa" campaign in 2009 and asked concerned groups to sign a petition, which had the support of 127 groups as of March 2012 (Peekhaus 2013, 101). Furthermore, CBAN and the Ontario branch of the NFU organized a day of action in April 2013 across Canada that resulted in 38 rallies outside of government and corporate offices (Canadian Biotechnology Action Network). Overall, the preceding summary suggests that members of various organizations have disseminated some information and opinions about the regulation of GM crops and foods in the public sphere and have fostered some forums for rational-critical debate on the subject, especially amidst controversy surrounding the introduction of certain GM products. Such activities have the potential to foster some meaningful rational-critical debate in the Canadian public sphere.

Whether these activities have actually encouraged the development of a significant public opinion about GM products and their regulation, however, is unclear. This uncertainty may stem from a lack of public opinion surveys, since the most recent information on the attitudes of Canadians towards GM crops and foods are studies conducted in the mid- to late-2000s (Manasan 2013). It may also stem from a real inability among citizens to engage in proper

deliberation and opinion-formation. A 2012 BC Grower's association survey indicated that 76% of Canadians "feel that the federal government hasn't given them enough information on GM foods" while 9% said they had "never even heard of GM foods" (Manasan 2013). This suggests that citizens do not feel adequately informed to deliberate about GM products, which speaks to how opportunities for rational-critical debate in the public sphere regarding the regulation of GM crops and foods are inconsistent at best. I will now draw upon the analyses of Habermas and Foucault to outline precisely which forces work against rational-critical debate in the public sphere regarding GM crops and foods in Canada.

Barriers to Rational-Critical Debate About GM Crops and Foods

Drawing on Habermas's approach to the democratic public sphere and Foucault's concept of biopower, I will now explain why rational-critical debate in the Canadian public sphere about GM crops and foods is limited. I will begin by unpacking Habermas's concept of social power in the context of the regulation of GM crops and foods. I will then use Foucault's concept of biopower to explain how social power is implicated in the circulation of certain discourses of truth and outline the reinforcing effects at work between knowledge claims and power relations in the regulatory process. This will elucidate how inequalities of social power that inhibit rational-critical debate tend to persist.

To begin, Habermas's concept of social power can be defined more clearly for the purposes of this section. If social power is understood as "a measure for the possibilities an actor has in social relationships to assert his own will and interests, even against the opposition of others" as noted previously, then social power must denote the possession of certain resources, in the form of wealth or otherwise (Habermas [1992] 1996, 175). If one group possesses more wealth and other resources than another group, then the former can typically leverage those resources to

assert certain interests in the political system and the public sphere. This can improve or detract from the variety of knowledge claims and opinions circulating in the public sphere and open or close off forums for rational-critical debate.

With these considerations about social power in mind, it is clear that several aspects of the regulatory process for GM crops and foods in Canada exemplify an ineffective management of inequalities of social power, which detracts from rational-critical debate. First, there is the fact that only biotechnology companies and government bureaucracies are directly involved in the approval of specific GM products and publish limited information only after those products have been approved. This is an example of how state bodies take over the function of private organizations and vice versa without communicating with citizens at large. It is made possible, furthermore, because biotechnology companies can typically harness their wealth and resources to lobby governments and influence political parties, as compared to CSOs that are unable to lobby effectively due to a lack of resources.¹⁰ That is, biotechnology companies have more social power than other organizations and can therefore influence the regulatory process so that it serves their interests, which arguably include sharing little information with the public and avoiding critical discussion about their products among citizens. Insofar as it aims to promote democracy, the government would ideally mitigate the effects of underlying inequalities of social power by including representatives from environmental and consumer groups in the regulatory process and sharing more information with the public. Instead, it seems to prioritize the interests of biotechnology companies, which closes off certain pieces of information from the public and therefore hinders rational-critical debate.

¹⁰ Dahl alludes to this danger in *On Democracy* when he observes how “the inequalities in resources that market-capitalism churns out produce serious political inequalities among citizens” ([1998] 2000, 178).

The CBAC review of the regulatory process is a second example of when inequalities of social power were not mitigated to facilitate rational-critical debate and the interests of already powerful corporations could prevail. Indeed, Magnan criticizes the disproportionate number of committee members that represented the biotech industry, as well as how questions about the best risk-management strategy dominated the agenda at the expense of allowing committee members to consider the desirability of GM products, for detracting from the quality of discussion possible in committee meetings (2006, 37, 39, 41-42). In this case, biotechnology proponents could have leveraged their social power to influence the agenda and be better represented on the committee. While this would not make it impossible for criticism of the standing regulatory process and GM products to emerge in debate, it would certainly render this forum less hospitable to those criticisms, and thus detract from any rational-critical debate that might have occurred amongst committee members. Thus the CBAC review of the regulatory process exemplifies how an ineffective management of inequalities of social power can hinder the development of forums available to citizens for meaningful rational-critical debate.

Despite this ineffective mitigation of inequalities of social power on the part of the state, the efforts of CSOs seem to have fostered some opportunities for rational-critical debate in the Canadian public sphere. The preceding outline of their activities suggests that CBAN, Greenpeace, and the NFU have enough resources to conduct some research, disseminate some information and opinions about GM crops and foods through various channels, and foster some forums for rational-critical debate. Their combined social power in the form of coalitions, moreover, likely allowed them to develop campaigns that might have raised some public awareness and fostered some forums for rational-critical debate about GM wheat and alfalfa.

Inequalities of social power, however, still limit what these CSOs can accomplish. Peekhaus notes that the most significant barrier to engagement with citizens, according to the leaders of CBAN and Greenpeace, is limited resources and funding (2013, 32, 34). This suggests that the ability of CSOs to disseminate information and opinions widely enough and organize forums for rational-critical debate that are accessible to a large portion of the public is limited because of their lack of social power. While they can certainly pool their social power through coalition building to garner more public attention, as in their opposition to GM wheat and alfalfa, such coalitions may be fragile and shift quickly. Thus consistent circulation of knowledge claims and perspectives about GM crops and foods in the public sphere and stable forums for rational-critical debate can only be achieved if other forces support the efforts of CSOs.

Unfortunately, the media outlets are unlikely to be reliable sources of support for CSOs. There is little evidence pertaining to the role of the media in disseminating information about the regulation of GM crops and foods in Canada besides the “substantial media attention” paid to the final report of CBAC, as well as the Royal Society of Canada’s 2001 report, which was critical of the standing regulatory process (Magnan 2006, 36). Furthermore, the overall trend in Canada’s mainstream media has been towards convergence, monopolies, and lack of choice for Canadians, as the Davey Commission (1969), Kent Commission (1980), and the Senate’s Bacon Report (2006) suggest (Canada, Library of Parliament, Parliamentary Research Branch 1999; Canada, Parliament, Senate, Standing Senate Committee on Transport and Communications 2006, 9). This arguably affects the variety of information and perspectives circulating in the public sphere, since profit, instead of a commitment to provide quality content, likely motivates what the corporate media decide to publish and broadcast. Furthermore, cutbacks to public media mean that they must rely on other sources of revenue, such as advertising, which can

compromise their “public service principles” (Kozolanka, Mazepa and Skinner 2012, 6). Overall, various media outlets may not be interested or able to disseminate a wide range of information and opinions about the regulation of GM crops and foods because of the influence of money.

Foucault’s concept of biopower encourages even more specific analysis of how social power is implicated in the circulation of discourses of truth and how it can continue to hinder the dissemination of information and opinions, as well as the development of forums for rational-critical debate, in the public sphere. To begin, scientists would have used disciplinary mechanisms to conduct studies on how the body digests food or how the body interacts with its environment. These studies would have then been interpreted in the production of a discourse of truth about how the specific components of plants and foods should be the focus of study and how GM crops and foods do not, therefore, differ substantially from other “novel” foods. Indeed, Andrée contends that the concepts of “novelty,” “familiarity,” and “substantial equivalence” used in the regulation of GM crops and foods support a technical discourse of manageable risk that is product-focused and stems from a belief that humans can have “predictable control and administration” over genes (2002, 169, 177-181). This discourse is related to biopower in particular because of how it expresses opinions about what is considered healthy and safe for the population. Indeed, a technical, product-focused discourse of manageable risk might support the “norm” that the average, healthy member of the population simply requires adequate provision of nutrients, in whatever form, so long as each component of specific products to which he or she is exposed are deemed safe. Thus the particular biopolitical concepts used in the regulatory process feed into a greater, contestable logic embodied in discourses of truth related to an overarching “norm.”

It is possible for the precautionary critique to provide footing for reverse discourses that counter the discourse of manageable risk. While the precautionary critique still “emphasizes the technical similarities and differences between GMOs and non-GMOs,” it also explicitly acknowledges “the relationship between norms and science in risk decision-making” (Andrée 2002, 184-185). It thus encourages calls to further democratize the regulatory process so that all potentially significant norms, including those related to socio-economic and philosophical concerns, are considered in the regulation of GM products (Andrée 2002, 185). Socio-economic issues may relate to the growth of a few multinational corporations at the expense of rural farmers, while philosophical concerns may relate to whether it is right or wise to artificially manipulate the DNA of plants (The Royal Society of Canada 2001, 5-7). Taken together, the precautionary critique and these socio-economic and philosophical concerns pose a challenge to the idea that a technical, product-focused discourse of manageable risk is adequate for the regulation of GM products. They can therefore contribute to reverse discourses, biopolitical or otherwise, that encourage consideration of a wider variety of knowledge claims and perspectives useful for developing arguments in rational-critical debate. Indeed, these reverse discourses can and have been harnessed by actors like the members of CBAN, Greenpeace, and the NFU to resist acts of power that inhibit rational-critical debate.

However, Foucault’s analysis also helps to illustrate why reverse discourses are not always strong enough to counter dominant discourses and improve upon rational-critical debate. Indeed, it can help to explain how the circulation of certain discourses of truth and inequalities of social power can reinforce one another to hinder rational-critical debate over time. If social power denotes the capacity to leverage one’s resources to assert one’s interests over those of others, then it influences the kinds of power mechanisms, including those of biopower, that one can

harness. In the case of GM crops and foods, those with more social power may be in a position to influence the interpretation of studies leading to the development of a certain discourse of truth and the “norm,” which then inform the regulatory process. The regulatory process can serve to reinforce that particular discourse of truth and the “norm” and thus uphold the power relations that produced them in the first place, such that the process can repeat itself. This can hinder rational-critical debate, moreover, since each discourse of truth privileges certain knowledge claims and perspectives over others and can justify the development or closing off of forums for rational-critical debate. Thus inequalities of social power can continue to hinder rational-critical debate through time.

Several aspects of the regulatory process for GM products and the public’s engagement with it exemplify these reinforcing effects. To begin, it is possible that biotechnology companies funded a number of the studies implicated in the development of concepts for the technical discourse of manageable risk, and that this discourse serves their interests. Furthermore, the technical discourse of manageable risk is conducive to developing mechanisms of biopower that do not differentiate GM crops and foods from other novel crops and foods. For instance, the voluntary labeling strategy for GM foods is justified if GM crops and foods do not differ from other PNTs or novel foods that do not require labeling (Andrée 2002, 163-164). Thus mechanisms of biopower, including regulation policy documents and the labeling strategy, are not set up to trace the effects of GM crops and foods on human health over time. This makes studies that might counter the dominant discourse and the “norm” more difficult to develop. These mechanisms of biopower therefore serve the interests of already powerful biotechnology companies that can then shape similar mechanisms of biopower into the future. For instance, the agenda of CBAC, potentially influenced by the disproportionate number of biotechnology

advocates on the committee, was framed within the technical discourse of manageable risk that already informed the regulatory process. In general, then, these conditions are fairly inhospitable to the development of reverse discourses based on the precautionary critique, as well as other socio-economic and philosophical concerns, that could enrich the variety of knowledge claims and opinions circulating in the public sphere and encourage the development of forums for rational-critical debate.

It is relevant to note here that while aspects of Habermas's critical theory do speak to this framing of the regulation of GM products with technical, science-based language, Foucault's analysis still complements Habermas's approach by providing insights tailored to the specific policy area. As alluded to previously, Habermas contends that when the state began to address the technical dysfunctions of the capitalist system, its focus shifted to technical problems, as opposed to practical problems related to social and cultural norms and whose resolution requires public discussion, all of which resulted in the "depoliticization of the mass population" (Habermas [1968, 1969] 1970, 100-104). This has led to technology and science serving an ideological function in modern societies, since the state can justify the depoliticization of the public by referring to how technology and science enable resolution of technical dysfunctions without extensive public consultation (Habermas [1968, 1969] 1970, 104-105). The circulation of a technical discourse of manageable risk that perpetuates barriers to rational-critical debate in the public sphere illustrates this phenomenon. But Foucault's concept of biopower draws attention to precisely why this dominant discourse may have come about and how it continues to detract from rational-critical debate through specific mechanisms of biopower over time.

Overall, the analyses of Habermas and Foucault offer complementary insights for identifying the barriers to rational-critical debate in the public sphere regarding GM crops and

foods in Canada. Habermas's approach draws attention to how inequalities of social power can hinder the circulation of meaningful information and various perspectives in the public sphere, as well as the development of forums for rational-critical debate, while Foucault's concept of biopower draws attention to more specific mechanisms that allow inequalities of social power to have the effects that they do. Foucault's concept of biopower also draws attention to how barriers to rational-critical debate persist over time because of the specific reinforcing effects between knowledge, biopower, and inequalities of social power. Taken together, these insights suggest that while the dominance of one discourse may not be problematic in and of itself, since widespread agreement on that discourse could be the outcome of rational-critical debate, it is problematic if one version of the truth has become dominant because of inadequate consideration of competing alternatives.

These theoretical insights, furthermore, elucidate how rational-critical debate in the Canadian public sphere regarding GM crops and foods depends heavily on CSOs with limited resources. Specific barriers to rational-critical debate include the closed-off process for approving specific GM products, the voluntary labeling strategy for GM foods, the government's neglect to sponsor meaningful forums for rational-critical debate, and the neglect and/or inability of the media to encourage the critical capacities of the public. This suggests that changes in government policy to address the negative influence of unequal social positions on opportunities for rational-critical debate are required for improving the democratic character of the regulatory process. I will now consider the circumstances under which these changes might occur in the future.

Conclusion: Opportunities for Change

In this paper I have combined insights from two different critical-interpretive approaches to foster greater understanding of why democratic deficits in health and environmental policy processes are concerning and precisely what is behind them. I have, furthermore, focused on Habermas's analysis of the democratic public sphere and Foucault's concept of biopower to assess barriers to rational-critical debate. First, I explained how the present analysis builds off of scholarly literature that compares the approaches of Foucault and Habermas. Second, I contextualized and explained Habermas's analysis of structural changes to the public sphere, justified my focus on rational-critical debate for assessing democratic deficits, and outlined some general barriers to rational-critical debate that Habermas's analysis elucidates. Third, I compared Habermas's approach with Foucault's concept of biopower to outline additional barriers to rational-critical debate in the public sphere. Finally, I used the complementary insights of Habermas and Foucault to analyze the barriers to rational-critical debate in the public sphere regarding the regulation of GM crops and foods in Canada.

In taking these steps, I have shown that insights from Habermas's analysis of the democratic public sphere and Foucault's concept of biopower can be combined to develop a particularly useful approach for analyzing democratic deficits in health and environmental policy processes. Habermas's analysis provides a general starting point for focusing on rational-critical debate in the public sphere, as well as a normative basis for critiquing certain exercises of power. More specifically, his analysis draws attention to how inequalities of social power can detract from the circulation of information and opinions in the public sphere and hinder the development of forums for rational-critical debate. Foucault's concept of biopower draws attention to more specific mechanisms of power and knowledge claims that are related to health and environmental

policy processes and that reinforce one another to perpetuate inequalities of social power such that barriers to rational-critical debate persist over time. With regards to the regulation of GM crops and foods in Canada, then, opportunities for democratic engagement will likely remain limited because of the reinforcing effects between knowledge, biopower, and inequalities of social power. A final question thus arises: is improvement in the democratic character of this policy process at all possible?

Improvement is certainly possible. The work of CSOs may contribute to lasting improvement in opportunities for rational-critical debate insofar as they encourage the development of a legitimization crisis in the public sphere, which could then pressure the government to change its policies. In Habermasian terms, a “legitimation crisis” occurs when “the legitimizing system does not succeed in maintaining the requisite level of mass loyalty” because there is “a discrepancy between the need for motives declared by the state [and] the motivation supplied by the sociocultural system” (Habermas [1973] 1975, 46, 74-75). That is, the social and cultural concerns of citizens conflict with state policies. This results in “a heightened public attention” and “an intensified search for solutions” that can influence the political system if actors in civil society come together to clarify the issues at stake and broadcast their conclusions in the public sphere (Habermas [1992] 1996, 357-358, 379-382). My analysis suggests that while a legitimization crisis does not yet exist with regards to the regulation of GM crops and foods in Canada, such a crisis is certainly warranted given the democratic deficits that do exist in the regulatory process.

Further research is required, however, to determine what might motivate citizens to speak out against these democratic deficits. Foucault’s concept of resistance does suggest that mechanisms of biopower in the hands of corporations and the state are technically exercised over

free beings who, on some level, choose to abide. But the effects of social power and biopower on the circulation of information and opinions in the public sphere, as well as the development of forums for rational-critical debate, can all affect the motivation of citizens to speak out against existing democratic deficits. For instance, the lack of information and opinions circulating in the public sphere may preclude citizens from perceiving a problem in the regulation of GM crops and foods in the first place such that they remain satisfied with the status quo. Worse still, citizens may perceive how social interests are implicated in the regulatory process and conclude that they do not have the resources to make a difference. Since my aim has been to foster greater understanding of conditions that hinder democratic engagement so that efforts can be made to change those conditions, research on this topic would provide a suitable avenue for building off of the present analysis.

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