Refeudalizing the Public Sphere: "Manipulated Publicity" in the Canadian Debate on GM Foods*

André Magnan

Abstract: This article develops Habermas' concept of refeudalization in a critical assessment of the public debate surrounding genetically modified (GM) food in Canada. A recent initiative by the Canadian Biotechnology Advisory Committee, a federal consultative body, is evaluated according to the normative criteria of Habermas' ideal-typical public sphere. In turn, the case study uses Habermas' account of the structural transformation of the public sphere to examine ways in which political-economic conditions under globalization impinge upon the prospects for rational-critical public debate. I argue that external economic pressure associated with the drive for international competitiveness in an increasingly globalized economy has spurred the Canadian state to embrace contradictory roles *vis à vis* GM food. Given the state's role in regulating and actively promoting the technology, government-sponsored public consultations have taken on the aura of public relations and have risked foreclosing meaningful opportunities for debate.

Résumé: Cet article développe le concept de la « ré-féodalisation » de Habermas en l'appliquant envers une évaluation critique du débat public encadrant les organismes génétiquement modifiés (OGMs) au Canada. Une initiative récente menue par le Comité Consultatif Canadien de la Biotechnologie, un corps consultatif fédéral, est évaluée d'après les critères normatifs du type-idéal de la sphère publique de Habermas. Par la suite, cette étude de cas utilise le compte rendu de Habermas de la transformation structurelle de la sphère publique pour examiner de quelles façons de conditions économiques-politiques liées à la mondialisation influencent la possibilité d'un débat

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publique critico-rationnel. Je soutiens que la pression économique externe entendue par la poursuite de la compétitivité internationale au sein d'une économie de plus en plus mondialisée a incité l'état canadien à épouser de rôles contradictoires envers les aliments génétiquement modifiés. Étant donné le rôle de l'état en réglementant et en promouvant de façon active cette technologie, les consultations publiques sur l'initiative du gouvernement prennent l'air de relations publiques et risquent enlever d'occasions importantes pour le débat.

Introduction

A wide-ranging and vigorous public debate seems necessary for realizing the democratic negotiation of contentious technologies such as genetically modified food. As a whole, developments in biotechnology will have far reaching economic, environmental, social, ethical, and political implications for farmers, consumers and citizens. Yet, despite the volume and intensity of the public controversy around GM food, the debate risks being captured by what Habermas calls "manipulated publicity" (1989: 178), public relations work designed to ensure public acquiescence to the positions of powerful actors. This paper develops Habermas' (1989) account of the structural transformation of the public sphere by critically assessing the public debate surrounding genetically modified (GM) food in Canada.

Using as a case study the Canadian Biotechnology Advisory Committee (CBAC), a prominent government-appointed advisory body, this article develops a two-pronged argument. First, I subject CBAC's work to a normative evaluation using the criteria for genuine rational-critical debate developed in *The Structural Transformation*. Here I build upon Parkins' (2002) approach to the study of forest advisory bodies in Alberta, which uses Habermas' notion of the public sphere as an ideal to which advisory bodies can be held in environmental controversies. My case study suggests ways in which CBAC's government-commissioned report on the regulation of GM food has served as "manipulated publicity," tending to generate uncritical public opinion toward biotechnology.

Second, following Habermas' lead in *The Structural Transformation* I argue that the conditions under which rational-critical public debate can exist must be understood in the context of structural changes in capitalist society. Here I relate the changing political-economic climate of globalization to the Canadian state's dual and contradictory roles of promoting and regulating biotechnology, arguing that these contradictory roles have tended to decrease the quality of debate on biotechnology in the public sphere.

This finding suggests the extension of certain elements of Habermas' theory. In particular, the concept of refeudalization (the increasing interpenetration of state and civil society) is re-examined in the context of globalizing trends of the past three decades. I argue that changing roles of the state under globalization, manifested in the Canadian government's commitment to a

discourse of international economic competitiveness, has hindered prospects for a healthy public debate on biotechnology. Following the long-standing pro-biotechnology policy of successive governments, the Canadian state has embraced the contradictory roles of promoting and regulating GM food. In turn, governments have pursued a strategy of manipulated publicity in order to satisfy calls for public scrutiny of biotechnology while continuing to promote the industry. The relative success or failure of advisory bodies such as CBAC impinges upon the quality of the overall public debate around the contested issue of GM food. By examining both the normative and political-economic dimensions of government initiatives to engage the public in this debate, this case study may help better understand the possibilities for democratically mediating this profound technological change.

Science, Technology and Deliberative Democracy

Social scientific studies of public participation in technology policy emerged in the wake of rising societal concern with technological risk and the resulting proliferation of new institutional arrangements for assessing technology deployment (Brekke and Eriksen, 1999). The emergence of new forms of risk entailing, on one hand, very high degrees of scientific uncertainty, and, on the other hand, very high societal stakes (e.g., global environmental crises) signalled a loss of faith in strictly quantitative approaches to risk assessment (Funtowicz and Ravetz, 1985). Under these circumstances, social scientists have re-conceptualized risk assessment as a politically mediated process that must contend with value commitments and scientific uncertainties.

Deliberative approaches to public policy have constituted a major line of inquiry in the field of deliberative democracy (Chambers 2003). More recently, the "deliberative" turn in democratic theory (see for e.g., Dryzek, 2000) has influenced recent attempts to reconcile politics and science in technology assessment. Variations on the theme include approaches that advocate a "discursive policy process" (Schomberg, 1998), "participatory policy analysis" (Mayer and Geurts, 1998), or "deliberative technology policy" (Schomberg, 1999; Brekke and Eriksen, 1999). All of these challenge the technocratic model of policy (Fischer, 1990) in which experts have a monopoly on decision making by virtue of their specialised knowledge and policy decisions can be reduced to technical questions resolved by empirical study. As such, attempts to democratize science and technology policy have called into question expert-lay relations and the technocratic ideal that separates politics from science.

There are several arguments advanced for the need to democratize science and technology policy. Funtowicz and Ravetz (1992) contend that extremes of "systems uncertainties" and "decision stakes" demand a "post-normal" model of scientific inquiry that significantly widens criteria for the forms of

knowledge and types of actors admissible to the risk assessment process. Similarly, Brekke and Eriksen (1999) have argued that, contrary to the technocratic conception of risk management based on simple cost-benefit analysis, risk assessment is an inherently normative process that must be subject to democratic oversight (95).

Others point to the inevitable social and political implications of technological change. Critics challenge the discourse of "technological determinism" — the notion that technical change is inevitable, follows a linear path of development, and exists beyond the purview of politics (Sclove, 1995) — and emphasize relations of power shaping technical change (Middendorf et al., 2000). Levidow (1999) outlines ways in which technologies "reify" social relations:

> People and nature are disciplined according to a particular model of the socio-natural order, as if this choice arose from the nature of things. A socio-political choice takes the reified form of a discovery. Thus, the undemocratic character of technology arises from its reified problem-definition. (53)

As social change, technological change thus demands democratic mediation.

As perhaps the most contentious technological issue of the past few decades, biotechnology (in particular, the deliberate release of genetically modified organisms [GMOs]) has received much attention in this literature. The dominance of powerful corporate actors in developing, promoting and disseminating new applications of biotechnology provides one rationale for democratization (Middendorf et al., 2000). According to Levidow (1999), biotechnology is undemocratic to the extent that it may strengthen existing ecological and social contradictions of the industrialised agri-food system while marginalising alternatives. Nature and agriculture are said to be "biotechnologized" to the extent that problem-definition and solutions are shaped by the logic of the biotechnology paradigm. For instance, agronomic and environmental problems of industrialised agriculture tend to be defined as genetic-level deficiencies to be remedied using biotechnology, instead of being linked to fundamental problems with the monocultural model itself (54-55).

In response, researchers have analysed existing and potential models for democratic control over biotechnology. Schomberg (1998) advocates a discursive policy process as a more democratic way to proceed, one that contends with the inherent uncertainty of the risks involved with the environmental release of GMOs. Among models of pubic participation in biotechnology policy, the Danish "consensus conference" has served as a prototype for a more democratic approach (Mayer and Geurts, 1998; Toft, 1996; Levidow, 1999; Sclove, 2000).[1] Linked to the "participatory" stream of thinking in deliberative

1. For a critique of the consensus conference model that contrasts its "participatory" emphasis to a "deliberative" approach, see Brekke and Erikesen (1999).

democracy, consensus conferences bring together a panel of laypersons and experts to discuss some complex and controversial policy issue (Mayer and Geurts, 1998). The Danish experience has generally been evaluated favourably, with evidence that it has helped raise the level of technological "literacy" with respect to biotechnology, broaden the terms of debate, and add legitimacy to the regulatory process (Sclove, 2000; Levidow, 1999), all of which have contributed to greater societal consensus on the environmental release of GMOs in Denmark (Toft, 1996).

Attempts to involve public participation in biotechnology policy have nonetheless not always succeeded in achieving more democratic outcomes. Such attempts can have a "double-edged role," potentially legitimizing particular directions in technology policy rather than offering genuine choices (Levidow, 1999). In Germany, biotechnology critics eventually withdrew from a state-sponsored "technology assessment" (TA) process in protest over their inability to broaden the terms of the exercise (57). Organizers of the TA insisted on narrow issue definition restricted to evaluating the risks of a particular biotechnology application (herbicide tolerant GM crops) while critics sought a discussion comparing biotechnology and alternative agriculture approaches to the same agronomic problems. Meanwhile, debate in the UK's national Consensus Conference on Plant Biotechnology tended to exacerbate expert-lay differences and to confine debate to a "risk-benefit" framework that marginalized critical positions (60).

Canada has not been excepted from contentious debates on biotechnology. The most important effort to date for incorporating public participation into biotechnology policy has been through the work of the Canadian Biotechnology Advisory Committee (CBAC).[2] Mindful of the "double-edged" potential of such initiatives, this article critiques CBAC's work based on normative criteria for rational-critical debate. Before proceeding with the case study, I review Habermas' original ideal-typical conception of a democratic public sphere, its attendant criteria for rational-critical debate, and subsequent refinements of his theory. Next, by tracing Habermas' account of the historical transformation of the public sphere, I set the stage for assessing the potential for a

2. In fact, the consensus conference model has also been explored in Canada. In 1999, the University of Calgary sponsored the "Food Biotechnology Citizen Conference," bringing together a 15 member panel of laypersons and a panel of experts for dialogue on core controversies surrounding biotechnology (University of Calgary, 2005). In its stronger versions (e.g., the Danish Board of Technology's consensus conferences), such initiatives are organized by arms length government-sponsored bodies that directly advise legislative assemblies (Joss, 1998). Though its results were disseminated to several government ministries, the Canadian Citizen Conference was organized outside any official government initiative. As the federal government's only major effort to solicit public participation in biotechnology policy, CBAC's work remains the most important initiative of this sort.

healthy public debate on biotechnology in Canada under altered political-economic conditions of globalization. Finally, I justify the use of Habermas' model as a useful normative test for the democratic efficacy of advisory bodies.

Habermas' Public Sphere: Normative Ideal and Historical Entity

The emergence of a rationally debating public sphere was a historical phenomenon associated with specific social and economic circumstances. Habermas provides a rich account of its historical emergence in the first half of *The Structural Transformation*, but these details are beyond the scope of this article. I begin by characterizing the specific institutional form of the bourgeois public sphere in order to trace its later socio-structural transformation and decline. Next I outline the features of the bourgeois public sphere that, by Habermas' account, give it its democratic promise. Finally, a review of subsequent criticisms of Habermas' public sphere as an ideal-type provide a basis for outlining the generally agreed upon normative requirements for rational-critical debate.

The bourgeois public sphere was an arena of rational-critical debate comprised of private individuals come together as a public (Habermas, 1989: 27). As such, the bourgeois public sphere was still a part of the private realm, yet functioned as an institution for the scrutiny of public power. Emerging out of the world of cultural criticism, the bourgeois public sphere eventually took on the political function of expressing the needs of civil society to the state (74). This structure, according to Habermas, was founded on the precondition of a privatized civil society (74). In other words, it was based on a strict separation of the sphere of social reproduction (i.e., the economy) from the state. In its pure liberalized form a market economy is based on the free exchange of commodities and labour in the market place. Historically, the rise of the capitalist market, which provided a mechanism of social reproduction that was independent from the state, was intimately linked to the emergence of the rational-critical public sphere.

According to Habermas, four crucial features of the historical bourgeois public sphere lent it democratic potential: 1) the bracketing of social status in debate, 2) the pre-eminence of rational argument as the arbiter of debate, 3) a widening scope of acceptable social criticism, and 4) a principle of participatory inclusiveness (1989: 36–37). The principle of inclusion and the bracketing of status differences introduced democratic criteria for participation in the exercise of power, that is, criteria independent of ascribed social status. The public sphere's basis in rationality and criticism laid the groundwork for the emergence of "critical publicity," the use of reasoned public debate as a check on the exercise of public power. The ideals embodied in the bourgeois public sphere, even if never fully realized, gained a social currency that continues to

resonate in democratic discourse. The notion of a critically debating public sphere providing a check on political power endures as a core democratic value that, for Habermas, holds liberatory promise.

In large part, *The Structural Transformation* seeks to outline the historical and structural changes that undermined the existence of the historically specific institution of the bourgeois public sphere. The persistence of this model of the public sphere depended on the strict separation of state and society, first made possible by the rise of a market economy. These conditions reached their apogee in a (historically) brief period of the 19th century, when the conditions of a liberalized and private sphere of social reproduction were at their fullest. From that point onward, the mutual interpenetration of state and society began to erode the foundations of the bourgeois public sphere, blurring the categories of "public" and "private" (Habermas, 1989: 142).

In this process, private interests began to take on public functions, while the state increasingly interfered in the hitherto private realm of the economy. This included government interventionism, but cannot be reduced to this factor alone (1989: 142). The state began to take on altogether new functions that fundamentally undermined the separation of state and society, eroding the autonomy of the market economy as a private sphere (145). These new functions included the general redistribution of income, as well as the provision of social services that comprise what is now referred to as the "social safety net."

According to Habermas, tendencies toward capital concentration and social polarization were the motive force behind the changing roles of state and society that undermined the traditional public sphere. Towards the end of the 19th century, the concentration of capital in cartels, oligopolies and large corporations became increasingly evident, as did the system's tendency toward economic crisis (Habermas, 1989: 143-144). These contradictions of capitalist development were becoming manifest in a way that could no longer be ignored. Increasingly marked inequalities in the capitalist market-place "pulled the veil of an exchange of equivalents off the antagonistic structure of society" (144). The ideology of a sphere of private exchange free of coercive relations, upon which a critically debating public sphere was based, could no longer stand.

The result of these transformations was a fundamentally altered public sphere. The very basis of the bourgeois public sphere — a group of relatively equal, independent citizen-bourgeois — no longer existed under monopoly capitalism. Of course, the ideal of a private sphere of relatively equal petty commodity producers, part of the mythology of bourgeois ideology, had never actually existed in practice. With the advent of monopoly capitalism, however, the illusion itself was no longer tenable. Under these conditions, powerful, organized social groups such as political parties and industry interest groups filled the vacuum left by the disintegrated bourgeois public sphere. As a result,

> The process of the politically relevant exercise and equilibration of power now takes place directly between the private bureaucracies, special-interest associations, parties, and public administration. The public as such is included only sporadically in this circuit of power, and even then it is brought in only to contribute its acclamation. (Habermas, 1989: 176)

Thus, the public sphere became an arena dominated by the organized and antagonistic interests of a divided private sphere.

As a consequence of these fundamental changes, "critical publicity" lost its pre-eminence as a function of the public sphere. The powerful organized interests of the private sphere began to generate "publicity from above," where the object was less to encourage reasoned debate than to promote an uncritical acquiescence to their publicized positions. Habermas refers to this new form of publicity as "manipulated publicity." With the rise of corporate capitalism, advertising (as opposed to competitive pricing) took on an ever more important function in generating stable markets for oligopolistic firms. "Public relations," the application of scientific advertising techniques to political aims, arose in this context. The use of public relations manages to promote a narrow private interest while giving the illusion of fostering critical reflection, the formation of public opinion, on some important societal matter (Habermas, 1989: 177–194). A mood of consent takes hold in the public, where "publicity now adds up the reactions of an uncommitted friendly disposition" (195).

It is at this point that Habermas introduces the concept of refeudalization: "In the measure that it is shaped by public relations, the public sphere of civil society again takes on feudal features" (Habermas, 1989: 195). That is, the critical function of publicity tends to be replaced by the representative function of publicity of the old feudal order. Not only are private interests advanced in this way, but the state too adopts the practices of public relations in order to "sell" its policies to a relatively uncritical public (195). Thus, late capitalist society is refeudalized in two senses. First, through its structural transformation, precipitated by its own contradictions, the neat separation of the state from the social reproduction of society is destroyed. Second, and as a result of the first process, the use of public relations by the organized interests of late capitalism transforms the rational-critical function of publicity into the sophisticated manipulation of public opinion by powerful actors.

Habermas' *Structural Transformation* has generated substantial academic attention and critique (see for e.g., Calhoun, 1992). The work's two principle objectives — to derive a normative ideal for rational-critical debate from the bourgeois public sphere and to trace the public sphere's historic decline — have made important, if unequal, contributions to the literature. Arguably the more important part of the book (Calhoun, 1992:39), the bourgeois public sphere as normative ideal has received the most attention. The most important criticism levelled against this part of Habermas' analysis is the notion of a

single, unitary public sphere. Following Fraser (1992), the public sphere should be conceptualized as a realm of multiple, competing public spheres which may lack common definitions of the public good, and which reflect intractable social inequalities in capitalist society. These many *counterpublics* retain the normative ideals of Habermas' public sphere to the extent that they take on a "*publicist* orientation" (Fraser, 1992:124), that is, to the extent that they interact with other publics.

While such challenges may have shattered any notion of a *single* public sphere, the norms of rational-critical debate (later formalized in his concept of "communicative rationality') and the theorization of public spheres as democratic spaces outside of the state have become core concepts in critical versions of "deliberative democracy" (Dryzek, 2000:22-23). Meanwhile, Habermasian ideals of communication and participation have also inspired efforts to challenge technocratic and empiricist models of policymaking (e.g., Fischer, 2003).[3]

On the second objective of the *Structural Transformation,* Habermas' narrative sensitizes us to the ways in which macro-structural changes can alter the conditions under which rational-critical debate is possible. That this dimension of the book has received less academic attention may be related to the fact that in his later work Habermas replaces his interest in socio-historical development with a search for the transhistorical features of human communication (Calhoun, 1992:41). Nevertheless, Dryzek (2000: 21) contends that recognizing the structural and discursive impediments to distortion-free communication has been the hallmark of the critical school of "deliberative democracy." Today, the constraints imposed by international political-economic forces have a decisive influence on the prospects for deliberative democracy, particularly because of pressures imposed on states by the increased mobility of capital (Dryzek, 1996). In line with the spirit of the *Structural Transformation,* this article focuses not only on the quality of public debate on biotechnology, but also on the political-economic conditions that impinge on its quality. In this light, the principle theoretical question addressed here is: How do changed state dynamics under globalization impinge upon the possibility of rational-critical debate in the Canadian public sphere?

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3. Habermas' normative ideals for rational-critical debate have not been immune to criticism. Pellizzoni (2001), for example, contends that in some controversies fundamental principles and readings of the facts diverge so sharply that agreement on "the best argument" becomes impossible. Meanwhile, Mouffe (2000) altogether rejects consensus-oriented models of democracy on the grounds that these ignore the intractable social antagonisms at the heart of capitalist society, struggles over which must remain central to any meaningful form of "politics."

Advisory Bodies and the Public Sphere

In the next section, I deploy Habermas' vocabulary to the transformed public sphere of late capitalism in a normative critique of CBAC, a government advisory body on genetically modified (GM) food. The critique proceeds on two levels. First, following Parkins' (2002:174-175) approach to environmental advisory groups on forestry management in Alberta, CBAC may be thought to approximate a public sphere in and of itself to the extent that it meets the four basic criteria outlined in Habermas' ideal-type. Thus, CBAC can be examined in light of the normative ideals of "(1) a general disregard for social status, (2) truth claims founded solely on the force of the better argument, (3) allowance for the problematization of issues that might otherwise go undebated, and (4) the inclusion of all who are equipped ... and willing to participate in the deliberative community" (174). Analyzing CBAC's composition, mandate, consultation process and substantive work, this critique addresses the committee's level of adherence to these principles.

Second, CBAC's work must be placed within the context of the wider public debate on biotechnology in Canada. While Parkins' approach is useful, it fails to specify the relationship between advisory bodies and the general public sphere as the broader field of public discourse on an issue. Brekke and Eriksesen (1999: 110) suggest that deliberative bodies (including technology assessment committees) occupy a middle ground between political decision-making and the wider public sphere and may serve to enhance the quality of broader societal debates. In order to satisfy the normative requirements of deliberative democracy, such bodies must meet the "public test' — that is, they must "face up to the critical test of general debates within the public sphere(s)" (112). In order to do so, they must accomplish two critical tasks: actively *contributing to* the wider public debate, and *reflecting and deliberating upon* existing public opinion on the matter (112). Thus, while CBAC is only one — albeit important — voice in the public debate on biotechnology, it can be evaluated by its contribution to the overall quality of debate in the public sphere.

Biotechnology Controversy in Canada and State Responses

Biotechnology has been a highly charged topic of public concern in Canada for some years. Notable public controversies have erupted over the use of recombinant bovine growth hormone (rbgh) in dairy cattle, the patenting of higher life forms, and the environmental release of GM crops. As the most prominent early public struggle over a commercial application of biotechnology, the rbgh controversy set the stage for later conflicts over GM crops. Beginning in 1984, the controversy culminated in a series of public Senate

Committee hearings in the late 1990s leading to the denial of regulatory approval for rbgh in 1999 (Jones, 2000: 315). Biotech opponents were able successfully to challenge Monsanto's construction of rbgh as beneficial to the dairy industry, safe for human consumption, and having no nefarious effects on animal welfare (Jones, 2000).

Perhaps the most important effect of the protracted struggle over rbgh was to consolidate in Canada what Buttel (2000: 9) calls the "permanent organized opposition to biotechnology" — made up of consumer, environmental, sustainable agriculture organizations and other social justice groups — found in most industrialized countries. Following the commercialization of GM crops (most notably, Monsanto's line of herbicide resistant crops) in 1996, the environmental release of GMOs took centre stage in the biotechnology controversy. Since then, biotech opponents have raised concerns over the human health implications, potential for environmental harm, and political-economic implications of GM crops. Percy Schmeisser's legal battle with Monsanto over the company's ability to enforce its patent rights on RoundUp Ready canola has become a *cause célèbre* among anti-biotech activists. Meanwhile, a coalition between farmer, environmental, health, and social justice organizations, and the Canadian Wheat Board recently won a public campaign to prevent Monsanto from introducing GM wheat in Canada (Globe and Mail, May 10, 2004, p. A1). Biotechnology thus continues to be a highly polarized issue subject to intense societal controversy.

Beginning in the late 1990s, the Canadian government launched two important initiatives in response to serious public misgivings toward biotechnology. The first was to revise its National Biotechnology Strategy, originally developed in 1983 as an overarching policy framework for biotechnology, into its current manifestation, the Canadian Biotechnology Strategy (CBS). In the process, the National Biotechnology Committee, CBAC's predecessor, proposed the creation of a new consultative body that would more directly engage issues of public confidence in biotechnology (Kuyek, 2002: 73-74). The new body was to expand its membership beyond that of the National Biotechnology Committee, composed of biotech industry leaders and scientists. Thus, CBAC's membership is drawn from both experts (in the fields of biotechnology, business, nutrition, law, and ethics, among others) and members of the general public.

Broadly speaking, CBAC's mandate is to advise the federal government on policy issues "related to the development and application of biotechnology in Canada associated with the ethical, social, regulatory, economic, environmental and health aspects of biotechnology" (CBAC 2002c). More specifically, its mandate includes commitments to "optimize the ... benefits of biotechnology in a sustainable way" and to "enhance public awareness and facilitate an open, transparent national conversation on key issues around the development and

application of biotechnology" (CBAC, 2002c). CBAC began its work in 1999, and to date it has conducted public consultations on the regulation of GM foods and on the patenting of higher life forms, reports for which were published in 2002 and 2001, respectively.

The second important government initiative launched in response to public misgivings about biotechnology was a study commissioned of the Royal Society of Canada (RSC) to evaluate the scientific adequacy of Canadian regulatory processes for GM crops. The RSC's main findings, including the need for significantly more stringent regulatory practices, provide some crucial context for interpreting CBAC's subsequent work. Generally considered a serious indictment of the existing regulatory regime, the RSC report received substantial media attention. The subsequent release of CBAC's report on the regulation of GM crops likewise generated considerable responses from the media and from biotech activists.[4] Indeed, these two reports have been at the centre of the unfolding politics of GM crops in Canada. Evaluating CBAC's contribution to the wider public debate on biotechnology must therefore take into account how it has engaged with the RSC's controversial findings.

A Case Study of Manipulated Publicity: Public Relations in the Debate on GM Food

By subjecting CBAC to the normative ideals of the public sphere, this case study provides a lens on the health of public debate on GM food in Canada. Two empirical questions guide this section: 1) To what extent has CBAC lived up to its potential to provide a forum for rational-critical public debate on GM food? 2) To what extent has CBAC's work contributed to the quality of the overall public debate on GM food? The evidence marshalled includes on one hand, CBAC documents related to its mandate, composition and terms of reference, and on the other hand, its substantive reports, understood in the context of the field of public discourse on the issue. Documents were collected between November 2002 and September 2004. An exhaustive set of CBAC's consultation briefs, summaries of multi-city consultation roundtables, interim reports and final reports on the regulation of GM food are used in a critical reading of the consultation process. Analysis of the documents is used, first, to construct a narrative of key dimensions of the consultation process against which can be compared Habermas' ideal-typical public sphere. Second, I read

4. On the RSC report and its fallout, see the Toronto Star (February 5, February 6, August 23 and November 24, 2001; August 28, 2002), the Globe and Mail (May 2, 2001), and the National Post (February 5 and June 13, 2001). On the CBAC report and its fallout, see the Toronto Star (August 28, 2002), the Globe and Mail (August 20, August 21 and August 24, 2001; August 27 and August 28, 2002), and the National Post (August 24, 2001).

CBAC's substantive work against the wider field of opposition to biotechnology and prominent expert interventions into the debate in order to characterize its contribution to the quality of public debate.

Membership and Recruitment Process

CBAC defines itself as an "expert advisory body" though its membership has included limited lay representation.[5] Its membership is meant to represent a broad array of expertise on matters related to biotechnology, but not to directly represent defined interests in the biotech debate (CBAC, 2004). Members are chosen according to a public consultation process, based on relevant expertise in the area. While CBAC's mandate is, on one hand, to provide advice to the government on a wide range of biotechnology policy issues, it is also mandated to engage in public consultation and provide information to the public on such issues.

Critics have alleged that the nomination procedure used in selecting CBAC members is biased against experts critical of biotechnology. The result, according to these critics, is that CBAC's membership is stacked with biotechnology industry representatives and their allies (Greenpeace, 2001; Council of Canadians, [CoC] 2002). Some corroboration for disproportionate pro-biotechnology representation becomes evident by tabulating different types of professional and organizational affiliations of CBAC members (Table 1). Affiliations of the 20 CBAC members active in the committee at some point during its GM food project were coded according to three principle categories. These categories approximate generally pro-biotechnology affiliations, potentially critically-oriented affiliations, and neutral affiliations.

Taking into account that some members have more than one type of affiliation, pro-biotechnology affiliations outnumber potentially critical affiliations 2 to 1, and outnumber "neutral" affiliations by 50% (Table 1). There is particularly weak representation of experts in ecology or environmental sciences (only one), disciplines that have tended to be critical of the environmental release of GMOs. By contrast, there is an overrepresentation of biotechnological scientific sub-disciplines (genetics, molecular biology, gene medicine, biochemistry, and microbiology) (6 affiliations). Partly in protest of the perceived bias in the nomination procedure, Greenpeace, the Council of Canadians, and other NGOs boycotted participation in CBAC's consultations.

CBAC's composition thus tends to violate the principle of inclusiveness as an ideal of the public sphere. On one hand, minimal lay representation

5. There have been two members of the general public who have served on CBAC, one of whom currently serves on the committee.

Table 1. Professional and organizational affiliations of CBAC members

	*Generally pro-biotechnology**				*Potentially critical***			*Neutral****			
Type of affiliation	**Biotech industry**	**Biotech research**	**Corporate**	**Biotech advocacy**	**Ecology/ Environmental Science**	**Legal/ Ethical**	**Consumer advocacy**	**Dietary/ Nutrition Science**	**Agricultural Economics**	**Journalism/ Communication**	**Member of Public**
Number of Links	2	6	2	2	1	4	1	3	1	1	3
Total	12				6			8			

Sources: CBAC, 2004; Kuyek, 2002.

* Generally pro-biotechnology affiliations are taken to include direct links to biotechnology corporations (directorships, corporate executive positions), involvement in biotechnology research (through direct research or organizational involvement in biotech/genetic research councils), links to other large corporations (including pharmaceutical corporations, and corporations heavily invested in biotech), and biotech advocacy (links to pro-biotechnology information services and published forms of biotech advocacy such as press releases, newspaper editorials, and letters to the editor).

** Potentially critically-oriented affiliations are taken to include members active in the environmental or ecological sciences, the fields of environmental law, ethics and bioethics, or positions of consumer advocacy.

*** A residual category of "neutral" affiliations includes links to dietary and nutrition sciences, agricultural economics, journalism/communication and members of the general public.

undermines CBAC's mandated objective to promote public participation in biotechnology policy matters. By weighting its membership heavily in favour of experts, it reproduces the expert/lay divide characteristic of the technocratic model of science policy. On the other hand, the exclusion of counter-experts in CBAC's membership also restricts the range of potential participants and thereby violates the principle of inclusiveness. The result has been to marginalize critical voices and compromise dialogue with the NGO sector.

Framing the GM Food Study

From CBAC's inception, the committee identified GM food as a priority for study. CBAC's most significant work to date has been its project on the regulation of GM food, culminating in its final report published in 2002. The project involved three phases: commissioned background research on relevant topics; stakeholder and public consultations, including a number of stakeholder workshops; and finally, drafting an interim report, with an opportunity for interested groups to submit written reactions before the drafting of the final report (CBAC, 2002b). In the first phase, CBAC produced a "Consultation Document" identifying key areas of concern in the regulation of GM food in order to frame public consultation (CBAC, 2001a). CBAC's framing of the issue, however, marginalized strong critics of biotechnology resulting in the refusal of more than 50 NGOs to participate in subsequent "stakeholder consultations." CBAC nonetheless carried out its consultation workshops and expressed regret over its inability to secure broad participation.

The initiative was criticized for adopting the "regulation" of GM food as the central problem for study. In doing so, the study would neglect the issue of whether or not GM food should be commercially grown at all.[6] The result was effectively to foreclose discussion of the more fundamental question of the desirability GM food. In turn, this approach marginalized many NGOs and environmental organizations that tend to be what Plein (1990, cited in Hannigan, 1995: 165) refers to as "absolute" rather than "conditional" opponents of biotechnology. Most prominent organizations involved in the organized opposition to biotechnology express fundamental reservations about the environmental release of GMOs, and several have called for a moratorium on further releases (CoC, Canadian Health Coalition, and Greenpeace, 2001). NGOs thus were faced with a difficult "participation trap" (Levidow, 1998).

6. This framing is consistent with CBAC's mandate, which is to advise the government on the "development and application" of biotechnology and to "optimize its benefits" (CBAC 2002c). We return to the question of CBAC's mandate and its relationship to state biotechnology strategies in Canada below.

By participating, NGOs would legitimize CBAC's narrow-problem definition and compromise their core position. By not participating, they would invite charges of non-cooperation and rigidity. In the end, NGOs chose to boycott the proceedings.

The NGOs presented a petition to the government of Canada during the first of CBAC's stakeholder workshops, citing concerns with the consultation process and CBAC's lack of independence. Partly in response to such challenges, CBAC was obliged to confront the assumptions implicit in their framing of the project by directly addressing the question of the acceptability/non-acceptability of GM food. According to its final report, "CBAC heard that whether GMFF [genetically modified foods and feed] should be part of our collective future warrants discussion, as does the issue of the line to be drawn between GMFF products that Canadians consider acceptable and those they do not" (CBAC, 2002b: 76). In raising this issue, participants challenged CBAC's framing of the GM food issue and admitted into the debate the positions of actors with deep reservations about environmental release. CBAC's response warrants a detailed examination.

Over the course of the stakeholder consultations participants developed a provisional concept for a policy tool called the "Acceptability Spectrum." This would be a framework for classifying different types of GM food or feed along a continuum from "not acceptable" to "acceptable" according to criteria including not only health and environmental issues (the exclusive focus of the current regulatory system), but also social, ethical and political considerations. At the conclusion of public consultations on the GM food initiative, CBAC struck an independent, multi-stakeholder "Exploratory Committee" to further develop the Acceptability Spectrum. CBAC conceived of this project a means of trying once again to engage NGOs that had boycotted its consultations (CBAC, 2003).

In its early stages of development, the framework seemed promising as a means of introducing technological choice into the policy process. Certain categories used in classifying GM foods using the framework implied placing a moratorium on a product ('Not acceptable at this time'), or banning it altogether ('Not acceptable') (CBAC, 2001b: 34). While it was understood from the outset that the framework would not replace the existing "science-based" regulatory system, its precise relationship to the regulatory system was left open. During a round of individual consultations with stakeholder groups conducted by the Exploratory Committee, there emerged important differences between civil society groups/NGOs and biotech industry/"supply chain" (farmers, retailers, processors, etc.) groups over the scope and applicability of the framework. Civil society groups and NGOs generally favoured a broader scope for the framework, including its potential inclusion in the regulatory process. Industry groups, meanwhile, opposed its use for product approval (CBAC, 2002d: 2-3).

In later work, the Exploratory Committee reframed the Acceptability Spectrum's role as emphatically not one of "shaping policy," but of facilitating "a dialogue that could influence policy where the term "policy" is intended to be broadly defined" (CBAC, 2003: 14). The Acceptability Spectrum was eventually renamed the "GMFF Dialogue Tool" to reflect this change in emphasis. These changes emerged when industry representatives contemplated withdrawal from the project on the basis of concerns that the Spectrum, in being applied to individual GM food products, might eventually become included in the regulatory process proper (CBAC, 2003: 13). In their view, the Dialogue Tool ought only to address "non-science" issues and not be applied towards judging the "acceptability" of GM products (13). While agreeing to the more circumscribed scope of the Dialogue Tool, members of the Exploratory Committee suspended the third phase of its development, which was to have consisted of multi-stakeholder sessions.

In some ways, the development of the Acceptability Spectrum/Dialogue Tool can be interpreted as an attempt to establish a framework for rational-critical debate on GM foods. For instance, the framework emphasized a holistic examination of the GM food controversy, granting equal validity to "non-science" concerns as to other types (CBAC, 2003: 3). In addition, the framework's explicit intent was to foster dialogue among widely divergent views using procedural criteria consistent with the ideals of the public sphere: wide representation, the use of reasoned dialogue over rigid adherence to entrenched positions, and underlying respect for divergent "core beliefs and values" (3). Nevertheless, in circumscribing the framework's role by foreclosing its use in policymaking, the project could not fully realize its potential.

More importantly, given CBAC's narrow framing of the GM food controversy the development of the Acceptability Spectrum/Dialogue Tool could only be conducted outside of its original consultation framework. In the end, the idea fit uncomfortably with CBAC's objective of "improving the regulation of GM food." Thus, the concept is relegated to the appendices of CBAC's final report, presented there as an interesting idea, but not figuring into CBAC's final recommendations.

To the extent that CBAC framed the issue by presupposing the inevitability of environmental release, it prejudged questions fundamental to critics of biotechnology. The pilot project on the Acceptability Spectrum/Dialogue Tool seemed promising as a means of broadening the terms of debate in a way that might have been acceptable to critical NGOs. However, as we have seen, internal tensions between stakeholders in the Pilot Project and CBAC's framing of the study resulted in a diluted form of the original idea, now disconnected from the policy process. By excluding the issue of technological choice from the terms of the debate, CBAC's consultation process undermined the principle of genuine public spheres allowing for contentious parameters of debate to be problematized. In other words, the ideals of the public sphere were

violated in too narrowly restricting the types of questions that would be admissible – i.e., the environmental release of GMOs. In turn, this prejudiced the full participation of all qualified members of the debate, most notably an important segment of biotechnology critics.

"Building Public Confidence" – Information and Rational-Critical Debate

CBAC's education/information provision role may also be examined in light of Habermas' criteria for rational-critical debate. Part of CBAC's mandate is "providing Canadians with easy-to-understand information on biotechnology issues" (CBAC, 2004). Elsewhere, CBAC notes that its commitment to transparency derives from its objective of "building awareness and public confidence in biotechnology" (CBAC, 2002a). In fact, the need for more and better public information provision is a prominent theme in CBAC's work. Experience in the European Union suggests that particular government constructions of "the public" can serve as subtle mechanisms for promoting biotechnology (Hill and Michael, 1998). In fulfilling its education/information role, CBAC has constructed a view of "the public" that trivializes public concern about biotechnology, tending thereby to disqualify lay views as useful contributions to the public debate.

This tendency comes to light in CBAC's treatment of the issue of labelling GM food. Opinion polls indicate that a vast majority of Canadians are in favour of mandatory labelling. However, CBAC recommends a voluntary labelling scheme where the onus is on food manufacturers to identify their products as free of GM food content only if they wish to do so (CBAC, 2002b: 39). It advances several reasons for this position including the potentially prohibitive cost of implementing mandatory labelling (which would require strict segregation of GM and non-GM products) and the fear that a mandatory labelling regime would contravene international trade agreements (42). More importantly, however, CBAC also raises the issue of public understanding of science, suggesting that consumers "could be confused or misled by a label indicating GM content" because of their lack of a clear understanding of genetic engineering (CBAC, 2002b: 38). Public ignorance of scientific issues is therefore seen as an obstacle to implementing mandatory labelling.

A similar argument is developed in CBAC's recommendations for improving transparency in the regulatory system. CBAC tends to attribute concerns with the regulatory system to a lack of understanding on the public's part. It recommends that

> regulators become more effective, transparent and actively engaged in communicating the features of the regulatory system as it relates to GM and other novel foods, including the scientific basis for regulatory decisions related to human and environmental health and safety. (CBAC, 2002b: 21)

In other words, unease about the regulation of biotechnology can be countered with an understanding of the system's basis in "science." Likewise, it recom-

mends that the government appoint a "senior authoritative officer" who would serve as a "spokesperson and coordinator of communications pertaining to the government's policies and practices related to GM and other novel foods" (CBAC, 2002b: 19). Constructed in this way, public concerns about the regulatory system are reduced to issues of poor communication or lack of information.

By adopting this "information" paradigm, CBAC presupposes the existence of uncontested facts in a highly charged discourse and assumes the one-way transmission of knowledge from informed experts to the uninformed lay public. Underlying this view is a commonly drawn upon ideological component of pro-biotechnology campaigns. Based on a discourse of technological determinism, opposition to biotechnology is assumed to derive from ignorance and irrational fears of technology (Kleinman and Kloppenburg, 1991: 432). The proposed remedy is to supply the public with the "information" it requires in order to assuage its unfounded fears. The overall effect is to undermine the role of laypeople as qualified participants in the debate on GM food. By contrast to a model in which the transmission of "information" can settle difficult questions, the force of the better argument is seen as the final arbiter in the ideal of the public sphere. In largely focussing its recommendations for improving the regulation of biotechnology on providing more "information," CBAC undermines an essential dimension of the public sphere: the interplay and contest among competing versions of the truth.

CBAC and the Expert Panel on the Future of Food Biotechnology

As argued above, CBAC's potential as an agent of rational-critical debate on biotechnology must take into account its relation to the wider field of public discourse on the issue. Here I focus on a comparison of CBAC's final report, released in 2002, with the Royal Society of Canada's (RSC) *Expert Panel on the Future of Food Biotechnology*, released the previous year. Given the prominence of the RSC panel and the controversy surrounding its sharp criticism of the Canadian regulatory system, CBAC's engagement with the report can serve as a measure of its success in contributing to the quality of the overall debate on biotechnology. While addressing mostly the scientific dimensions of regulating GM food, the Royal Society report overlaps with CBAC's in a number of areas. Here I focus on four issues in particular: the use of "substantial equivalence"[7] in the regulatory process, the disclosure of

7. This is the principle that GM foods can be considered "substantially equivalent" to conventional foods for the purpose of risk assessment during the regulatory process. In practice, this means that GM foods are not subjected to any regulatory assessment beyond the standard tests for toxicity, allergenicity, and nutrition to which conventional foods are subjected.

scientific data used in the regulatory process, conflict of interest in the regulatory system, and the labelling of GM foods.

In its findings, the Royal Society rejects the use of "substantial equivalence" in the regulatory process on the grounds that claims of equivalence cannot be assumed a priori, but must be proven through rigorous scientific evaluation (2001: 189–190). Challenging the idea that genetic engineering is an inherently "precise" technique, they argue that there may be unintended consequences when novel genes are inserted into new cellular environments (184–185). In this context, they recommend the extensive scientific assessment of all transgenic organisms intended for environmental release that would examine the effects of the introduced transgene at various levels of analysis (DNA structure, gene expression, protein profiling, metabolic profiling) (186–191).

By contrast, CBAC upholds the federal government's stance on "substantial equivalence," citing its wide international application (CBAC, 2002b: 29). In their review of the Canadian regulatory system, they find "no evidence to indicate that substantial equivalence has been used as a decision threshold to exempt GM foods from appropriate regulatory oversight" (27). The essential difference lies in CBAC's claim that the process of genetic engineering poses no unique risks compared to traditional breeding and mutagenesis, and therefore that GMOs need not be treated any differently in the regulatory process. Inasmuch as GMOs are already subject to the same scientific assessment as other new biological strains of plants and animals, CBAC maintains that they have been subject to appropriate regulatory oversight. This departs sharply from the RSC's recommendations, which are based on the idea that only rigorous testing of a new GMO can determine whether there have been any unintended consequences in the process of its production. The RSC's rejection of "substantial equivalence" and recommendations for more stringent testing of GMOs would have fundamentally altered the regulatory status quo. CBAC's defence of its essential principles would preserve the generally industry-friendly model.

The Royal Society also made stringent recommendations for the disclosure of scientific data used in the regulatory process, recommending that all approvals be subjected to independent (i.e., non-governmental) and published peer review (RSC, 2001: 218). The Royal Society criticizes the conflict of interest evident in the laxity of data disclosure in the regulatory process:

> the public interest in a regulatory system that is "science based" — that meets scientific standards of objectivity, a major aspect of which is full openness to scientific peer review — is significantly compromised when that openness is negotiated away by regulators in exchange for cordial and supportive relationships with the industries being regulated. (214)

There is a significant contrast between the Royal Society's more critical position and CBAC's preoccupation with maintaining a less demanding

regulatory environment. While it recommends the public disclosure of scientific data used in assessing novel foods, it does so with the qualification that no information be released that "could unduly jeopardize a company's competitive position (e.g. details of how to manufacture the product)" (CBAC, 2002b: xiv). Meanwhile, there is no recommendation that the scientific data used in the approval process be subjected to external peer review.

In general, The Royal Society went further in admonishing the government's regulatory conflict of interest. Both bodies contended with allegations that the Canadian Food Inspection Agency (CFIA) compromised its regulatory role by actively promoting biotechnology. In response to a particular incident in which the CFIA sponsored an advertisement promoting biotechnology in the magazine *Canadian Living,* the Royal Society wrote:

> If the same government agency that is charged with the responsibility to protect the [sic] public health and environmental safety from risks posed by technologies also is charged with the promotion of that same technology, and if its safety assessments are, by official policy, balanced against the economic interests of the industries that develop them, this represents ... a significant conflict of interest. (2001: 212)

CBAC is much more equivocal in the matter, citing only the accusation of conflict of interest, and recommending better mandate definition and communication with the public to avoid such perceptions (2002b: 15-19). Meanwhile, the Royal Society recommends that regulatory agencies and officials take great pains to maintain their objectivity and neutrality in making public statements about GM food (2001: 218).

On the issue of labelling, both the Royal Society and CBAC recommended in favour of a voluntary scheme. According to the RSC's report, there currently is not sufficient scientific evidence to justify mandatory labelling on the grounds of threats to human health or the environment (2001: 226–227). Nevertheless, the RSC qualifies its stance by insisting that it is premised on the implementation of very rigorous and comprehensive new risk-assessment guidelines (225). CBAC recommends against mandatory labelling while at the same time upholding the regulatory system's basis in the contested principle of "substantial equivalence." By contrast, the Royal Society recommends a drastically more demanding assessment process that, in their view, would obviate the need for mandatory labelling.

In summary, the Royal Society, on many counts, went much further than CBAC in subjecting the Canadian regulatory system to full scrutiny. The Royal Society report also lends more weight to the potential dangers of genetic engineering, resisting the rhetoric of precision and control promoted by the biotechnology industry. A systematic comparison of the two reports suggests that CBAC's report did not contend seriously with the challenges posed by the RSC. In turn, this placed limits on CBAC's ability to adequately contend with the wider public debate on biotechnology in Canada. In Brekke and Eriksen's

(1999) terms, by contradicting in some cases point-for-point the recommendations of the Royal Society, CBAC failed to meet the public test of deliberating upon and reflecting significant dimensions of existing public opinion.

Seen in this light, CBAC has essentially served a public relations role as an *integral* component of the government's pro-biotechnology strategy. In precisely the way described by Habermas, this type of public relations exercise seeks to acquire "from a mediatized public an acclamatory consent, or at least benevolent passivity of a sort that entails no specific obligations" in a bid to either mobilize political support, or "neutralize political counterpressure" (1989: 200). While promising to "give Canadians an ongoing forum to voice their views and participate in an open and transparent dialogue on biotechnology issues" (CBAC, 2002a), CBAC delivered a report that diverged little from established government policy. This case study suggests that, in spite of its promise, CBACs main function has been to generate "manipulated publicity," thereby diminishing the quality of public debate on biotechnology in Canada.

Biotechnology, the State, and Refeudalization

While deeply committed to biotechnology in terms of financial and political investment, the Canadian government has also sought to respond to public concerns with the safety, ethics, environmental impact, and overall desirability of GM food. As an integral part of its biotechnology strategy, CBAC embodies these contradictory roles of the state. In this section, I argue that the Canadian state's commitment to developing biotechnology is best understood in relation to the adoption of a neo-liberal discourse of "technological innovation for competitiveness." In the context of globalization, the state's increasing preoccupation with international competitiveness has constituted a vehicle for "refeudalizing" the public sphere with respect to new biotechnologies. In keeping with Habermas' structural analysis, I contend that political-economic changes impinging upon relations between civil society and the state can help explain constraints on the possibility of a rational-critical public debate.

The Canadian state's role as both industry "cheerleader" and regulator for biotechnology is best summarized in the Canadian Biotechnology Strategy. The first National Biotechnology Strategy was launched in 1983, when the government first "foresaw the sector's enormous potential" (Government of Canada, 2002a: 1). The current version of the Strategy asserts that "Canada is committed to creating the conditions conducive to innovation and the sector's ongoing growth, while, first and foremost, protecting human and animal health and the environment" (1). The document thus (unproblematically) recognizes the dual goals of the government in promoting and regulating biotechnology. Elsewhere, the CBS elaborates upon its purpose:

> ensuring Canadians fully realize biotechnology's potential to improve Canadians' quality of life in terms of health, the environment, and social and economic development; and to position Canada as

a responsible global leader in the development and application of biotechnology. (Government of Canada, 2002b)

CBAC's advisory role corresponds to the CBS's claim to pursue the "responsible" development of biotechnology. Through this role, CBAC is intimately linked with the Canadian government's broader biotechnology strategy. CBAC reports to the Biotechnology Ministerial Coordinating Committee (comprised of the ministers of Agriculture and Agri-Food, Health, Environment, Fisheries and Oceans, Natural Resources, International Trade and Industry), which also oversees the CBS. Thus, CBAC reports to an overtly pro-biotechnology body and receives its $3 million in annual funding from the Canadian Biotechnology Strategy Fund.

Habermas' concept of refeudalization aptly captures the essence of the conflict of interest embodied in the CBS and its implications for public discourse. The state has taken on a direct role in the sphere of social reproduction by committing itself to a development strategy based on a risky new technology. At the same time it asserts its duty to the public in protecting human health and the environment. The consequence is that public and private interests become hopelessly entangled. It becomes effectively impossible to separate the state's stake in championing the private interests of the biotechnology industry from its responsibility to preserve the public good. In order to mediate this contradiction, the state has engaged in public relations campaigns that on one hand promote biotechnology as a panacea for improving human health, environmental sustainability, and alleviating world hunger, while on the other hand attempt to allay public concerns with compromised consultations.

Why has the Canadian state committed itself to this biotechnology to begin with? The Canadian Biotechnology Strategy points towards a plausible explanation. A major emphasis of the document is on promoting Canadian "competitiveness," "innovation" and a favourable "investment climate" (Government of Canada, 2002a). In this context, the development of biotechnology will serve to "enhance Canadian competitiveness and create a more innovative economy" (Government of Canada, 2002a: 1). This preoccupation, in turn, can be linked to processes of globalization, which have amplified the state's impulse for international competitiveness. Canada's Innovation Strategy (the broader framework of which the CBS is a part) outlining the scientific, and technological basis for Canada's economic competitiveness, must be understood in the context of the immensely increased mobility and internationalization of capital.

Accounts of globalization have either emphasized a decline in the power of the state, often to the point of asserting the state's irrelevance or redundancy, or alternatively, the continued centrality and relevance of the state in an era of transnational capitalism (Knuttila and Kubik, 2000: 152-157). No doubt, the role of the state is in many instances more circumscribed than during the height of the Keynesian welfare state. Nonetheless, processes of globalization have

also engendered new roles for the state. Adjustment to the new economic realities of globalized capitalism has, in fact, *required* the intervention of a strong state (Evans et al., 2000: 94). Often it is states themselves that have negotiated the types of constraining international agreements that epitomize globalization.

In the context of more open national economies, the state is impelled to promote new economic sectors, most often involving the development of new technologies, in order for national economies to remain competitive (Jessop, 1994: 261). Under conditions of increased capital mobility, states are under pressure to attract investment in a very competitive international environment. Along with a fixation on achieving flexibility in the labour market, this preoccupation with competitiveness is part of a "reorientation of the state's primary economic functions" (Jessop, 2000: 262). States have thus taken on a new and intense concern with international competitiveness.

This dynamic provides a provisional explanation for the Canadian state's enthusiasm for biotechnology. The state has developed and promoted biotechnology and its related industries in a bid to maintain or improve its position in a highly competitive environment of mobile capital and free trade. Though it is common to associate globalization with a withdrawal of the state from the economy, it is more accurate to claim that the state has taken on new functions under changed conditions. Paradoxically then, the "refeudalized" character of capitalist society is preserved even amidst a political climate of free-market ideology.

For such an important and complex societal issue as biotechnology, this refeudalization has serious consequences. It casts doubt on the ability of the government to either solicit or act upon rational-critical public debate on GM food. Having made biotechnology central to its development strategy, the state is limited in its ability to effectively respond to legitimate public concerns about the long-term implications of the technology. Under these circumstances, we can expect the state to continue to support the rapid commercialization of GM foods, to preserve its industry-friendly and risky regulatory regime, and to continue to sell biotechnology to a wary public through sophisticated public relations exercises. In this light, an initiative such as CBAC, which had potential as a forum for genuine, critical public debate on GM food, must be seen as an opportunity squandered.

Conclusion

Based on Habermas' ideal of the public sphere, I have provided a normative evaluation of a government consultative body on biotechnology in Canada. In turn, I have used this case study to examine ways in which changing roles of the state under globalization can impinge upon the possibility of rational-

critical debate on risky new technologies. The Canadian state maintains a policy of actively promoting the biotechnology sector as a response to increased pressure to maintain "competitiveness" in the global economy. In its dual roles of promoting and regulating biotechnology, the state's efforts at addressing public concerns over GM food, for example, through consultative bodies such as CBAC, descend to the level of public relations. Thus, even the globalized state retains the "refeudalized" characteristics that represent the interpenetration of state and society given in Habermas' account of the rise of the welfare state. Under such conditions, where public and private interests are easily confounded, public discourse tends to fall prey to the sophisticated opinion-moulding exercises of both governments and powerful private interests. As a consequence, the interweaving of powerful biotechnology interests and state support tend to render the debate around GM food more susceptible to "manipulated publicity."

Here I must point out the limitations of this analysis. While I have stressed the structural factors associated with processes of globalization that have shaped the state's commitment to biotechnology, there is a danger that these arguments descend into crude functionalism. Taken to its extreme, this approach casts the state as a fully determined entity, acted upon exclusively from the outside. Such arguments can also become teleological in that all interpretations of state action as somehow serving an important function for capitalism follow from the very definition of the state as a structure in the service of capital. Habermas himself tends towards this brand of functionalism to the extent that he casts the state as the mediator of the contradictions of capital, as for instance, in his explanation of the interpenetration state and economy in *The Structural Transformation.*

This approach lacks an account of the internal dynamics and tendencies that have shaped state biotechnology policy in Canada. A necessary supplement to the preceding account would be a detailed empirical account of the various actors and agencies that have played a role in concretely determining Canada's biotechnology policy. Kuyek (2002) has carried out a useful social history of biotechnology policy in Canada by carefully tracing the origins of the state's pro-biotechnology stance through the dense networks of scientists, bureaucrats, entrepreneurs and politicians that have given it its shape. Just as they cannot be reduced to external and structural factors alone, however, neither can the actions of the state be reduced to the wills of individual actors. Certainly the Canadian state's official promotion of biotechnology has not been inevitable. In the end, therefore, an analysis of particular state policies and actions must take into consideration structural factors, the internal dynamics of the state as well as the concrete and contingent actions of particular actors.

Furthermore, I have proceeded on the assumption that agencies of the state, such as CBAC, have at least the potential to serve as forums for promoting

rational-critical debate on contentious social issues. While this assumption is open to criticism, experiences in other countries suggest that state-organized forums can serve such a function. The Danish Board of Technology's "consensus conferences," where ordinary citizens, in dialogue with a panel of experts, assess new technologies according to a wide range of issues is a good example (Middendorf et al., 2000: 120). This is only one example of different paths towards the democratization of technological choice. Regardless of the mechanism, democratic technological choice must, in the first instance, be premised on a full and critical public debate of these matters. As long as the Canadian state remains resolutely committed to biotechnology, however, any government-sponsored forum toward this end seems likely not to succeed.

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