

**HOW BREAKFAST IS SERVED:
GLOBALIZATION, THE PRESS IN CANADA
AND GENETICALLY MODIFIED FOOD**

**by
Irena Knezevic**

**A Thesis
Submitted to the Faculty of Graduate Studies and Research
through Communication Studies
in Partial Fulfillment of the Requirements for
the degree of Master of Arts at the
University of Windsor**

**Windsor, Ontario, Canada
CC (Creative Commons) 2005
BY Some Rights Reserved**



Library and
Archives Canada

Bibliothèque et
Archives Canada

Published Heritage
Branch

Direction du
Patrimoine de l'édition

395 Wellington Street
Ottawa ON K1A 0N4
Canada

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file *Votre référence*

ISBN: 0-494-09741-8

Our file *Notre référence*

ISBN: 0-494-09741-8

NOTICE:

The author has granted a non-exclusive license allowing Library and Archives Canada to reproduce, publish, archive, preserve, conserve, communicate to the public by telecommunication or on the Internet, loan, distribute and sell theses worldwide, for commercial or non-commercial purposes, in microform, paper, electronic and/or any other formats.

The author retains copyright ownership and moral rights in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

AVIS:

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque et Archives Canada de reproduire, publier, archiver, sauvegarder, conserver, transmettre au public par télécommunication ou par l'Internet, prêter, distribuer et vendre des thèses partout dans le monde, à des fins commerciales ou autres, sur support microforme, papier, électronique et/ou autres formats.

L'auteur conserve la propriété du droit d'auteur et des droits moraux qui protègent cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

In compliance with the Canadian Privacy Act some supporting forms may have been removed from this thesis.

Conformément à la loi canadienne sur la protection de la vie privée, quelques formulaires secondaires ont été enlevés de cette thèse.

While these forms may be included in the document page count, their removal does not represent any loss of content from the thesis.

Bien que ces formulaires aient inclus dans la pagination, il n'y aura aucun contenu manquant.


Canada

1032562

Copyright (c) 2005 Irena Knezevic

Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.2 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled "GNU Free Documentation License".

Abstract

The issue of genetically modified food is critically examined in the context of corporate globalization, particularly the economic globalization of agriculture. Potential risks to human and environmental that are associated with genetic modification are reviewed, as well as the threats to farm economy, social dynamics of farming communities, and pressures on countries battling the problem of hunger. Advertising and public relations strategy used by large agricultural corporations is compared to the coverage found in Canadian corporate-run press. The coverage is analyzed from a critical perspective and found to closely resemble the advertising materials of agricultural corporations. The slanted coverage found in Canadian newspapers is interpreted in the context of corporate controlled media and the proliferation of neoliberal ideology.

Acknowledgements

I wish to thank several individuals without whom this thesis would have never been completed. First and foremost, my thanks go to Dr. Scatamburlo-D'Annibale for her endless guidance and support that always exceeded my expectations. Dr. Winter and Dr. Mogyorody inspired me and have been supportive of both academic and non-academic aspects of my journey; I can only be grateful. I am forever indebted to Ron Tiessen, who has given me direction and years of mentorship, friendship, and forgiveness. Sandy, Anne, and Sharron, went beyond their call of duty and my thanks go out to them. I would also like to thank my family, *especially* my mother - whose encouragement never ran out - even when she disagreed. Finally, my friends who never lost their faith in me deserve my most sincere thanks - Patricia, Tory, Pam, Jackie, Jeremy, Lynn, Amanda, Annelis & David, Perusek, Elizabeth, Tymstra, Su, Pics, Q, Edie & Jim, Shawn, Dr. D., Scotty, and Alisa.

TABLE OF CONTENTS

ABSTRACT	iv
ACKNOWLEDGEMENTS	v
I. Introduction	1
II. CHAPTER 1	
NEOLIBERALISM AND CORPORATE GLOBALIZATION	6
Neoliberal Ideology	6
Neoliberal Strategies	9
Silencing the Critics	12
Not Futile!	15
III. CHAPTER 2	
THE GLOBALIZATION OF AGRICULTURE	18
Industrialization of Agriculture: A Pillar of Corporate Globalization	18
Patents and Regulations	21
The Demise of the Family Farm	25
IV. CHAPTER 3	
THE CONTROVERSY OVER GENETIC MODIFICATION	30
How We Got Here	30
The Process of Modification	33
Scientific Reductionism	36
Risks Involved	40
Human and Animal Health	41
Biodiversity	42
Soil	43
Common Myths	44
Resistance	49
V. CHAPTER 4	
MANUFACTURING IMAGE – FOOD AND PUBLIC RELATIONS	51
Public Relations or Manipulation?	51
PR Firms and the Corporate World	53
Spinning Your Dinner	57
VI. CHAPTER 5	
MEDIA AND THE NEOLIBERAL PROJECT	62
News or Propaganda?	62
News Production	65
Media Goes Global	68
VII. CHAPTER 6	
CRITICAL DISCOURSE ANALYSIS – METHODOLOGY IN THEORY AND PRACTICE	72
Critical Discourse Analysis – an Overview	72

Description	75
Framing	77
Greenwash	78
Criticisms	80
Language and Neoliberalism	83
News as Discourse	84
Data Collection	86
VIII. CHAPTER 7	
CANADIAN PRESS COVERAGE OF GENETICALLY MODIFIED FOOD	89
GM Crops are Beneficial	91
Feed the World	92
Farmers Love GMOs	94
GMOs Are Not Unsafe	95
GMOs Are Good For the Environment	98
Opponents Are Bad	99
Economic Benefits of GMOs	101
Greenwash	104
Negative Coverage of GMOs	106
Discussion	108
IX. CONCLUSION	113
Social Responsibility	115
What Now?	118
Suggestions for Future Research	120
Personal Note	121
REFERENCES	123
APPENDIX:	
GNU Free Documentation Licence	135
VITA AUCTORIS	142

INTRODUCTION

The most significant markers on the timeline of human history, events like wars, the rise and fall of empires, and revolutionary developments in technology, have often been about two (mostly synonymous) things: power and material wealth. Civilizations, cultures, technologies, and belief systems have all been built for the benefit of some and at the expense of others. As Walter Benjamin (1968, p. 256) cogently reminds us, there “is no document of civilization which is not at the same time a document of barbarism.” The suffering of “others” has traditionally been justified by whatever the dominant ideology of the day in a given location, whereas the ideas of equality (both among humans and between humans and our natural surroundings) have intentionally been marginalized lest they interfere with the interests of those in power. Yet, when circumstances allowed those marginalized ideas to spread and gain momentum, change has proven possible. Examples of such change need not be listed, but include the abolition of formal slavery in North America, realization of independence (at least in theory) of many colonies, and the gradual weakening of a rigid patriarchal grip in Western societies, to mention just a few. Still, the fight continues around the world, as those in power continue to oppress and profit from the less fortunate, all the while devastating our natural surroundings and resources. The current injustices are many, and regrettably, not any less significant than those of the past.

The following pages address one of those injustices, one that plagues the entire planet affecting humans and the environment – the process of corporate

globalization, which has been nothing more than a modern version of colonialism. While this new colonialism encompasses other injustices such as racism, patriarchy, and military dominance, the particular process of corporate globalization has managed such success largely due to the fact that it has been presented as a natural, inevitable way of the modern world. From this point forward, I will refer to this ideology as neoliberal ideology or neoliberalism—a topic that will be further elaborated in Chapter 1. The systematic abuse of natural and human resources, associated with this process, has been accompanied by a propaganda machine so powerful, that even this text itself is laden with terms associated with the given ideology. Even talking about the labour force and the natural wealth of the planet, and referring to them as “resources”, is something strongly linked with neoliberalism. As Chief Oren Lyons of the Onondaga once said in a lecture to design students at West Virginia University: “You must understand first that what you people call natural resources, my people call our relatives” (cited in McDonnough, 1999). Calling the neoliberal propaganda machine “effective” would be an understatement, and the way in which the proliferation of corporate ideas has been made possible is truly a work of art. My work, however, will not admire this brilliance, but rather attempt to critically analyze one slice of it. The subject I try to tackle is that of genetically modified foods, which are one of the more troubling examples of corporate globalization.

Moving away from the hunter-gatherer societies and being able to produce our own food is what truly distinguishes humans from other animal species.

Humankind has practiced collecting and planting seeds and domesticating animals for food for some 11000¹ years (Diamond, 1999). Centuries of farming and gardening have provided humanity with tools of survival seemingly unknown to other animals. Yet, modern day food production is increasingly moving away from being just a means of survival. At the risk of sounding apocalyptic, I dare say that the very presence of genetically modified organisms on this planet threatens the world's food security, biodiversity, and the complex workings of nature that we are yet to understand. The obvious question then jumps at us: why are they there? Genetically modified organisms (GMOs), we are told, are there because we need to feed the hungry and provide food that is more nutritious and easier to grow. However, I (and many others) argue that GMOs are only there to benefit corporate giants by allowing them to profit from biotechnology, and also by guaranteeing them a firmer grip on food production. Patented seeds, along with all the products necessary to grow those seeds (which are manufactured by the same corporate giants that produce the seeds) have the potential of giving those corporations absolute control over the world's food production. In arguing this, I will attempt to explain how this has been made possible and touch on a variety of issues tied into the food game--a game that bears stark resemblance to a dazzling game of chess where each piece is doing its apparently separate job, while the mastermind moving the pieces has only one goal in mind. While the goal of corporate globalization is quite clear - the goal of profit - the pieces on the board include and are not limited to:

¹ Estimates on this vary, but most historians agree that humans have been cultivating their own food for the last ten to fifteen thousand years (Diamond, 1999).

industrialization of agriculture, promotion of new technologies as always indicative of progress, the public relations industry, centralization and commercialization of media, blatant disregard for natural balance and future generations, continuous avoidance of sustainable practices as unprofitable, and subtle but stunning manipulation of public discourse and value systems.

Chapter 1 reviews literature critical of globalization and neoliberalism. Globalization of farming and the demise of family farms around the world are discussed in Chapter 2. Chapter 3 examines some of the current literature describing a variety of risks related to genetically modified organisms (GMOs), the risks having to do with human health, soil quality, and ecology. The role of the public relations (PR) industry in promoting GMOs is assessed in Chapter 4, while Chapter 5 describes some of the problems associated with commercialization and centralization of media. Chapter 6 explains the methodology chosen for this study, and describes the growing movement among social researchers striving to identify and define neoliberal ideology in public discourse, as well as offer alternatives and forms of resistance. To illustrate corporate propaganda, Canadian press coverage of GMOs is analyzed in Chapter 7. Specifically, the coverage found in papers published by print media giants such as CanWest Global, Transcontinental, and Osprey Media, is critically examined in that chapter. Finally, the concluding section suggests some possible alternatives to information production and exchange, as well as suggestions for policy and practice changes that could and should be implemented immediately.

The approach to my work is best described as multiperspectival (Kellner, 1995), given that I extrapolate key ideas and concepts from several critical theoretical frameworks and interpretive strategies. Firstly, I ground my understanding of the controversy of genetic modification within the current critical theory on corporate globalization. Secondly, I try to gain perspective on the current climate in mainstream media using the tools of Herman and Chomsky's Propaganda Model. Finally, I interpret my findings utilizing the method of critical discourse analysis, which has extended itself beyond a simple methodology in its examination of neoliberalism. These three approaches intersect frequently in their application, and I found that exploring the chosen topic from only one of these perspectives would have been limiting.

CHAPTER 1:

NEOLIBERALISM AND CORPORATE GLOBALIZATION

Neoliberal Ideology

The oppressors do not perceive their monopoly on *having more* as a privilege which dehumanizes others and themselves. They cannot see that, in the egotistic pursuit of *having* as a possessing class, they suffocate in their own possessions and no longer *are*; they merely *have* (Friere, 1970, p. 45).

To critically analyze global economic interdependence (generally referred to simply as “globalization”, as to obfuscate the economic basis of the process), two common misconceptions have to first be exposed: (i) that the process of globalization is inevitable and necessary; and (ii) that this process is a new, modern-day phenomenon. Contemporary modes of transportation and communication have shrunk the globe and increased our awareness of events in other areas of the world. However, to interpret international economic entanglements as “new” is to deny that for the last several centuries we have seen a move of hundreds of thousands of immigrants to the American continent, Australia, and elsewhere, exchanging and mixing cultures, food, farming practices, religion, and social structures. This would mean trying to obscure the many decades of prevalence of chili sauce in China, coffee in South America, or corn and potato in Europe (Trouillot, 2003). Worse yet, to treat globalization as a modern invention is to ignore centuries of oppression, slavery, exploitation, and genocide, to glorify explorers while conveniently ignoring colonialism.

Historical accounts of national liberation movements in the last two centuries would have one convinced that, as nations declared independence one

by one, colonialism slowly died and humanity gained understanding that military and political might did not equal entitlement to all of the world's natural and labour resources. Today's critics of global economy argue that the only difference between colonialism and the new big business agenda is that the former was orchestrated by empires (monarchical governments) and the latter is spearheaded by transnational corporations (TNCs). In fact, such critics even refer to economic globalization as Corporate Colonialism (Korten, 1995), or New Imperialism (Roy, 2004).

Unlike in the old days, the New Imperialist doesn't need to trudge around the tropics risking malaria or diarrhea or early death. New Imperialism can be conducted on e-mail....In the new era, apartheid as formal policy is antiquated and unnecessary. International instruments of trade and finance oversee a complex system of multilateral trade laws and financial agreements that keep the poor in their bantustans anyway (Roy, 2004, p.3-4).

Whereas empires saw themselves as superior to those they were oppressing, present day businesses justify their actions according to the ideals of the "free market", a capitalist concept that has come to symbolize opportunity and freedom.

The freedoms of corporations are implied in the idea of the free market and are solidified by an endless list of trade agreements and patent laws, which frequently override state laws and national regulations. Colonialism has a new name and a re-written set of rules; however, those rules have only served to legitimize neo-colonialism (or neoliberalism) as a lawful process rather than one of occupation (Khor, 1999). This expansive course of action tends to be viewed as a form of progress, and even those who criticize it often focus on lucrative

businesses such as oil and diamond operations, but neoliberalism encroaches much more than that. Sweatshop labour, deforestation, abuse of fresh water sources, and market expansion, to list just some, are all a part of the process. Food security has not been spared and the “modernization” of agriculture has handed control over food to TNCs while jeopardizing access to food in the parts of the world where sustainable food production is of greatest concern.

The International Monetary Fund (IMF), World Trade Organization (WTO), and the World Bank, as well as a variety of trade agreements, have all been introduced under the pretense of “development”. The simple use of the word “free” in free trade is supposed to imply fairness, freedom, progress, and economic benefits to all. The reality, however, paints a different picture, one in which the gap between the rich and the poor is widening. According to the UN Food and Agricultural Organization, the number of chronically hungry people has actually been increasing since the early 1990’s, that being after a steady decline in those numbers during the 1970’s and 1980’s (The International Forum on Globalization (IFG), 2002, p. 6). The world’s natural resources are being depleted at a rapid rate resulting not only in the exploitation of existing impoverished populations but also setting up a form of intergenerational exploitation that will negatively impact future generations. At the same time TNCs, including large agri-business corporations, have been showing an increase in profits and a steady growth of power. Large businesses are taking over, pushing small operations out of business, a process sometimes referred to as “Walmartization” in honor of the widely despised Walmart chain. Local economies, in turn, are

becoming more and more dependent on the large corporations that rule the world's markets. The strategy used to accomplish this, or as Lubbers called it "a bag of dirty tricks" (2002), includes and is not limited to: free market competition (which is usually far from fair), elaborate PR tactics, well funded lobbying that helps introduce business-favourable regulations, bait offerings to local economies, and at times threats and even military interventions. Clearly, states and people with the least political and economic power have been the most vulnerable targets of such practices and hence have been subjected to neocolonialism to the greatest extent. Despite this, neoliberalism's apologists still try to justify the process and try to represent corporate globalization as a form of progress, but Roy argues that "[d]ebating imperialism is a bit like debating the pros and cons of rape" (2004, p.1). While the effects of corporate globalization on food production will be further examined in Chapter 2, the following pages will briefly look at some of the common neoliberal practices and their results.

Neoliberal Strategies

The core characteristic of neoliberal ideology, which drives corporate globalization, is that finances come before everything else. Environmental issues and human rights are seen as less important than the "rights" of corporations to pursue profits. Although we are to believe that this process itself is inevitable, the International Forum on Globalization (2002) argues that, in fact, it is not an expression of evolution:

Modern globalization....was designed and created by human beings with a specific goal: to give primacy to economic - that is, corporate - values above all other values and to aggressively install and codify those values globally (p.18).

Privatization is one of the main vehicles of globalization. The process of transforming public services into private enterprises has been applied to a variety of operations around the world, including health care and education. Public services have been systematically dismantled giving way to corporations overtaking such things as hospitals, water and sewage, formerly state-owned oil industries, and agricultural co-ops. Moreover, water, natural areas (formerly considered the commons²), and even culture, have all been commodified to open doors for private profits.

Well-funded lobbying and generous contributions to political campaigns, at least in North America, have given big business an unparalleled amount of control over state regulations and environmental policies. Even more importantly international trade agreements, although facilitated by state officials, have been dictated by big business and have allowed corporate interests to override public interests around the globe. Trade agreements also tie back into privatization tactics by enabling businesses to legally challenge many state funded or subsidized services as “unfair competition” and impose big business prerogatives upon countries whose economies are already threatened by transnational corporations. The General Agreement on Trade in Services (GATS), under the WTO, has allowed for the private takeover of public services from social security

²The “commons” were the commonly owned properties in feudal societies (particularly England) that were used for pastures, collecting wood, fetching water, and hunting. These properties were carefully managed by the communities of peasants who were collectively using the natural resources available. The “enclosures” movement of the Middle Ages was essentially a privatization process that took away the land from the peasants and put it into the hands of the already wealthy and powerful. Large amounts of land became inaccessible to those who needed them the most (see McQuaig, 2001). Today’s global commons include the air and large bodies of water, although the situation with water is rapidly changing (see Barlow and Clarke, 2002).

to prisons. Canada has experienced many legal challenges under NAFTA (specifically, Chapter 11 of NAFTA), and American companies have not stopped short of challenging even the public services of Canada Post as unfair competition to US courier service providers. When Canada attempted to ban MTBE, a harmful gasoline additive, NAFTA served to overthrow the decision as an injustice to American companies even though that same additive had already been banned in the state of California. Under NAFTA, the US can make demands with respect to Canadian fresh water, energy, and even food-related policies.

Trade agreements, however, are only the overt component of neoliberal strategy. Image, which is often built upon nothing more than blatant and inconsiderate lies, has been carefully crafted for TNCs and other big business, as well as for such political powers as the US government. This is subsequently examined in Chapter 4, but at this juncture, let it be said that corporate image-making has been a despicable example of exploitation and deceit and has significantly contributed to blind consumerism and lack of substantive action in the so-called developed world.

Scientific practices have also been manipulated to serve the interests of big business. While corporate funded scientific “research” has been fully corrupted, research findings that have questioned neoliberal ideology and practices have been systematically silenced. It is to that topic that I now turn.

Silencing the Critics

One of GM industry's favourite ways of promoting their products is the notion that the opposition's arguments are unfounded and unreasonable. This notion suggests that the opposition is rooted in superficial interpretations of biotechnology as "unnatural". The industry would like the consumers to see the opposition as an irrational mob, somewhat resembling the medieval Christian church's resistance to sound science. Where this notion loses ground is that the vast majority of GMO opponents do not oppose them as something morally wrong. Rather, they argue that GMOs are dangerous and grossly unnecessary.

For instance, until 1998 Dr. Arpad Pusztai was nothing short of a cheerleader for genetically modified foods. Because of his work, his employer, the Rowett Research Institute in Scotland, received a large amount of money in 1995, to study potatoes modified with a protein. Pusztai studied the protein and found it to be completely safe for human and animal consumption even in large amounts. However, when he modified potatoes with this harmless substance the resultant potatoes proved to be harmful when fed to mice and caused a variety of systemic problems including damaged organs and immune dysfunction (Smith, 2003, p.13). Pusztai's work would become (in)famous through a media frenzy that followed his appearance on a British TV show "World in Action" (ITV) in August of 1999. Fearing that they would lose funding, the Rowett Institute discredited Pusztai's research (despite the fact that the prestigious medical journal Lancet went ahead and published his findings), questioned his integrity

and eventually fired him, even though his fifty-year career had established him as one of the most respected scientists in the world.

In 2001, the journal *Nature* published the work of Prof. Ignacio Chapela from UC Berkeley and David Quist indicating that GMO experiments with maize, conducted by Novartis (merged with Syngenta since then) had contaminated fields of indigenous corn varieties in southern Mexico (Quindel, 2004). Promoters of GMOs then challenged Chapela's reputation and in 2004 Chapela was denied tenure at Berkeley, despite the fact that he had been a faculty member for a number of years. Chapela not only published his finding about the maize scandal, but also criticized his home institution for close ties between their research and corporate funding. Backed by many supporters, Chapela is now taking his tenure case to court, but this long process will certainly prove damaging to his career by taking him away from his research.

In 2004, Health Canada fired three of their veterinarians, citing refusal of responsibility and disobedience (Weinberg, 2004). Chopra, Haydon and Lambert, along with the late Bassuade, had filed a complaint back in 2002, alleging that they had been pressured to approve veterinarian drugs without evidence of safety. The team had also been responsible for Health Canada not approving Monsanto's controversial recombinant Bovine Growth Hormone (rBGH) in the 1990's³. In 2003, before the May discovery of mad cow disease in Canada, they had warned that the Canadian Food Inspection Agency and the food industry were not doing enough to prevent animal protein contamination of cattle feed.

³ For more information on rBGH and the controversy surrounding it see Chapter 6 as well as Stauber and Rampton, 1995; Smith, 2003; and www.monitor.net/rachel/r593.html

The scientists have appealed their dismissal and the case is being reviewed by the Federal Court at this time (Bueckert, 2005).

These are just some examples of how science is compromised; the big picture shows an even more disturbing landscape. According to Smith (2003) the entire body of scientific research studying the safety of GM food is very lean: there are not nearly enough studies, the studies that have been done are largely funded by the industry, are incomplete, and published in non-peer-reviewed periodicals. Additionally, those few independent and thorough studies all unanimously claim that there are clear risks associated with GMOs. (Those risks are further discussed in Chapter 3.) Corporate funding greatly eclipses independent and public funding and industry funded research is often designed to produce results favourable to the industry. When it doesn't, scientists are frequently asked to change or not publish results (Smith 2003, p. 40). Corporate funding is increasingly influencing academic research. As the Globe and Mail noted:

Over the past 10 years, the University of Guelph [Ontario] has doubled the amount of funding it gets from corporations, which now accounts for about 15 per cent of its total research budget. In 1999-2000...the university received \$1.2-million in research funding from Novartis, one of the corporate champions of genetically modified crops (McIlroy, 2001, p.1).

This blatant example of the corporatization of the university does not bode well for academic institutions in particular nor for the general public which such institutions are supposed to serve.

Not Futile!

Far from being a self destructive species, humanity is hell-bent on its own survival. Humanity will not intentionally destroy itself. It will always strive to make its own existence more comfortable. Destruction and conflict occur when one section of humanity seeks this comfort at the expense of another. Humanity has the capacity to better itself to universal advantage. When it recognizes the need for betterment, it will occur (Phutyle International, 2004, p.1).

Neoliberal corporate globalization in general, and GMOs in particular, are after all human creations. As powerful and intimidating as they are in our world, they are just that – imperfect and conquerable human creations. Whereas the contemporary path of neoliberalism seems to be one of gloom and doom, it is *not* the only path. The resistance to this path of exploitation, machinations, and destruction is not only existent, but also grows stronger every day. Social movements are expanding around the globe. The Zapatistas in Mexico have been fighting for the basic right of self-sustainability since NAFTA came into effect over a decade ago. The Multilateral Agreement on Investment (MAI), promising to be the most damaging economic document ever, was botched in 1997 following the exemplary international movement spearheaded by the Council of Canadians.⁴ Despite the well-funded attempts of big businesses (led by lobby groups' influence over the US government) to prevent the Kyoto Accord from being ratified, it was ratified in 2004 suggesting an awakened international awareness of environmental problems. Capitalist prescriptions are encountering

⁴ For more information see Barlow and Clarke (1997), *The Multiple Agreement on Investment*, New York: Apex Press

increasing resistance and recent uprisings in countries like Bolivia suggest that the struggle against Western-inspired globalization is far from over⁵.

Neoliberal ideology is bound on minimizing regulations and making it possible for big businesses to profit whatever the cost to the underprivileged or the environment. Public interest comes second to profiteering in the world of corporate globalization. In 1994, Peter Sutherland, serving at the time as the Director General of GATT stated that: "Governments should interfere in the conduct of trade as little as possible" (cited in Wallach and Sforza, 1999, p. x). Disabling governments can only lead to a disabled citizenry and the resistance to the process is minimized by a variety of neoliberal strategies, some of which are discussed in Chapter 4 and Chapter 6. It is important to recognize, however, that "the bag of dirty tricks" corporate strategy has only become more elaborate and more sophisticated in recent years. This, by and large, is a result of some obvious global developments – increased knowledge among the oppressed, strengthened resistance, and improved communication among those who see through the façade of the "inevitable" corporate globalization. The defeat of the MAI in 1997, the 1999 events in Seattle when anti-globalization protestors effectively interfered with the WTO Summit, and the escalating social movements around the globe, seem to indicate that the exploited see through an ideology bent on deceiving. Defeating old colonialism may have not delivered the kind of freedom the liberation movements envisioned, at least not the kind of economic

⁵ In his recent speech on the political turmoil in Bolivia, the Venezuelan President Chavez addressed the US President Bush saying: "We say no Mr Bush, no sir... I'm sorry for you. The people of Latin America are saying 'no' to you, Mr Danger, they are saying no to your medicine. Capitalism is the road to destabilisation, violence and war between brothers" (BBC, 2005a, p.2)

independence. Yet, the process made one thing clear, citizens' movements have been and will remain a powerful political force.

CHAPTER 2:

THE GLOBALIZATION OF AGRICULTURE

Industrialization of Agriculture, a Pillar of Corporate Globalization

What is now referred to as “conventional agriculture” has only been practiced for about the last half century, mainly in the Western/Northern hemisphere. Yet, it has become so pervasive that food produced in more traditional ways is not very common anymore. What had been called simply “food” for millennia is now known as “organic” and what we have come to call food are actually products of the “green revolution”⁶ – former foods now containing pesticide residues, artificial fertilizers, hormones, antibiotics and altered genes. Application of chemicals in agriculture continues, although it has already proven harmful to consumers as well as farmers. From DDT to Bovine Growth Hormone, lessons that should have been learned by now are continuously ignored lest they interfere with the profits of large chemical and agri-businesses. The industry is now taking us one step further, into the realm of blind consumption, saturating the market with products of biotechnology. According to Greenpeace (2003), over 60% of processed foods in Canadian grocery stores now contain genetically modified organisms (GMOs). We, as consumers, are constantly subjected to this without really realizing how our food is changing.

There is little doubt that multinational agri-businesses have been among the major players in the process of corporate globalization. Food production is one business that will always have a market. GM crops have proven lucrative to

corporations such as Monsanto, Dow, DuPont, and Syngenta, to name just a few. Monsanto's 2003 financial report shows that during the three years between 2001 and 2003 their net sales have been about \$5 billion annually. Although GM seed is only one of DuPont's products, their net sales for 2003 reached \$230 billion after tax, Syngenta reported \$6.6 billion in sales for 2003 and Dow reported that in 2002 their "agricultural sciences" sector alone generated close to \$3 billion that year.⁷

One of the big promises of biotechnology has been that it would feed the world's hungry and cure the ill. Opponents argue that the problem of hunger has nothing to do with availability of food but rather with the distribution of wealth. Even the United States, the biggest proponent of GM food, has failed to eradicate hunger and malnutrition in its own country. According to Tom Hayden (2003), "US corporate prescriptions might be taken more seriously if the United States were a model of food security. But 36 million Americans lack enough food, mainly because of poverty" (p. 3). Francis Fukuyama, who has habitually sided with corporate ideology, questions the lack of control over biotechnology stating: "When presented with an advance like the ability to cure a child of cystic fibrosis or diabetes, people find it difficult to articulate reasons why their unease with the technology should stand in the way of progress" (2002, p. 182). But the idea of biotechnology being always and only a sign of progress can easily be challenged when the cost of this technology is taken into account. Rather than alleviating

⁶ "Green revolution" refers to large scale changes in agriculture, which started in the 1940's and included intensive crossbreeding and wide-spread use of pesticides and artificial fertilizers

⁷ All financial information obtained through the corporations' respective websites. See reference section for details.

hunger and disease, the products of biotechnology carry a price with them, and if anything, only increase the divide between the haves and the have-nots, as only some can afford these products. Add to that the fact that genetically modified foods have been shown to pose more risks than benefits (the risks of which are discussed in a subsequent chapter) and include devastating effects on natural heritage and biodiversity, impoverished agricultural land, damaging effects to human health and compromised farm economy.

It makes one wonder, then, why anyone would want to propagate GMOs if there are so many risks involved. Profits, as shown above, seem to be the only reason. The World Trade Organization and a variety of trade agreements have served to increase those profits and put small and family farms around the globe in jeopardy. As corporations are trying to expand their markets, shameless tactics are being used and facilitated by both the WTO and the US government. In 2002, the National Union of Public and General Employees announced: "Under the guise of helping millions of starving people the offer of food aid is a part of a 10-year campaign intended to introduce U.S. developed GM crops into Africa" (p.1). Trade agreements are negotiated to legitimize such tactics. Platform Latijns-Amerika in Nederland claims that:

The FTAA is designed to undermine collective forms of support for farmers and sustainable agriculture, in order to facilitate the expansion of agribusiness. The proponents use a language of fair trade, but the real objective of the FTAA is to dismantle everything from marketing boards and tariffs that can protect farmers from aggressive monopoly capital to public support for organic agriculture and local food systems. The FTAA threatens to wipe out whatever gains farmers, indigenous peoples, and other people of the Americas have won in their on-going struggles for land, fair prices for farm

products, decent working conditions, sustainable rural communities, environmental protection, and food security (2004, p. 1).

In 2001, Serbia and Monte Negro faced a shortage of livestock feed, following a drought in 2000. As the government was trying to deal with issues of organized crime and a disorganized nation, the US offered a donation of animal feed, the feed being genetically modified Bt corn. The offer was refused partially because the country was trying to avoid importation of GM crops, and partially because they suspected that the offered donation was the same one that had been turned down by the Bosnian government earlier that year (Green Network of Vojvodina, 2001). Passing GMOs as aid is one of the more gentle ways in which the neoliberal project tries to push GMOs. Threats are not excluded from the arsenal of corporate tricks. Later that year, the US targeted another economically impoverished, war-torn Eastern European country. In November of 2001, the US Embassy in Croatia sent a threatening memo to the Croatian government requesting that they halt the ban on GMOs. The memo cautioned that if Croatia followed the European Union's GMO regulations, the US would have no choice but to challenge such decision before the WTO, challenging Croatia's status in the organization (Byrnes, 2001).

Patents and Regulations

The 1980 landmark case of *Diamond vs. Chakrabarty* in the United States allowed for living organisms to be patented. Since the microorganism (a bacterium altered to degrade crude oil, to help with oil-spill clean-ups) was Chakrabarty's invention and not a naturally occurring organism, the US Supreme

Court ruled it a “patentable subject matter” (Dorn, 2000). In 1995, Harvard University applied for a patent in Canada for a genetically altered mouse used in cancer research. The application was rejected with Canada deciding not to patent higher life forms. Their patenting in the US does not affect their status in Canada (Swenarchuk, 2004). Whole organisms cannot be patented in Canada, however, patents are given for “proteins, genes, and cells from plants, animals and humans” (Swenarchuk, 2003, p.3). This allows for crops to be under patents because their supposedly “invented” genes and gene sequences are given this privilege. Such patents prevent farmers from collecting seed and replanting it later on as once they have purchased GM seed they are obliged to repurchase it every year. Furthermore, it jeopardizes every farmer who has not purchased the patented seed if the seed (or pollen) happens to blow into their fields, as was seen in the Monsanto vs. Schmeiser case, which has set an unfortunate precedent for the Canadian judicial system.⁸

Canadian Patent Law recognizes that altered gene sequences and the processes involved can be patented as they are not natural occurrences, but the altered life forms still contain other genes which are naturally occurring. The nagging question that arises here, and which was raised during the Monsanto vs. Schmeiser proceedings has to do with the reproduction of modified genes.

⁸ Monsanto discovered Roundup Ready (GM) canola on Schmeiser’s farm. A long-time seed collector and canola breeder, ended up with Monsanto’s canola in his field – from seeds he did not purchase, and more importantly did not want. Lower courts ruled in favour of Monsanto, deciding that the farmer had to pay the company for the resultant crop. Schmeiser counter-sued claiming that this took away the basic right of farmers to collect and replant seed in their fields. Recently argued before the Supreme Court of Canada, the Supreme Court ruled against Schmeiser. Shortly after the Court’s decision, the Chief Justice of the Supreme Court of Canada stated that this case had nothing to do with farmers’ rights, but rather with Canadian patent laws,

Although the genes are patented, “the replication of the gene is not caused by human intervention but by natural means and it cannot be contained or controlled” (MacKay, 2004, p.87). Schmeiser’s case brings up another important subject – namely changes in Canadian plant breeding. As recently as the early 1980’s the public sector accounted for virtually all plant breeding in Canada; the private sector is now responsible for most of it. The Canadian government has been an undeniable accomplice in this, through both direct subsidies and policy adjustments that allowed for such a transformation (Kuyek, 2004). The Plant Breeders Rights Act, defined as “a form of intellectual property rights, which allow plant breeders of new varieties the exclusive rights to produce and sell propagating material of the variety in Canada” (Canadian Food Inspection Agency, 2005, p. 1), has repeatedly been revised and expanded to accommodate growing corporate demands. The Plant Products Directorate is currently proposing yet another amendment to further expand breeders’ “rights” (Canadian Food Inspection Agency, 2004) and ensure the profitability of patented crops.

Patent laws, as relating to agriculture, serve to establish precedence of intellectual property “rights” over the rights of farmers and even basic human rights. Patent laws have allowed for biopiracy, a corporate practice of patenting life forms that already exist. The Vancouver Statement drafted by the International Forum on Food and Agriculture declares that:

Industrialization and globalization of food and fiber imperils
humanity and the natural world...We know that there are non-toxic

denying that those laws were problematic to begin with (McLachlin, personal communication, 2004).

and non-destructive alternatives to global industrial agriculture, and we know that these alternatives can provide more food (1998, p. 1).

Patenting, which ensures continuous profitability of GMOs, has been roundly criticized. An altered gene sequence does not constitute a new species, some argue. The National Farmers Union (1999, p. 3) draws a parallel: "Changing a few lines in a book to 'make it better,' does not confer copyright." Platform Latijn-America would add:

Patents on life violate the cultures and traditions that have guided agriculture since its very beginnings. The wealth of genetic resources that we depend on has been carefully protected and nurtured by generations of farmers and indigenous peoples and it is their fundamental right to conserve, develop, use, control, and benefit from this biodiversity. Farmers' rights form the basis of sustainable agriculture and ensure global food security and well being (2004, p.1).

The Canadian Environmental Law Association feels that: "The patenting of life forms impedes equitable access to the benefits of biodiversity...[and] results in a risk of misappropriation of indigenous knowledge...without appropriate compensation to them" (cited in Swenarchuk, 2003, p. 6). Farmers around the world are falling victim to trade agreements and aggressive biotech giants.

Patents on indigenous knowledge and uses of plants is an 'enclosure' of the intellectual and biological commons on which the poor depend. Robbed of their rights and entitlements to freely use nature's capital because that is the only capital they have access to, the poor in the Third World will be pushed to extinction. Like the diverse species on which they depend, they too are a threatened species (Shiva, 2000, p.43).

Still, corporate interests override these concerns virtually everywhere. The so-called Third World is being pressured to accept GM foods to feed their hungry (and continue their dependence on the developed countries), but the developed

countries are not being spared. The US government has challenged the European Union's decision to avoid GMOs at all cost and to mandatory label the ones already on the market. The US argument before the World Trade Organization was all about the loss of that market, but the Bush administration cried that the European Union's decision was a death sentence to the starving people of the world (Dawkins, 2003). Meanwhile, according to Rifkin (2003, p. 1), "80% of undernourished children in the developing world live in countries with food surpluses." Unfortunately, political pressure and the economic power of the United States led the European Union to lift the blanket moratorium in 2004—a moratorium that had been in effect for six years. Individual countries still continue to regulate their markets by enforcing labeling and regulating more general food groups such as "novelty foods". Nevertheless, lifting the general moratorium on GMO is certainly a step backward.

The Demise of the Family Farm

Some farmers are lured into growing GMOs with promises of increased yields and therefore increased income, both of which have failed to materialize. Aside from increased input costs associated with GM crops, yields have not been greater and at times have actually been lower on fields growing GM crops. According to Anne Clark from the University of Guelph, Ontario, yields from a modified (Bt) corn variety were actually lower than traditional corn yield even from fields affected by the very pests that Bt corn is designed to be resistant to (1999). A 2000 study conducted by the University of Nebraska Institute of Agriculture and Natural Resources Canadian showed that Roundup Ready

(herbicide resistant) soybeans yielded between 6% and 11% less than their conventional relatives (IANR News Service, University of Nebraska, 2002).

Large corporations are influencing the agricultural community, promising profits to a segment of society that has been economically disadvantaged for too long. Farmers are being told that new technologies are the only ticket to survival in the global market. Yet, the United Kingdom based Soil Association recently studied the GM food experience and the results showed something much different (Soil Association, 2003). The study found that due to a lack of demand for GM foods, Canadian farmers have lost millions in export sales to Europe. Moreover, increased yields and higher profits have not materialized and farmers have become more dependent on pesticides while new weed problems have emerged. Overall, “disaster” appears to be an appropriate term for what has happened. A number of studies have shown that the supposed “developments” in agricultural practices have done little for Canadian farming. According to one report published by the National Farmers Union (2000, p. 1):

Between 1974 and 2000, gross farm income tripled. Net farm income, however, fell. Input suppliers were able to capture 100% of farmers’ gross returns. Because fertilizers, chemicals and other technologies have failed to fulfill their promises of farm profitability, many farmers rightly question the economic benefits of genetically modified crops and livestock.

Unlike the National Farmers Union (NFU), which has always been concerned with the well-being of small and family farms, the Canadian Federation of Agriculture (CFA) has frequently been understood as supportive of the corporatization and industrialization of farming, as well as having close ties with industry giants. But even the CFA recognizes that the farm economy is in

crisis. Bob Friesen, the President of CFA recently called for a “critical look at current agricultural policies, which have triggered and unprecedented income decline in many countries” (Canadian Federation of Agriculture, 2005, p.1).

Friesen asserts that:

 Ten years after the creation of WTO initial steps toward liberalizing trade in agricultural commodities has not resulted in success. Subsidies are approaching record highs, world commodity prices have dropped to historic lows, and primary producers are experiencing one of the worst income crises in agriculture (cited in CFA, 2005, p.1).

 Globalization and the related trade agreements, have not been working for farmers. Canadian dependence on the US economy further puts the public and our farmers in a position of very little choice. Any attempt to regulate (never mind label) GM foods can automatically be challenged as interfering with free trade.

 The National Farmers’ Union feels that: “The governments of Canada have surrendered much control over agriculture to transnational corporations. Current government policy, in effect if not intent, is often no more than the promotion of these corporations’ agendas” (1999, p. 1).

 No mistake should be made thinking that it is the US as a whole that is benefiting from this industry. Although there is little doubt that the US has been the primary perpetrator of neo-colonialism, and consequently the corporatization of agriculture, the only ones profiting even in the US are the corporations. As indicated by the Soil Association’s 2003 report, the US is losing export market share while farm subsidies are increasing and they estimate that “GM crops may have cost the US economy at least \$12 billion net from 1999 to 2001” (p. 3).

 Family farms in the US have fallen victims to corporate globalization in very much

the same way as elsewhere. “73.6% of the nation’s farms share 6.8% of the market value of agricultural products sold while 7.2% of farms receive 72.1% of the market value sold” (Christison, 2004, p. 3). The US cereal companies are reaping impressive profits while cereal growers’ income keeps falling. “When consumers shop a declining share is received by farmers” (Christison, 2004, p.3). American farmers’ groups, such as the National Family Farm Coalition, increasingly recognize this.

The impact of GMO crops does not end with economic blows. When Monsanto took Schmeiser to court for growing GM canola without a license, a number of other problems were created in the Canadian prairies. The social impact of that single case is thoroughly portrayed in *Seeds of Change*, a *dada world data* documentary by Jim Sanders and Andre Clement (2004)⁹. Sanders and Clement interviewed a number of Manitoba and Saskatchewan farmers who shared their experiences relating to GMO crops. One issue that surfaces in this documentary is how the dynamics of farming communities changed with the introduction of GMOs. To say that there is a division between those who accepted and those who refused such crops would be an oversimplification. Those who refused to grow GM crops became leery of having GM crops in neighbouring fields. Additionally, they worried that if accidental crosspollination occurred in their fields, someone would send the “Monsanto police” over. On the

⁹ The production of “Seeds of Change” was initiated by the Environmental Science department at the University of Manitoba, and funded through academic grants and private donations. While the film was being edited, the University of Manitoba administration found out what the film was about, demanded that the film be insured and eventually sent a letter to Sanders threatening a lawsuit if the film was shown to anyone. Despite this, the authors continue to disseminate copies, and stand by their findings (Sanders, personal communication, November 2004).

other hand, those who started growing GM crops felt that they were being identified with the biotech giant and seen as the enemy, although they were just trying to make a living. Schmieser's interviews in the documentary summarize the issues into a simple statement, that the introduction of GMOs in the Canadian prairies has "destroyed the social fabric of farming communities."

Opponents continue to argue that the supposed lack of evidence that GM crops are harmful does not directly imply that they are safe, the state of farm economy and farming communities reminds us once again that the issue of GMOs extends beyond just concerns regarding product safety.

CHAPTER 3:

THE CONTROVERSY OVER GENETIC MODIFICATION

How We Got Here

Genetic modification of foods has become a common practice in North America. Originally, the discoveries in this area were thought important because they opened doors to creating crops that were supposed to be more resistant to pests and supposed to produce higher yields. However, their overwhelming presence on the market is better explained by their profitability – GM foods are patented and created to require certain pesticides and fertilizers (in the case of grains) or hormones and antibiotics (in the case of livestock). These additional requirements are generally available from the same companies that hold the patents, guaranteeing extra sales beyond just the patent. Fox (1992) refers to this as “chemically addicted agriculture.”

Much enthusiasm surrounded the post World War II “green revolution”, which brought about the rapid industrialization and mechanization of food production. Large farm machinery, artificial fertilizers, pesticides, and monoculture (single-crop) farming quickly replaced diversified, organic family farms. One should not assume, however, that scientists were not warning against this approach even before the process started, and that some consumers as well as many traditional farmers saw the green revolution as a flagrant misnomer. In his 1945 introduction to a reprint of Darwin’s *“The Formation of Vegetable Mould”*, Sir Albert Howard, an American agricultural scientist, argued against

“chemical farming” and claimed that “[n]ature is the supreme farmer and gardener” (Howard, 1976, p.18). Sixty years ago Howard wrote:

There is a growing volume of evidence from all over the world that agriculture took the wrong road when artificial manures were introduced to stimulate crop production and when poison sprays became common to check insect and fungous pests. Both these agencies destroy the earthworm and thus deprive the farmer of an important member of his unpaid labour force. There is also a strong case for believing that one of the roots of present-day disease in crops, livestock, and mankind can be traced to an impoverished soil and that these troubles are aggravated by the use of chemical manures (p. 17).

Howard was writing about earthworms, but clearly his concerns extended beyond just the wildlife of the soil. Today’s organic agriculture proponents’ arguments bear much resemblance to what Howard wrote in the 1940’s. Nevertheless, the use of chemicals has overtaken agriculture and traditional ways of farming are disappearing in the “developed” world. This is so despite the dangers of, for instance, dichloro-diphenyl-trichloroethane (DDT) that became understood after it was too late for many whose health was affected by it. And DDT is only one example. According to most news reports, the 2000 e-coli break out in Walkerton, Ontario was linked to a sewage spill from a local cattle farm. What went largely underreported (with the exception of the London Free Press from London, Ontario) was that the e-coli bacterium in the water system was only a part of the problem. The other equally important factor was that those who became ill could not effectively be treated with antibiotics - the bacteria were antibiotic-resistant. The only explanation for this, based on the current understanding of antibiotics, is that the bacteria mutated and developed the resistance due to the routine use of antibiotics on the cattle farm.

However, the obvious dangers of modern food production did not stop further industrialization. Chemical companies, increasingly merging with large seed companies or simply becoming large agri-businesses themselves, have seen the “chemical addiction” of farming as a lucrative enterprise. Like the stereotype of an opportunist profiting from one’s addictions, they provided free samples, promised great improvements, and when farms appeared to be unable to exist without chemicals, they offered “better,” newer materials to them. North American farms followed the behaviour pattern of someone developing an addiction: instant gratification became more important than long-term effects, or alternatively, they denied any problems with the new practices. Then they simply needed the new, “better” products, and now they commonly reiterate the companies’ lines - that this is the only way we can produce enough food given the current population of the planet. The truth is that it has become very difficult for farmers to abandon the conventional farming practices because they ended up with a ruthless, greedy drug dealer. For most commercial farmers in North America it is now virtually impossible to “quit” the chemicals and still survive in the market.

The artificial “enhancers” proved lucrative to their manufacturers, their profitability was secured partially by patenting the products, and the spectrum of products continued to grow. During this time, seed companies (and researchers) perfected the process of hybridization, intensifying this age-old practice of creating superior crops. In order to ensure funds for further research, and later simply to ensure profits, the hybrids were also patented. Patenting, a standard

practice in the chemical industry, now fully entered the world of food production, as discussed in Chapter 2. Additionally, as discussed in Chapter 1, the process of corporate globalization provided major corporations with unlimited markets and virtually unregulated dominance.

Parallel to this, between 1968 (when scientists first found a way to isolate chromosomes) and the early 1990's, a great deal of research was done on genes and DNA. From gene mapping to cloning, human curiosity drove the exploration of genetic function and manipulation. Needless to say, food production was not spared and genetic modification appeared to be the modern day alternative to hybridization. Crops were experimented with to develop food with improved nutrition and plants were tampered with to ensure that they could produce their own insecticides or that they were resistant to herbicides. In 1996 US farmers planted the first commercial GM crops.

The following pages explore the process that brought about genetically modified food and the many risks involved that have caused such wide resistance to genetic modification. It should be made clear, however, that such resistance has not been facilitated by religious pundits who feel that the problem is with scientists "playing God", but rather, it has been a result of reasonable questioning on behalf of consumers, activists, and scholars who fear that taking the risk is unnecessary.

The Process of Modification

DNA or deoxyribonucleic acid in an organism is found in each of the organism's cells and serves the purpose of telling cells what to do and what

characteristics to exhibit. Each organism has its unique DNA, but members of the same species share similarities in large parts of their DNA, which explains why many of a species' functions and traits are so similar. Genes are the building blocks of DNA, and they are the specific parts responsible for specific functions and characteristics. They form a complexly coded order-giving system of any living organism.

Genetic modification involves isolating genes responsible for a specific, desired trait and then inserting those genes into the DNA of another species (host DNA) to introduce the desired trait somewhere where it has never been present before. The isolated genes are "blasted" into the host DNA in hopes that they will land in the right place, attach themselves to the host DNA and produce the desired trait in the host organism. At times, though, the end result is different from what was attempted due to the somewhat haphazard process of "blasting". A scientist working on GM canola for Aventis, one of the largest biotech companies was interviewed in Kaplan's *Deconstructing Supper* documentary (2002). He declares that the modification process the canola DNA is subjected to is repeated until the end product "actually looks like a canola plant".

Over the last thirty years or more, science has been gaining more and more understanding of genetic material and how genes work to determine traits and functions of organisms. Years later, however, that understanding is still very limited and although we have an idea of how genes operate, we are still oblivious to the intricate workings of, and complex cooperation between, genes. One thing that is known is that genes give instructions to cells via proteins. Proteins act as

messages that tell cells what to do in order to ensure synchronized functioning of an organism. In the 1990's biologists trying to map out all human genes believed that each gene had its own unique protein. One gene – one protein theory, with an estimated 100,000 proteins in the human body, led them to believe that human DNA would have about 100,000 genes. Biologists went on counting and tallying human genes and in the year 2000 reported that human DNA has only about 30,000 genes (Smith, 2003). In other words, it became apparent that each gene had to produce more than one protein, and in turn this meant that each gene was likely responsible for more than one trait. What this really implies is that when a gene is inserted into its host DNA, that gene can introduce more than just the desired trait. In other words, the introduced gene can alter the functioning of the host DNA in unforeseen ways.

Additionally, each strand of DNA contains all of the genes associated with a particular organism. What remains a mystery is how individual genes “know” what cells to give instructions to, and what cells to remain dormant in. For instance, how would the gene associated with eye colour know to only give instructions to cells of the eye and stay dormant in all other cells of the body?

Moreover, it would be naïve to assume that each gene acts entirely alone, and what, if any, communication occurs between genes remains unknown. What all this means is that much of genetic modification is still very much a hit-and-miss process that by isolating genes from the rest of DNA fails to recognize the context of gene functioning.

Scientific Reductionism

Historical experiences with scientific advancements in agriculture (e.g. pesticide use) immediately called for caution among the public and scientists alike. Long-term consequences of altering nature can sometimes remain unknown for years and decades and can often outweigh the benefits. As Suzuki and Dressel (1999) describe it, we tend to turn to “scientific reductionism,” trying to define parts of nature outside of the general context, hence ignoring the complexities of the world around us. They refer to the failed experiment at Biosphere II in Arizona, where eight people were sealed into the artificially recreated “ecosystem” for a proposed two-year stay. After a few weeks, the experiment was terminated due to the subjects’ jeopardized health. Suzuki and Dressel call this experience a “humbling” reminder of how little we truly understand the planet’s ways. More and more scientists are moving away from modernist reductionism and embracing more traditional philosophies in their understanding of nature. The Gaia hypothesis, which sees planet Earth as one great organism that risks a disaster if only one of its components becomes dysfunctional, has been adopted by many influential contemporary scientists. Lynn Margulis has spent decades studying symbiotic relationships between species and concluded that indeed “We are symbionts on a symbiotic planet, and if we care to, we can find symbiosis everywhere. Physical contact is a nonnegotiable requisite for many different kinds of life” (1998, p.5). A disconnected approach to nature seems to be insufficient, as Biosphere II proved very quickly. However, the Biosphere II experiment is even less alarming than

what we learned from our reckless use of pesticides¹⁰ and similar practices. Furthermore, when experiments are performed that alter the natural cycles, the unintended consequences are only recognized after the fact. Genetic modification seems to fall under the category of scientific reductionism since, as explained above, it separates gene functioning from the rest of the DNA.

The National Farmers Union (Canada) has expressed concern that

Genetic modification threatens to unbalance the biosphere, create 'super-weeds', endanger beneficial insects, and erode bio-diversity ...Genetic pollution [GM crops cross-pollinating non GM crops] seriously erodes the incomes of organic farmers and those who do not use GM seeds (2000, p. 2, 3).

In a highly controversial 1999 study, Cornell University scientists showed that genetically modified Bt corn posed a threat to Monarch butterfly larvae, resulting in 44% mortality in larvae that were dusted with Bt pollen (Purdue University, 1999). The study was criticized for being more alarming than warranted, even though we still do not know why Bt corn would be necessary in our food production to begin with.

Even those who feel that nothing is 100% safe concede that biotechnology should not be taken out of its natural context. Michael Reiss (cited in Chadwick, 2001, p. 155) urges us to remember that the "ecological consequences of biotechnology need to be taken into account both because they often have consequences for humans and because they have consequences for other organisms too." GM experiments can and have gone haywire. In 2002 the Calgary Herald told the story of a German biotech company's bacteria

¹⁰ e.g. we now know that dichloro-diphenyl-trichloroethane (DDT) is a potent carcinogen, but DDT was used for years before any of this was understood

experiment at Oregon State University that was nearly disastrous. The bacteria severely altered soil properties killing soil fungus necessary for plants to grow. More frightening, the genetically modified bacteria persisted in the soil. “Had it been released, it could have become virtually impossible to eradicate. ‘It could have ended all plant life on this continent’, geneticist David Suzuki [said]” (Stainsby, 2002, C4).

In 1998, an international group of scientists released a document known as the Wingspread Statement on the Precautionary Principle, which cautioned against unintended consequences of human activities that can potentially be damaging to human health and the environment. The statement indicates: “Corporations, government entities, organizations, communities, scientists and other individuals must adopt a precautionary approach to all human endeavours” (p. 1). The Principle itself was defined in this statement as follows: “Where an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically” (p. 1). The statement goes on to say: “In this context the proponent of an activity, rather than the public bears the burden of proof” (p. 1). The Principle has since been adopted by many, including the Cartagena Protocol on Biosafety. The Protocol came into effect on September 11, 2003 after more than 50 countries ratified it. Canada is one of over 100 signatories, but has not ratified it yet.

The European Commission has also adopted the Precautionary Principle and uses it in relation to food safety regulations. Some European countries also

adopted mandatory labelling of GM foods, as have Australia and New Zealand. Unfortunately, this did not prevent the European Union from lifting their six-year moratorium on GMOs in 2004.

Needless to say, corporations and neoliberal governments reject the precautionary principle. Cautious approaches and suggested strict regulations of GM products are seen as interfering with the idea (or, rather, the ideology) of the free market. GM advancements are shamelessly promoted as progress, and opposition is often portrayed in a negative light. Frequently, GM foods are placed in the same basket with pharmaceutical developments, therefore leading the public to a more accepting attitude (for illnesses to be cured we must embrace genetic modification since opposing it would presumably mean denying cures to the ill). This false sense of social responsibility takes the onus away from the corporations that profit from such products. North American regulation of this industry (both in the US and Canada - due to our dependency on their market) pertain more to patent issues than to public safety, focusing on the rights of corporations rather than the rights of citizens. Promoters of GM food argue that there is no evidence that GMOs are harmful. A British scientist, Luke Anderson calls this "wisdom turned upside-down" (Kaplan, 2002) where consumers are expected to prove that corporate products are not safe, instead of following the precautionary principle and placing the onus of proof on those who are introducing the potentially dangerous products.

Risks Involved

Much has been written about the many things that can and do go wrong with genetic modification and I will only touch upon some, as more extensive literature is already available.

In June 2003, the Independent Science Panel¹¹ released their Final Report on GM. This London-based Panel was formed when 25 scientists from seven countries came together early in 2003 with the intention of assessing GMOs, mainly GM crops (Smith, 2003). These 25 scientists brought their expertise from a variety of disciplines including agroecology, agronomy, biomathematics, botany, chemical medicine, ecology, histopathology, microbial ecology, molecular genetics, nutritional biochemistry, physiology, toxicology, and virology. In June 2003, they delivered a 136-page report that was scathing to the industry.

The Panel stated that:

In conclusion, GM crops have failed to deliver the promised benefits and are posing escalating problems on the farm. Transgenic contamination is now widely acknowledged to be unavoidable, and hence there can be no co-existence of GM and non-GM agriculture. Most important of all, GM crops have not been proven safe. On the contrary, sufficient evidence has emerged to raise serious safety concerns, that if ignored could result in irreversible damage to health and the environment. GM crops should therefore be firmly rejected now (p. 3).

Additionally, the Panel contrasted their findings with the advantages of sustainable agriculture, including increased yields (especially in the "Third

¹¹ The Independent Science Panel seems to be just that - independent, and not working under anyone's auspices. I investigated the backgrounds of specific scientists affiliated with this project and my findings indicated that they were, indeed, legitimate scientists with extensive experience in their respective areas.

World”), improved soil and environmental conditions, decreased pesticide use, support for biodiversity, and more.

Sustainable agricultural practices have proven beneficial in all aspects relevant to health and the environment. In addition, they bring food security and social and cultural well being to local communities everywhere. There is an urgent need for a comprehensive global shift to all forms of sustainable agriculture (Independent Science Panel, 2003, p.6).

The specific risks that are associated with GMOs are discussed in more detail in the following sections.

Human and Animal Health

Genetically modified crops have been shown to have adverse effects on human and animal health. Calgene’s FlavrSavr tomato was the first GM product introduced in the US grocery stores in 1992. FDA approved the product even though Calgene’s studies on rats indicated that seven out of 40 female rats that were fed the tomato had stomach lesions, whereas none of the rats in control group exhibited lesions (Smith, 2003, p.137). Pusztai’s study on GM potatoes suggested abnormal cell growth in the intestines of test rats. Research on organisms modified with the cauliflower mosaic virus (CaMV) promoters (used to control activity of inserted genes) produced similar results indicating that GMOs may be cancer-promoting agents. Such concerns are important whether GMOs are used for human consumption or animal feed.

Allergies are another major concern. Pioneer’s attempt to modify soy with Brazil nut (for more complete protein content) was widely criticized due to widespread nut allergies. Aventis’ Starlink GM corn was only approved for animal

feed when in 2000 it was found in a number of products for human consumption.

The protein that Starlink was modified with was a known allergen.

The EPA has called for further study of the potential effects of the genetically modified corn deemed unfit for human consumption that was, this fall, found in food products. Aventis CropScience added the gene for a bacterial protein known as Cry9C to its StarLink corn in an effort to make the corn resistant to insects. However, the corn was found in a range of foods, prompting widespread product and grain recalls. The protein is more heat stable and harder to *digest* than its kin, characteristics that are typical of such allergens as peanuts (Kaiser, 2000, p.1867).

Eventually, Aventis and EPA had Stalink under control and the corn variety was pulled off the market, but consumer suspicion of GMOs getting out hand was proven reasonable and justified.

Biodiversity

Industrial agriculture, monoculture farming and the use of artificial fertilizers and pesticides have already been proven harmful to ecosystems. "There is plenty of evidence that modern farming methods have reduced biodiversity in many countries" (Nature, 1999, p. 654). GM crops present a number of threats to their living environments. Crosspollination is one of them. Crosspollination is a problem with agricultural crops in fields planted with traditional varieties.

In conventional corn, soy, and canola crops in the United States, such contamination is now rampant. In February the Union of Concerned Scientists (UCS) reported that more than two-thirds of these crops were contaminated with genetically engineered DNA. And contamination of the food supply by biopharmaceuticals is also now a fact, not just a fear. In 2002, biopharmed *corn* was found to have contaminated conventional soy grown for food (Cummings, 2004, p.12, italics added).

Worse yet, studies conducted in the Canadian prairies have shown that Monsanto's Roundup Ready canola can crosspollinate with any subspecies of rapeseed plant (which canola was originally hybridized from) thereby creating Roundup resistant weeds, or superweeds (Steward, 2000).

Monsanto's Bt corn (corn containing toxin genes from Bt or *Bacillus thuringiensis*, a known insecticide) is engineered to produce its own insecticide. It has been shown to be harmful to Monarch butterflies, but there is another concern. According to the US Environmental Protection Agency: "If the crop produces too little Bt toxin, the [insect] survivors will include a large number of partially resistant insects who are likely to find each other and enrich the gene pool for resistance" (Knight, 2003, p. 5).

Soil

Most of Monsanto's GM crops are modified to be resistant to Roundup, which is Monsanto's brand name for glyphosate, a general herbicide used for weed control. A 2003 study of Saskatchewan fields that had been treated with Roundup showed some unsettling findings:

...in some fields where glyphosate [Roundup] had been applied the previous year, wheat appeared to be worse affected by fusarium head blight -- a devastating fungal disease that damages grain and turns it pink. In Europe alone, fusarium head blight destroys a fifth of wheat harvests. The fungi that cause the disease also produce toxins that can kill humans and animals (Coghlan, 2003, p.6).

How this correlation works is still unclear, but the outcomes of current trends in agriculture don't end here. GM crops encourage monoculture farming (as opposed to crop rotations and intercropping), which has been shown to leave soil more nutrient-impooverished. In conventional farming this translates into

increased use of artificial fertilizers, and increased profits for agri-business giving Monsanto and the likes another reason to encourage such practices.

Moreover, according to Dunfield and Germida (2004, p. 807):

Incorporation of transgenic plant products into the soil could alter soil microbial biodiversity due to variable responses by microorganisms to the novel proteins. Decreasing biodiversity is a concern because Tilman and Downing (1994) suggested that the preservation of biodiversity is essential for the maintenance of stable productivity in ecosystems.

Alterations of the invisible life forms found in the soil are much easier to ignore than changes to the easily observable plant life. Yet, those who study this obscure universe of microbial life assert that “here, in non-plants and non-animals, lies the real biodiversity” (Margulis, 1998, p. 56). Interfering with something we still don’t quite understand could have disastrous consequences, and precaution is in order.

Common Myths

Genetically modified crops will feed the world's hungry

One of the most regularly promulgated myths about GMO’s suggests that they offer a panacea for the problem of world hunger. Not surprisingly, this is also the stance used to charge GMO critics for their alleged heartlessness to the plight of the perpetually hungry. But, as Kimbrell (2003, p. 58) notes:

In reality, the world produces more than enough to feed its current population. The hunger problem lies not with the amount of food being produced, but with how it is distributed. Too many people are simply too poor to buy the food that is available, and too few people have the land or the financial capability to grow food for themselves. The result is starvation. If biotech corporations really wanted to feed the hungry they would encourage land reform, which could put farmers back on the land, and they would push for wealth redistribution, which could allow the poor to buy food.

Kimbrell's argument summarizes the GM opposition's standpoint on this preposterous myth delivered by the industry. Syngenta's genetically modified Golden Rice was marketed as a solution to vitamin A deficiency in the developing world. This vitamin A "enriched" rice variety was promoted as a preventative measure for the overwhelming incidence of blindness and infections caused by the absence of vitamin A in the diet. A report by Greenpeace, on the other hand, showed that Golden rice contained only a fraction of the daily recommended dose of vitamin A, so little that a two-year old child would have to eat seven pounds and an adult an astounding twenty pounds of rice a day to get the recommended daily dose (Smith, 2003, p.210).

What neoliberals leave out of their argument is that GMO food aid has more to do with the push to saturate the world with GMOs (see Chapter 2) than it does with actually helping those in need. The "aid" weapon is also used to portray opponents of GMOs as self-centred and evil for trying to deny the benefits of biotech to those in need.

The feeding-the-poor argument is the best way for Bush and his biotech buddies to get these products accepted by an unwilling world. And if that doesn't convince selfish European consumers to stop all their fussing and start eating GM food from the US, then Gene Grabowski, a pro-GM lobbyist, adds the clinching argument: "Europe should be down on its knees to the US thanking God we were there for them [during the Second World War]" (Ainger, 2003, p.22).

Grabowski's argument holds little water as the post World War Two Marshall Plan for supplying the war-afflicted countries with food from the United States was rooted in an entirely different philosophy. Food aid in the late 1940's

and 1950's was about helping countries get back on their feet whereas the current trends of providing aid are only making its recipients more dependent on the developed world.

Overall, the problem of world hunger has worsened and there is no indication that GM crops have helped curb this crisis. The offers of GMOs as food aid to poor nations are little more than just an integral part of the plan to flood the markets with biotech products.

Genetic modification is just an extension of hybridization

Hybridization occurs when two species or subspecies that would not commonly breed, happen to cross-breed creating a new "hybrid" variety. Hybridization does at times occur in nature, if the right conditions (i.e. similarities in genetic make-up) are met. Intentional hybridization of plants has been done for centuries to create superior crops. On the other hand, genetic modification is an invasive process that creates mutant species of unknown consequences. Smith (2003) refers to the process of gene inserting as "blasting", arguing that we have no way of knowing how the process itself may affect the host DNA, and create hot-spots at the point of insertion. Additionally, it is impossible to precisely select where on the host DNA the inserted gene will land (hence GMOs are so heavily tested – an extensive trial-and-error process is required). Another concern has to do with the antibiotic-resistant markers (ARMs) that are used to trace inserted genes. Cells containing the resultant DNA are then treated with antibiotics and ARMs serve to highlight the guest genes. Many are worried that ARMs are not entirely controllable and that their use in food can potentially create antibiotic-

resistant gut bacteria in human organisms, resulting in new, antibiotic-resistant diseases (Kaplan, 2002). In other words, the potential outcomes and the invasive procedures of genetic modification make it significantly different from hybridization.

GM crops are good for farmers

GM crops have actually decreased farm income by increasing input costs and not delivering the promised increased yields (Charman, 1999). Farmers planting GM crops are increasingly dependent on the biotech industry since they now have to purchase the seeds every year (due to patent regulations) and have to purchase other farm materials, such as fertilizer and pesticides, from the same companies that sell the seed. As noted in Chapter 2, GM crops have also affected the social dynamics of farming communities.

Traditional farmers who choose not to grow GM crops have not been unaffected. Crop contamination has been a major issue for traditional farmers and plant breeders. Mexican maize farmers' crops were contaminated in 2002 before the farmers even knew that GM maize experiments were secretly taking place in their region. Centuries of careful maize cultivation and breeding were demolished even though "Mexico [had] banned the planting of GM corn for nearly four years while it [considered] how best to safeguard the natural varieties grown in Oaxaca" (Coale, 2002, p.18).

GM crops require less pesticides

Though this myth has been repeatedly debunked, the industry's talking heads have not changed their tune. Their insistence, that GMOs will help the

environment have been proven incorrect even by the US government: “A study by the US Department of Agriculture in 2000 revealed that there is no overall reduction in pesticide use with genetically engineered crops” (Kimbrell, 2003, p.59). A 2004 internal report by the Canadian Food Inspection agency expressed a fear that the proposed introduction of GM wheat would actually increase the use of pesticides (Fadden, 2004). Continuous and excessive use of pesticides has consequences to human, plant, and animal life as well as water, air, and soil quality. The industry’s unsubstantiated claims are merely a reflection of the industry’s complete disregard for the long-term consequences of their products, and if lies are what it takes to sell the product, lying is what they’ll do.

GM foods have been proven safe

Contrary to what agri-businesses are saying, their research has only failed to prove GMOs unsafe. Researchers can and do produce the desired results of their studies by manipulating research designs and such. Biotech companies often claim that their products are excessively tested. In the words of Karen Charman:

Every industry likes to pretend that its products are the most extensively researched and regulated products in existence. The nuclear power industry has made this claim, as have the makers of vinyl chloride, dioxin, fen-phen, MSG and Olestra (1999, p. 8).

The questionable way in which biotech companies conduct their research hardly yields evidence of GM safety. Numerous botched studies and tampered results have been reinforced by third party research conducted at institutions that receive funding from the industry. While the industry declares excessive testing,

the truth is that a massive amount of research is necessary for successful genetic modification, since such experimentation has a high rate of failure.

Resistance

Despite well planned marketing strategies, the resistance to GMOs is strong and getting stronger at least in some parts of the world. Consumers are demanding labelling and regulation of GM food. "Some of the strongest citizen movements around the world today are fighting the juggernaut of globalized industrial agriculture" (IFG, 2002, p. 74). Social activists, like Vandana Shiva in India, are compiling and preserving heritage seed banks of unprecedented calibre. Others, such as Gene Action in Toronto, are distributing information to the public in order to educate them about the risks associated with GMOs. Farmers' groups like the National Farmers Union and Canadian Organic Growers are pushing for policy changes. Academics are speaking openly about corporate-sponsored scholarship. Ann Clark, a professor at the University of Guelph, has openly criticized the influence of corporate funding on academic research (Spin Watch, 2005), and so has Ignacio Chapela at UC Berkley (see Chapter 1).

Mendocino County, California, declared itself a GMO-crop-free zone in March of 2004. Nine other counties in the United States (New Rules, 2005), as well as Salt Spring Island and Powell River municipalities in British Columbia have since followed suit. The Council of Canadians' campaign against GMOs is currently mobilizing Canadians to do the same in their communities hoping to reach their goal of 50 GM-free communities by 2007 (Council of Canadians, 2005).

While the industry is trying to put the onus on the public to prove that GM foods are unsafe, consumers, activists, and scientist alike are demanding that the industry adopt the Precautionary Principle and provide us with evidence that they *are* safe, rather than simply saying that there is no evidence to prove otherwise. Given the importance of food, it is unlikely that this movement is going to lose momentum any time soon.

CHAPTER 4:

MANUFACTURING IMAGE – FOOD AND PUBLIC RELATIONS

Public Relations or Manipulation?

The conscious and intelligent manipulation of the organized habits and opinions of the masses is an important element in democratic society. Those who manipulate this unseen mechanism of society constitute an invisible government which is the true ruling power of our country (Bernays, cited in Rampton and Stauber, 2001, p.42).

The above was written by the man considered to be the father of public relations (PR), and is at the core of how self-proclaimed social engineers of the late 1800's and early 1900's saw their own role in "democratic" societies.

Although far from being democratic, this school of thought is the foundation of PR industry. This invisible government is comprised of the "intelligent few", the handful of "insiders", known to most of us as the "elites." The PR industry was built on the idea that these insiders were *responsible* for shaping public opinion, public discourse and social behaviour. It was also contended that without their guidance any society was nothing more than what LeBon referred to as the "mob" and what Lippmann daringly called the "bewildered herd". Over the last century, this paternalistic attitude has facilitated the development of what Ewen terms:

...a society in which nearly every moment of human attention is exposed to the game plans of spin doctors, image managers, pitchmen, communication consultants, public information officers, and public relations specialists (1996, p.19).

Ewen further writes:

In a democratic society, the interests of power and the interests of the public are often at odds. The rise of public relations is testimony

to the ways that institutions of vested power, over the course of the twentieth century, have been compelled to justify and package their interests in terms of the common good (1996, p.34).

It is clearly questionable how much “democracy” there really is in the society that Ewen speaks of, as the perversion of democracy has obscured the philosophy that gave birth to democratic ideas. PR now manipulates public opinion on everything, from economy to politics, from culture to our daily meals. The intricate ways in which PR shapes our perception of the dominant political system and ideology explain, in part, our passive acceptance of corporatization as an inevitable stage in human evolution. Hiding behind postcolonialism¹² is largely how corporate globalization managed to permeate every corner of the planet with virtually no resistance until the process had already taken place. Invisibility made it that much more effective. Bernays argued that PR experts were educated to influence and direct public attitudes while “working behind the scenes, out of the public view” (Ewen, 1996, p.10). This elaborate manipulation has now become so subtle and omnipresent that it puts those infamous propaganda machines of the last century to shame. Bernays noted: “propaganda is the executive arm of the invisible government” (cited in Ewen, 1996, p.167). The subtlety of PR is the secret of its success. It has carefully infiltrated every institution of our society remaining invisible and hence more deceitful. Whereas many are aware of how much we are bombarded with the overt doings of PR

¹² Some argue that “postcolonialism” is a deceiving term in itself, since it implies that we have moved beyond colonial exploitation, and that it is a term stems from colonialist perspectives. A couple of interesting works on this topic are Mukherjee, A. P. (1990) “Whose Post-Colonialism and Whose Postmodernism.” *World Literature Written In English*. 30(2), 1-9, and King, T. (1990). “Godzilla vs. Post-Colonial” *World Literature Written in English*, 30(2) , 10-16.

such as advertising, few realize how much corporate funding given to charities, educational institutions, political campaigns, and even health practitioners, affects the way those institutions function. The ubiquity of PR serves to normalize it and allows for its inconspicuous presence.

Critics of PR are *not* conspiracy theorists. Rather, they look at PR as an extension of a problematic *system*. In *Constructing Public Opinion* Justin Lewis argues that manipulation of public opinion is institutional and not conspiratorial (Ericsson, 2001). If one thinks that this point of view gives too much credit to PR and too little to the human ability to make decisions, all one needs to do is look at the inconceivable amounts of money corporations spend on PR. For entities governed by the bottom line, that kind of spending can only be justified by the bottom line. In other words, such expenses are incurred by corporations only when they promise increased profits or perpetuation of the status quo. In the capitalist system the cost of PR is the proof of its effectiveness. In 2002, the US food industry alone spent over \$6 billion US on advertising¹³, whereas the automobile manufacturers, who spend more on advertising than any other industry, spent \$16.3 billion (Lee, Tsong, and Choi, 2004).

PR Firms and the Corporate World

To criticize PR firms for the work they do for large corporations is superficial and deficient. PR firms *are* capitalist entities, working *for* and *within* the corporate system. I will not deny that many PR firms deliver and even donate work to non-profit organizations and community groups. However, such work is

still situated within the corporate context and done in accordance with the corporate templates of image building. Frequently, such work is PR in itself – PR by the industry and for the industry. The largest and most efficient PR firms in the Western world operate with only one purpose in mind—the purpose of profit. The PR industry is likely to employ whatever Machiavellian strategy is required to satisfy the customer (who, of course, is always right), at any cost to the public, as long as customer satisfaction ensures a steady stream of revenue.

The profitability of PR firms rivals that of any large corporation. Their business, although indirectly, can be quite devastating to the environment and humanity. Hill & Knowlton, one of the top PR players in the world, has collected millions from questionable clients, and cleaned up the public images of a motley crew of criminals, shady characters and reckless profiteers. Their clientele has included: the Three Mile Island power plant, Enron, and BCCI – a banking institution indicted for attempting to launder drug money, as well as a number of state regimes known for human rights abuses (CorporateWatch, 2002a). Their claim to fame was secured by the unscrupulous way they fulfilled their contract with the Kuwaiti royal family. The job was to ensure the US public support for military intervention in Kuwait in 1991, and the subsequent Gulf War testifies to their effectiveness.¹⁴

¹³ I here use the terms “advertising” and “PR” interchangeably. It should be noted that although advertising is only one form of PR, the sophistication of PR strategies has made the distinction more or less redundant.

¹⁴ In the fall of 1990, a young Kuwaiti woman testified before the US Congress telling a story of an incident in a hospital in Kuwait where she had allegedly volunteered. She spoke of Iraqi soldiers removing infants from incubators and throwing them on the floor. The story greatly influenced the US public opinion in favour of US military intervention. After the first Gulf War started, it was discovered that the young woman’s father was the Kuwaiti ambassador to the US, that she had

Burson-Marsteller, another PR giant and a part of Young and Rubicam Inc., a “communications” (read: advertising) conglomerate, earned US \$303 million in revenue in 2000 (CorporateWatch, 2002b), and has been employed by companies such as McDonald’s, Dow Chemical, Shell Oil, Pioneer, Phillip Morris, Union Carbide¹⁵, and others. Every one of these companies has had its social and/or environmental integrity questioned at some point. Burson-Marsteller also worked for the Romanian dictator Ceaucescu, as well as the Nigerian government following the Biafra genocide.

Ketchum, another large PR player has been contracted by companies that include Aventis, Dow Chemical, British Petroleum, Novartis (now a part of Syngenta) and others. More interestingly, Ketchum has done much work for the US government. Although the federal government of the United States is forbidden by law from spending funds on PR (Stauber and Rampton, 2001, p.27), in 2004 alone Ketchum collected nearly \$60 million US from federal government contracts (SourceWatch, 2005).

The magicians of PR have no qualms about selling illusions. Just as the industry as a whole works to maintain the illusion of democracy in order to perpetuate the centralization of power (Ewen, 1996), the individual firms craft images of corporations and neoliberal governments to trick us into believing that each of those companies and agencies is concerned with public interests.

not witnessed any such incident, and that the “testimony” was masterminded by the vice-president of Hill and Knowlton (Ewan, 1996, p.28-29).

¹⁵ Union Carbide is best known for the 1984 gas leak in Bhopal, India. The event is considered the worst industrial disaster in history, as it took thousands of lives, injured over half million people, and the consequences on human health are still evident more twenty years later. For more information see http://en.wikipedia.org/wiki/Bhopal_Disaster

Though the premise of PR remains the same, the techniques have become more refined over the last century. Some of the corporate image management strategies involve the active manipulation of public discourse, which is further discussed in Chapter 6. Certainly, however, those strategies are not limited to language manipulation. *Battling Big Business* (Lubbers, Ed., 2002) describes in detail a number of devices PR employs to achieve the desired results. Setting up fake grass-roots groups (a.k.a. astroturf¹⁶), aggressive political lobbying, corporate espionage and surveillance of activist groups, infiltration of social movement groups, baiting known activists with hefty paycheques to join the PR ranks, threats, law-suits, and more - nothing is unethical in the PR business. Adopting environmentalists' terminology and faking concern, in other words "greenwashing" the corporate image, has been a successful approach to making PR firms' clients happy, especially when combined with uncouth attempts to tarnish environmentalists' image – whether individually or as a group. Astroturf groups seem extremely effective as they portray corporate wishes to be in line with that of citizens. These phoney groups have been used to benefit the tobacco industry, food industry, pesticide manufacturers, oil industry, large-scale logging, sewage treatment companies, and others¹⁷ (Stauber and Rampton, 1995; 2001). As Rowell puts it: "Nothing is safe from fake green PR" (2002, p.19).

¹⁶ The PR industry founds and funds "grassroots citizen campaigns" that serve to lobby various levels of governments. "Unlike genuine grassroots movements, however, these industry generated 'astroturf' movements are controlled by the corporate interests that pay their bills" (Stauber and Rampton, 1995, p. 13-14). "Astroturf" is a brand name for artificial grass-looking carpet, used here to convey the falseness of industry-funded "grassroots" movements.

¹⁷ For specific examples and case studies see Stauber and Rampton, 1995 and 2001 - full reference in the reference section.

PR firms also produce syndicated newspaper and magazine columns, video news releases (advertisements filmed to appear as actual news clips), and press releases that appear as legitimate news reporting and can be printed without editing (Stauber and Rampton, 2001). Commercial media gobble up these materials that cut their costs of news production, and delivers them to us expecting gratitude for keeping us “informed.”¹⁸

Spinning Your Dinner

Take a tour of agri-business websites (Monsanto, DuPont, Syngenta, Dow, and Aventis ought to be enough) and carefully look at the advertising phrases used. “Better food”, “better world”, “solutions”, “innovation”, “helping farmers”, “social responsibility”, “our pledge”, “improved productivity”, “reduced costs of farming”, “sustainability”, are only a few examples of the PR terminology utilized by the biotech industry. Chapter 2 touched on how biotech products have “helped” farmers, and “reduced” their costs. Chapter 3 scratched the surface of the associated “responsibility” and “sustainability”. While both the Public Relations Society of America and the Canadian Public Relations Society boast exhaustive codes of ethics, no holds barred seems to be the only rule in effect, allowing for PR practices to be sketchy at best.

Despite the risks described in Chapter 3, Monsanto’s website (2004) claims: “Plant biotechnology is an extension of ...traditional plant breeding...[and] can help provide an abundant, healthful food supply and protect our environment for future generations” (p.1). It seems unlikely that if the above were true, there would be so much resistance to such promising technology. Yet, in 2000 the

¹⁸ This is further discussed in Chapter 5

leading biotech companies or, as they prefer to call themselves, life-science companies formed an alliance. This alliance consisting of Monsanto, Novartis (now a part of Syngenta), Aventis, Dow Chemicals, DuPont, Zeneca and BASF immediately dedicated \$50 million US to an “information campaign” (Lambrecht, 2001). The cost of the campaign reflects the extent to which the industry felt threatened by the opposition to GMOs.

In 1999, Arthur Anderson Consulting Group developed a promotion plan for Monsanto that outlined a strategy for flooding the market with GMOs and ensuring that within five years “95 percent of all seeds would be genetically modified” (Smith, 2003, p.2). This goal has not been achieved, but Monsanto did manage, by 2003, to buy out 23% of the world’s seed companies, thereby “capturing 91 percent of the GM food market” (Smith, 2003, p.2). Monsanto was formed in 1901 to produce saccharine, and it grew to become a leading chemical company, manufacturing now widely banned polychlorinated biphenyls (PCBs) and Agent Orange, an herbicide highly dangerous to plant life and human health that was also used a weapon of war in the Vietnam War (Stauber and Rampton, 2001). Since the mid 1990’s, Monsanto has introduced several GM crops, most of them modified for tolerance of Roundup, Monsanto’s best-selling herbicide. In 1994 the US Food And Drug Administration (FDA) approved for commercial use Monsanto’s recombinant Bovine Growth Hormone (rBGH), which when injected in cows increases their milk production. This genetically modified hormone has been proven to increase incidence of udder infections, birth defects, and reproductive dysfunctions in cows, in addition to resulting in milk with higher

bacterial count, increased hormone content, and traces of somatic cells (pus) caused by udder infections (Smith, 2003). When, in 1998, Health Canada's scientists rejected Monsanto's rBGH application for patent, Monsanto offered them a bribe of between \$1 million and \$2 million US (Smith, 2003). To Monsanto's dismay, Health Canada stood by their decision.

In 1997, Jane Akre and Steve Wilson, both investigative reporters for Fox Network in Florida, documented the risks associated with rBGH and before their report was to be aired on Fox TV, Fox advertised this scathing expose. Monsanto got wind of this and Fox received a threatening letter from Monsanto's lawyer, reminding them of how much advertising money Fox received from Monsanto and its subsidiaries. Fox caved in, postponing and then requesting numerous revisions from Akre and Wilson. Eventually, the original program was discarded, and Akre and Wilson were let go (Stauber and Rampton, 2001). In addition to being fired, Akre and Wilson have also been sued by Fox to pay for their trial costs (Project Censored, 2005).

In 2002, the United Nations Earth Summit took place in Johannesburg, South Africa. During the Summit, the streets of Johannesburg saw an interesting parade – a protest against “eco-imperialism” that supposedly threatened to deprive the world's poorest countries from using GM crops. The protesters carried placards that said “Greens, stop hurting the poor” and “Biotechnology for Africa”. Jonathan Matthews (2002), a journalist for Environment magazine did some investigative work and discovered that the “fake parade” was orchestrated by the Biotech Industry Organization (BIO), and that virtually all of the

“protesters” carrying placards written in English could not speak the language they were “protesting” in. Additionally, Matthews found that Chengal Reddy, who was quoted in the *Nature Biotechnology* journal as one of the protesters claiming that “traditional organic farming led to mass starvation in India”, was not a farmer at all. Instead, Reddy was a politician and a businessman who had done much promotional work in India on behalf of Monsanto. In 1999, the *New York Times* reported on an anti-GMO protest in Washington that was disrupted by a group of African-Americans carrying signs that read “Biotech saves children’s lives.” According to the *Times* the group was bussed in by a poor neighbourhood Baptist church. The church allegedly received money from Burston-Marsteller working on behalf of Monsanto (Matthews, 2002).

Fake front groups working for the benefit of Monsanto don’t end here. Monsanto (and other questionable food manufacturers) have funded third party groups with legitimate sounding names. Corporate money goes a long way when invested in groups that appear neutral. The International Food Information Council (IFIC) is a “non-profit” group whose “mission is to communicate science-based information on food safety and nutrition to health and nutrition professionals, educators, journalists, government officials and others providing information to consumers” (IFIC, 2005, p.1). Their web page contains “information” on biotechnology and claims that: “Biotechnology offers the needed technology to produce higher crop yields, plants that are naturally protected from disease and insects, and potentially more nutritious and better tasting foods” (p.1). The website also lists the benefits of biotechnology but makes no mention

of the risks, and under “safety” simply passes the buck to the FDA as it is the FDA’s job to “ensure safety” (IFIC, 2005). Consumer Alert is another group working in defence of biotech, although they claim to be a “nationwide, non-profit, non-partisan consumer group committed to protecting consumer choice & promoting economic growth” (Consumer Alert, 2005, p.1). Their webpage contains a number of articles praising biotechnology including one that reads:

Agricultural biotechnology is and can be an important tool in achieving the goal of sustainable development in agriculture. Current and potential applications of agricultural biotechnology would help conserve natural resources and promote biodiversity (Consumer Alert, 2002, p.1).

Both IFIC and Consumer Report have been funded by corporations, including Monsanto (Stauber and Rampton, 2001), and so have many American and Canadian universities¹⁹. These “third party experts” help the industry’s claims to appear legitimate by passing themselves off as independent and neutral. It truly is astounding that there is any resistance to GMOs at all, given the aggressive PR campaign that Monsanto and other biotech giants have executed.

¹⁹ According to Smith (2003), between 1985 and 1995 the US universities’ corporate funding increased from \$850 million to staggering \$4.25 billion, with the funding from corporations increasingly dictating what research is being conducted and how.

CHAPTER 5:

MEDIA AND THE NEOLIBERAL PROJECT

News or Propaganda?

“Do not fear the enemy, for your enemy can only take your life. It is far better to fear the press, for they will steal your Honour” (Twain cited in Maxwell, 2004, p.2).

A combination of the PR industry's attempts to give their doings a legitimate appearance (i.e. PR materials published as legitimate “news”) and the news media's desperate reliance on advertiser funding, have left us with media outlets whose news is virtually indistinguishable from advertising. When corporations become the primary sources of media revenue, we are left with little more than plain promotion. Add to that the reality that the outlets themselves are so intertwined with (and often nothing more than subsidiaries of) the corporations they promote, and the line between news and PR blurs. The fact that there is seemingly no official censure (at least in Canada) strengthens the façade of accuracy, as the outlets appear free to report anything to propagate corporate interests (Shah, 2002).

When Herman and Chomsky first introduced their propaganda model (PM) in 1988, they faced much criticism including accusations of being conspiracy theorists. Herman and Chomsky (1988) argue that mainstream media reporting is subjected to filters, which results in a media system that serves the interests of social elites. This filtration is much more effective than official

editorial censorship, because the filters are basically invisible to the audiences. Though the model is almost two decades old:

The thesis put forward in *Manufacturing Consent*, that consent in a 'free society' is manufactured through manipulation of public opinion, perhaps even more now than when their book was originally published, bespeaks journalistic self-censorship in an era in which corporate ownership of media has never been as concentrated, right-wing pressure on public radio and television is increasing, the public relations industries are expanding exponentially, and advertising values dominate the news production process. If ever there was a time for the PM to be included in scholarly debates on media performance, it is now (Klaehn, 2002, p. 173-4).

The five filters identified by the PM are: size and ownership, advertising, sources, flak, and dominant political agenda.

Size and ownership refer to the concentration of media where increasing numbers of media outlets are owned by the same conglomerate, thereby reducing the number of voices and opinions since all the outlets will use the same reports in order to reduce production costs. Owners of such conglomerates frequently have interests in other industries, whether through investments or through associates, and prefer that their media not expose the wrong doings of their non-media enterprises.

Advertising revenue is an integral part of commercial media operations, and it also ensures that outlets will not shed bad light on the advertisers for fear of losing the advertising revenue. "There is solid evidence, for example, that the more advertising money taken from tobacco companies the less their willingness to permit discussion of the health effect of smoking" (Herman and McChesney, 1997, p.7).

Sources are individuals whose testimonies are used in reporting. More often than not, commercial media use “experts” such as academics, government officials, and prominent businessmen, rarely representing the voice of the underdog.

Flak is the fear factor of the newsroom, it refers to the external punitive measures reporters and editors may be subjected to, should they try to report anything not in line with the elite’s interests. An example of flak would be the case of Fox reporters Akre and Wilson, described in Chapter 4.

Anti-communism, in 1988, stood for the American political agenda, creating fear of communism among Americans and portraying everything opposing the elite’s agenda as “communist”. Those reporting in ways that discredited the dominant system could be accused of being communists and therefore unpatriotic. The label of anti-communism is now outdated, but the premise has not changed, the dominant ideology of the United States now fires at its opposition with the “terrorist” label. In other words, the last filter identified by the PM has changed over time, but essentially describes the ways in which the elites identify and persecute their “enemies”.

Ed Herman concedes that the filter perhaps should have been originally termed ‘the dominant ideology’...however, anti-communism was selected, primarily because the authors wished to emphasize the ideological elements that have been most important in terms of disciplinary and control mechanisms (Klaehn, 2002. p.161).

In other words, Herman and Chomsky feared that ‘the dominant ideology’ would have been too vague a term. While the central assumptions of the PM remain the same – that “the elite agenda setting media legitimize dominant

ideological principles and social institutions” (Klaehn, 2002, p.162) – definition of the fifth filter has already been revised by many, including Herman and Chomsky.

As several scholars have recently demonstrated, the propaganda model still carries a great amount of relevance and in many ways explains the presence of neoliberal ideology in present day media (Klaehn, 2005).

News Production

The selection of an event as more newsworthy than others, the amount of time or space allotted to it in a given medium, and the language used in reporting, all colour how the audience will interpret the event. Reporters do quite a bit of filtering on their own. Research done by Teun van Dijk (1988) suggests that what events are considered news worthy and how they are reported depends on a number of social factors. The reporters' value systems, interactions in the newsroom, relationships with their editors, and their broader social interactions all affect what they report and how. Reporters themselves are subjected to the dominant ideology and the commercial nature of their outlets; it can, therefore, be expected that more often than not they believe what the elites propagate.

Editors further filter the news, since they are more familiar with the expectations of their employers as well as their advertisers. The “advertising carrot” dangled before the media, Armstrong and Ross (2002) suggest, leaves much information unreported as “no media outlet will hurry to bite the hand that feeds it so much advertising revenue” (p.79). Should something still slip through

the cracks, flak ensures it doesn't happen again. Erjavec (2004, p.556) notes that "the process of production interlocks with a news text" and that

in this process [of news production], journalists use an established form and habitual methods to manage production. There are more or less routine and institutionalized ways to do the work, which, of course, have consequences for what could be expressed in the text, and how it could be expressed; it has a consequence for how commercial messages are formed as news (p.557).

From overt advertising to product placement practices, from VNRs, to "advertorials" (PR materials produced to appear like editorials), from industry tycoons posing as "experts," to painting opposition as criminals, commercial media willingly control dissent and encourage consumption. A thriving corporate economy also means thriving media business, more advertising money, and justification for treating the audiences as nothing more than consumers. This is not to say that there isn't any negative reporting on the elites, however:

The media, while offering an outpouring of news and analysis have by and large concentrated on individual characters and looked for scapegoats (CEOs being the current flavour!). The impact of the underlying system itself has been less discussed and when it has, it has often been described as basically ok, but just affected by a few 'bad apples' (Shah, 2002).

In effect, by exposing a handful of individuals, the media dodge the allegations that they defend corporations, while no sound analysis of the system is to be found in the mainstream. Contrary to this, critics of the current media system try to assess the system rather than individuals. "The premise was never that the problem was bad people; to the contrary, the problem was that it was a bad system that forced good and bad people to do bad things" (McChesney and Scott, 2002, p.8). McChesney and Scott further propose that this stance is not a

recent phenomenon. They quote Upton Sinclair who, in 1919, wrote of American journalism the following: "Politics, Journalism and Big Business work hand in hand for the hoodwinking of the public and the plundering of labour" (cited in McChesney and Scott, 2002, p.2).

To ensure the perpetuation of this media trend, the elites also try to convince the public that media tend to lean to the left of the political spectrum. Right wing think-tanks maintain that mainstream media is tainted by "liberal bias."

In particular, the conservative critique of the news media rests on two general propositions: (1) journalists' views are to the left of the public, and (2) journalists frame news content in a way that accentuates these left perspectives (Croteau, 1998, p.4).

This myth serves to limit an already minimal amount of reporting that is critical of economically and politically conservative elites. Croteau's (1998) research, however, indicates that most journalists see themselves as "centrist", and of those who do not, more consider themselves right of centre rather than left. In addition to how journalists view themselves, when asked their opinion on issues like corporate power, economic priorities, and environmental laws, opinions of the surveyed journalists seemed to fall significantly to the right of where public opinion on those issues stood. Croteau suspects that this may have something to do with socio-economic status and income bracket of mainstream media journalists. Additionally, Hussein and Solomon (1998) and others have demonstrated that journalists source right wing think-tanks more than they source centrist and progressive (left-wing) think-tanks combined.

Media Goes Global

In a democracy the media should, ideally, serve the interests of the people, providing them with the information needed to participate meaningfully in decision making. ... In the current media climate, dominated as it is, by a few huge transnational corporations which stand to benefit from the increased spread of corporate globalization – by imperial means if necessary – democracy is ill served (Scatamburlo-D’Annibale, 2005, p. 52-3).

Commercial media are driven by profit, and the sources of profit determine the content. “Media outputs are commodities and are designed to serve market ends, not citizenship needs” (Herman and McChesney, 1997). Not only is neoliberal ideology disseminated through mainstream media, the media outlets themselves operate within the current capitalist framework. In the words of Arundhati Roy:

It is important to understand that the corporate media don’t just support the neoliberal project. They *are* the neoliberal project. This is not a moral position they have chosen to take; it’s structural. It’s intrinsic to the economics of how the mass media work (2004, p.2).

The corporate media have systemically masked the realities of corporate globalization while at the same time becoming increasingly globalized themselves. “Economic and cultural globalization arguably would be impossible without a global media system to promote global markets and encourage consumer values” (McChesney, 2001, p.1). Media corporations are increasingly becoming transnational and gigantic. Similar to how agri-businesses are overtaking world seed companies, media conglomerates are taking possession of media outlets all over the planet. The largest conglomerates such as AOLTimeWarner, Viacom, and Rupert Murdoch’s News Corporation, own literally hundreds of media outlets, production centers, publishing companies and other

business interests (Herman and McChesney, 1997). Their reach extends beyond state borders and across continents. This permits the delivery of neoliberal ideology globally and

as a consequence, the coverage of alternative views and critique has been either avoided, or almost ignored, because the same international system (given the label of “free trade”) benefits the large media companies and their owners that are also global (Shah, 2002, p.1).

Where critique of the system does receive coverage, it is often to portray opposition as radical and unruly, to show the most severe forms of dissent and to paint all of the opposition to the system as the extreme left. The media then utilize this portrayal to justify the extreme right views of neoliberals, who in turn become a necessary force that can combat the so-called radical political left. McChesney describes one of the built-in biases of professional journalism that is “more subtle but most important: far from being politically neutral, it smuggles in values conducive to the commercial aims of the owners and advertisers as well as political aims of the owning class” (2000, p.7).

This strategy has been applied to the coverage of GMOs as well, as GMOs are a significant facet of neoliberalism. The media’s intentional avoidance of the GMO controversy has significantly contributed to the lack of public discussion in North America.

The public’s concern reflects the arrogance with which the biotech industry has attempted to manipulate public opinion and awareness. In July 1999, the journal *Science* published a comparison of news coverage in Europe versus the United States on the subject of biotechnology and concluded that while Europeans were more scientifically literate than their US counterparts, they were ‘more likely than Americans to perceive GM foods as menacing or dangerous based on *scientifically*

inaccurate assumptions' (Stauber and Rampton, 2001, p. 162, italics added).

Stauber and Rampton's criticism of this journal article becomes more clear when one looks at the actual study . Though the authors of the study concede that European newspapers give their readers more coverage on GMOs *and* that Europeans are significantly less accepting of GMOs, they conclude that there is no single reason responsible for the latter. Rather, they see this difference as merely reflecting "deeper cultural sensitivities, not only towards food and novel food technologies, but also toward agriculture and environment" (Gaskell, Durant and Allum, 1999, p. 386-387).

Indeed, the media coverage is only one factor that influences public opinion, but North American media have most certainly facilitated public opinion on GMOs by keeping the public in the dark. The results of a 2001 Leger Marketing poll found that 78.4% of Canadians did not know what "GMO" abbreviation stood for (McKenzie, 2001), despite the reality that by 2003, at least 60% of all processed foods in Canadian grocery stores contained GMOs (Greenpeace, 2003).

It is likely that an increase in public discussion would create an environment in which the public would demand stricter regulations. That, in turn, would limit the freedoms of agri-businesses to take control over food production, and such restrictions would interfere with the neoliberal project. By supporting the neoliberal project, either through omission or through covert advertising, Canadian media are complicit in the process that is putting our food security, our health, and the environment in jeopardy.

Instead of offering diverse perspectives on events and issues, the corporate media portray an increasingly myopic and orthodox picture of the world around us. The consistency with which they do this has its consequent, intended effect on public opinion and policy formation (Winter, 2002, p. xxvii).

After a brief discussion of the methodological approach employed in this thesis, Chapter 7 will examine specific examples of how commercial media, specifically Canadian mainstream press have dealt with GMOs.

CHAPTER 6:

CRITICAL DISCOURSE ANALYSIS: METHODOLOGY IN THEORY AND PRACTICE

Critical Discourse Analysis: An Overview

"We know that discourse has the power to arrest the flight of an arrow in a recess of time, in the space proper to it"
Foucault (1977, p. 53).

Critical discourse analysis (CDA), although informally practiced for much longer, has only been clearly defined in the past decade or two. CDA is a multidisciplinary approach rooted in linguistics that draws on a variety of social sciences. "Critical" indicates that, not unlike other critical sciences, CDA approaches its subject from a critical perspective – that of the oppressed, the marginalized, and the abused. Critical science, according to van Dijk (cited in Wodak, 2001), goes beyond description and asks questions "of responsibility, interests and ideology" (p.1). It is generally understood as science that challenges the established scientific assumptions and even the dominant social systems. Critical studies look at phenomena from the vantage-point less frequented by researchers. Additionally, unlike most other approaches, critical research rejects the idea of objective science and acknowledges its starting point – be it a political, social, cultural or an identity position. Self-reflection is one of the crucial characteristics of critical research. Instead of striving for unachievable neutrality, critical scientists try to be aware of the opinions and beliefs that may affect the direction of their research. The rejection of positivistic notions of objectivity is discussed later in this chapter.

Discourse analysis grew out of textual analysis when a number of social scientists, and particularly linguists, started refusing to treat language as passive. They questioned "...the age-old assumption in philosophy – the assumption that to say something...is always and simply to *state* something" (Austin, 1962, p.12). It is not simply the face value of the message; it is the way the message is presented as well as what is *not* being said that is also important. Context was introduced into the study of language. The study of discourse was interested in relationships, social settings and historical influences, class relations and other characteristics that could, potentially, influence what was being said and how. Building on the pioneering works of J. L. Austin and Ludwig Wittgenstein, linguists such as Noam Chomsky ensured that, by late 1970's, notions of power and ideology became more important in discourse studies. Michael Halliday introduced the multifunctional linguistic theory, which became the foundation of critical linguistics (CL). CL is still a term sometimes used interchangeably with CDA. Indeed, CL and CDA refer to the same methodology, but as researchers are trying to define this method more precisely, CDA has become the preferred term. This is mostly because "discourse analysis" is more indicative of the increasingly multidisciplinary nature of CDA. "As a medium for the social construction of meaning, discourse is never solely linguistic" (Fairclough, Graham, Lemke & Wodak, 2004, p.5).

Discourse analysis developed from the need for "a qualitative alternative to traditional methods of content analysis" (van Dijk, 1988, p. vii). Its development paralleled the development of environmental studies, cultural studies and other

disciplines that were increasingly rejecting scientific reductionism. Whereas many disciplines had adopted research methods that only saw the objects of their study from a singular perspective, these new disciplines favoured integrated, multidisciplinary approaches to understand the objects they studied. I have already discussed the idea of scientific reductionism in Chapter 3, and for now, it should be said that discourse analysis distanced itself from a reductionist approach to language and acknowledged that language must be understood in its wider and much more complex context.

In 1985, Teun van Dijk compiled a four-volume "Handbook of Discourse Analysis", which is, to this day, a highly valuable reference material for anyone interested in the academic parameters and practices of critical discourse analysis.

The 1980's also saw an elevated need to define the process of analyzing language under the lens of critical science – particularly in terms of how power and ideology affected the "context" of discourse. 'Critical' should be defined first:

Beyond description or superficial application, critical science in each domain asks further questions, such as those of responsibility, interests, and ideology. Instead of focusing on purely academic or theoretical problems, it starts from prevailing social problems, and thereby chooses the perspective of those who suffer most, and critically analyses those in power, those who are responsible, and those who have the means and the opportunity to solve such problems (van Dijk, cited in Wodak, 2001, p. 1).

Similar to how they affected other social science practices, critical perspectives influenced discourse analysis approaches as well, adding the element of practical, applied usage of academic knowledge to assess key social issues. Ruth Wodak's (ed.) "Language, Power and Ideology" (1988) and Norman

Fairclough's seminal work, "Language and Power" (1989) marked CDA's entrance into the world of academically accepted research approaches.

Fairclough claimed to have written "Language and Power" for two reasons: "to help correct the widespread underestimation of the significance of language in production, maintenance, and change of social relations of power" ... and "to help increase consciousness of how language contributes to the domination of some people by others" (p. 1). In other words, Fairclough was concerned that language used in public discourse served to perpetuate the ideological aims of elites, and would do so in very subtle ways. As Fairclough noted, "ideology is most effective when its workings are least visible" (p. 85). Fairclough subsequently authored *Critical Discourse Analysis*, (1995) which, along with Wodak and Meyer's (eds.) "*Methods of Critical Discourse Analysis*" (2001), are considered essential texts for CDA practice.

Description

Teun van Dijk (1998) contends that CDA

is a type of discourse analytical research that primarily studies the way social power abuse, dominance and inequality are enacted, reproduced and resisted by text and talk in the social and political context. With such dissident research, critical discourse analysts take explicit positions, and thus want to understand, expose and ultimately to resist social inequality (p.1).

More than just analyzing the text, CDA looks at the social practice of discourse, and the social interactions that surround the text (Fairclough, 1989). Power relations, ideology, systemic influences on discourse, hidden meanings, underlying assumptions, political influences and social dominance, are all taken into consideration with CDA. Additionally, Fairclough (1989) specifies that CDA

treats “language as a form of social practice” (p.20) and Wodak (2000) clarifies that the CDA “approach is problem-oriented, not focused on specific linguistic items...the theory as well as the methodology are eclectic” (p. 10). Just as the starting analytical point for CDA is context, so the interpretations are delivered as broader perspectives, rather than specific linguistic conclusions. Specific linguistic terms (framing) are seen as examples of systemic problems and, although the terms are analyzed as illustrations of the problem, it is the analysis of the *system* that is at the core of CDA.

The “critical” aspects of CDA are variably derived from Foucaultian, Marxist, Frankfurt School's critical theory and other theoretical foundations, but what is always at the core of CDA can be understood as follows:

Basically, 'critical' is to be understood as having distance [from] the data, embedding the data in the social, taking a political stance explicitly, and focus on self-reflection as scholars doing research (Wodak, 2001, p. 9).

The political stance is crucial in CDA because the very foundation of CDA is the argument that there is no such thing as "objective" science, and that researchers cannot shed their values and beliefs when conducting research. This self-reflexive character of CDA provides a methodological approach that, contrary to traditional approaches, is honest and explicit about its position. The importance of CDA is then found in its ability to critically assess public debates keeping in mind their contexts. Additionally, as the predominant contemporary political and economic system is understood to be “knowledge-“ or “information-based”, and highly dependent on communication technologies, so the political importance of language is greater than in any other political/economic system

(Fairclough, 2002). Hence, the system, and consequently the dominant ideology, can only be understood if its language is analyzed in addition to its practical consequences.

Framing

"Framing" is one of the key concepts used in CDA. Framing refers to how individual issues are framed for public discourse by the elites, simply by the careful choice of words and syntax used in discussions. It can be as simple as, for example, referring to zoos as places where animals are kept captive, or as educational outlets for children who cannot afford to travel to see diverse wildlife. Whether we frame it as an issue of animal cruelty or an issue of education and poverty, the public perception of such issues will be very different. CDA researchers study how this is done systematically to ensure the perpetuation of certain ideologies.

As an illustration, a UC Berkley linguist, George Lakoff (2004) has been studying how the Republican Party in the United States has been systematically framing issues to propagate their ideological view—particularly a rigid right-wing form of neoconservatism. He gives one of the best examples of framing in contemporary practice when he talks about "tax relief."

He is worth quoting at length:

On the day that George W. Bush arrived at the White House, the phrase "tax relief" started coming out of the White House. It still is... Think of the framing for "relief." For there to be relief there must be an affliction, an afflicted party, and a reliever who removes the affliction and is therefore a hero. And if people try to stop the hero, those people are villains for trying to prevent relief. When the word "tax" is added to "relief," the result is a metaphor. Taxation is an affliction. And the person who takes it away is a

hero, and anyone who tries to stop him is a bad guy. This is a frame. It is made up of ideas, like “affliction” and “hero.” The language that evokes the frame comes of the White House, and it goes into press releases, goes to every radio station, every TV station, every newspaper. And soon the New York Times is using tax relief ... And soon the Democrats are using “tax relief”—and shooting themselves in the foot... That is what framing is about. Framing is about getting language that fits your worldview. It is not just language. The ideas are primary—and the language carries those ideas, evokes those ideas (Lakoff, 2004, p.3-4).

As Lakoff's example clearly illustrates, understanding framing is crucial to understanding how language, in subtle and nuanced ways, can promulgate particular worldviews and/or ideologies.

Greenwash

In the summer of 1999, nearly a decade after environmental activists first mooted it, the term ‘greenwash’ finally entered the *Concise Oxford Dictionary*. What activists had moaned about for over a decade, namely that their language was being co-opted by big business, had finally been officially recognized (Rowel, 2002, p.19).

Greenwash is another term that needs to be understood when analyzing neoliberal language. As explained in the quote above, it refers to big business, and consequently their public relations sector, co-opting the language and ideas of environmentalists and other social activists. For example, a car company may advertise a vehicle as “environmentally friendly” solely because that particular make uses 10% less gasoline than say a sports-utility vehicle. The fact that the advertised vehicle is still a polluting one is “greenwashed” through carefully crafted advertising. Similarly, biotech companies are likely to describe their new (often genetically modified) crops as “sustainable”, trying to shed positive light on agricultural practices that are far from being sustainable. Publishing

“environmental reports” is another way major polluters greenwash their practices. In the same vein, big businesses (e.g. Coca-Cola) often talk about their international activities describing how they work with the communities to meet local needs. In actuality, they are frequently exploiting those communities by taking advantage of their resources and cheap labour. Non-unionized sweatshops are translated into “meeting local needs” and partial filtration of their plants’ wastewater is described as “providing communities with clean water”. From substandard wages to senseless pollution, international activities of large corporations are described as “development” over and over. Co-opting the language of social and environmental activists, these corporations manage to maintain a respectable image despite their blatant infringements of basic human rights. They “present themselves as born-again ethical enterprises while at the same time resorting to a bag of dirty tricks” (Lubbers, 2002, p.11).

Corporate social responsibility (CSR) is one of the many catch phrases that illustrate greenwash. Although CSR sounds like an attempt to succumb to corporate critics and acknowledge accountability, it is essentially a way out of being criticized and even regulated. Monbiot suggests that CSR attempts to imply there is no need for regulations on behalf of the public or governments because “at the heart of CSR is the notion that companies can regulate their own behavior” (2002, p.55). Clearly, greenwash is another issue that needs to be kept in mind when trying to critically analyze neoliberal discourse.

Criticisms

Despite the fact that CDA is widely employed by a variety of scholars across disciplines, it has had its share of critics. The main critique of CDA can be found in accusations such as Schegloff's, that "CDA is an ideological interpretation and therefore not an analysis" (cited in Meyer, 2001, p.17). However, as we look at the basic premises of CDA, we see that not taking a position would contradict the very philosophical underpinnings of CDA. CDA proponents claim that no language is neutral and that a responsible scientist should acknowledge this, hence, self-reflexivity is a key characteristic of CDA. Opponents of CDA feel that this is a judgmental position and that CDA lacks empirical values of objectivity. But to say this is really "to huff and puff at CDA from the implicit view that 'objectivity' and 'neutrality' are (a) possible, (b) always and already good, (c) what we 'really want' and (d) already available through other means" (Winiecki, D., Boise State University, personal communication, 2004).

Winiecki's comments echo, at least at some level, the provocative stance articulated by Pierre Bourdieu (1991, p.38) who has argued that the mere valorization of objectivity as a good onto itself can lend itself to totalitarian modes of thought where voices that invoke discourses of neutrality or objectivity are exalted while those arguing from politically committed postures are systematically undermined. Linda Alcoff (1993, p. 74) has also explored this problematic and explains it as follows:

The tyranny of this subject-less, value-less conception of objectivity has had the effect of authorizing those scientific voices that have

universality pretensions and disauthorizing personalized voices that argue with emotion, passion and open political commitment . . . [t]his notion of objective inquiry . . . continues to have significant political effects in censoring certain kinds of voices while obscuring the real political content of others.

Because CDA is so interdisciplinary and so difficult to compress into a single definition, it makes itself quite susceptible to criticism. Additionally, as a qualitative method it is often treated the same way other qualitative methods are – as unscientific. Numbers, in the world of reductionist science are seen as “objective” and therefore superior to descriptions.

However, if done diligently, CDA is a powerful method capable of dissecting the subtlest manipulations of public discourse as served up by the spinmeisters of our times. “Done diligently” involves two things: (a) understanding your subject (discourse) as not separate from its social, political and ideological context and (b) clearly stating the researcher’s position, acknowledging the human inability to be absolutely objective, and recognizing the necessity of analyzing phenomena from the point of view of those rarely asked for their opinions. In the case of this study, I take a critical (i.e. apprehensive) approach to genetic modification; I acknowledge that my conceptions of corporate industrialized agriculture will affect my interpretations of the text; and I attempt to look at GM food from the perspective of the unknowing consumer as well as the oppressed farmer. The reasons for this approach are explained, in part, throughout this thesis.

Much of the contemporary CDA work involves a variety of critical social studies and revolves around carefully analyzing how the predominant public

discourse has been penetrated by the most powerful capitalist ideologies. The work of linguists involved with the “Language in the New Capitalism”²⁰ project solidifies my method of analysis. My particular interest in assessing the material from Canadian newspapers using the tools of CDA lies in the way CDA looks at how labels come to life and how ideologies permeate communication.

“Discourses are ... an irreducible part of *ways of acting and organizing* – discourses simultaneously sustain, legitimize and change them” (Fairclough et al, 2004, p.2, italics added).

Besides the general approach to discourse, proper CDA application also involves a thorough look at the contextual factors that mark a given text. The steps involved in this process are thoroughly described by Huckin (2005). In addition to framing, Huckin elaborates on genre, foregrounding, omission, and presupposition. Genre refers to text type, the formal features that define a particular text. Foregrounding goes hand in hand with genre and deals with how some information can be presented as more important than other even within the same text, depending on what order the information is presented in and what is highlighted or discussed in more detail. Omission, clearly, deals with what is left out, which is of particular interest to this study. Presupposition is the way the author manipulates text to present certain ideas as a given, “ as if there were no alternative” (p.6). Additionally, Huckin describes other aspects of text such as visual aids, insinuation, connotations, etc. I will return to some of these concepts on the following pages.

²⁰ More information available at <http://www.cddc.vt.edu/host/lnc/index.html>, Ruth Wodak, Norman Fairclough, Phil Graham, and Teun van Dijk are some of the researchers involved in this project

Language and Neoliberalism

Neoliberalism can be understood as “a political project for the reconstruction of society in accord with the demands of an unrestrained global capitalism” (Bourdieu in Fairclough, 2000, p.147).

Neoliberal ideology would have us believe that economic globalization is inevitable, that the so-called “free” market is the only path to prosperity, and that scientific inventions always equal progress. Neoliberalism gives priority to unlimited, unregulated economic interests and has now reached a point where many recognize it as a nothing more than a new form of imperialism. The economic domain has “colonized” other domains of social life including arts and culture, education, health care, etc. (Fairclough, 2002) and everything is measured in terms of “market value” and profit margins. Indeed, neoliberalism has managed to commercialize every aspect of social interaction and as its ideology saturates each one of those aspects, the new order is simply becoming our new “reality.” Language, and thus discourses, do not simply reflect this new order, but rather “...produce subjects and ... produce societal realities” (Jager, 2001, p.36).

Language is an important part of the new order. First, because imposing the new order centrally involves the reflexive process of imposing new representations of the world, new discourses; second, because new ways of using language - new genres – are an important part of the new order. So the project of the new order is partly a language project. Correspondingly, the struggle against the new order is partly a struggle over language (Fairclough, 2000, p.1).

and are responsible for the publication of Critical Discourse Studies journal.

Since the new order is, by definition, fueled by information/knowledge exchange and communication, our understanding of its discourses is, more than ever, crucial in understanding its ideology. Hence, CDA researchers attempt to examine how ideology translates itself into public discourse, and how public discourse, in turn, normalizes ideology. “[CDA] takes particular interest in the ways in which language mediates ideology in a variety of social institutions” (Wodak, 2001, p.10). In addition to this, CDA looks at alternatives to prevalent discursive practices. It suggests that neoliberal ideology not only shapes public discourse (and thereby public opinion) but also takes it upon itself to identify and define resistance. In public discourse, neoliberalism marginalizes (and often ignores) its opposition, by emphasizing ideological foundations and downplaying resistance. Therefore, in order to counter this, “the task [of CDA] is not only to specify the threat, but also to specify emergent practices of resistance, and to discern possibilities for change” (Fairclough, 2000, p.2).

News as Discourse

Whereas some research methods are ultimately designed to provide us with only academically valuable information, CDA also strives to fulfill “external” goals (van Dijk, 1985, p.1). One of these external goals is related to the practical relevance of academic research. Some CDA researchers feel that much social research has very little value (or purpose) outside of the academia. CDA strives to correct that, by studying socially important questions in a way that allows for real-life applications. Consequently, when used in communication studies, CDA

strives not only to observe the media and/or public discourse, but also to critically assess problems with media practices and suggest improvements.

Analyzing news as a form of discourse indicates a broader approach to this form of public communication. In other words, rather than finding textual analysis (grammar, semiotics, sentence structure) sufficient, the researcher attempts to understand news in the context of social relationships. A critical analysis (CDA) would then involve examining news as texts situated in a complex system of the following: social norms as to what is newsworthy, production processes, the industry's unwritten rules that journalists are to abide by, influence of advertising funding, and owners' other business interests. We find that North American news media tend to emphasize the importance of politically "neutral" news over news bits that may be politically controversial. For example, a commercial television news segment typically opens with reports of murders, fires, car thefts, robberies etc. Though these reports create a climate of fear, they can be seen as politically neutral²¹ causing the audiences to question their own safety, but not to question potential problems with the system.

Additionally, when dealing with issues that could potentially be politically sensitive, commercial media tend to overly politicize them, giving their audiences a sense of helplessness. By over-politicizing, I refer to the portrayal of issues, such as food security, as something strictly in the hands of politicians. If it is the job of governments to regulate those issues, the logic suggests that the public cannot do much about them anyway. The language used to couch such issues creates in a reader a sense of inevitability and leaves the audiences out of the

debate. If we believe that language is a reality-creating practice (Fowler in van Dijk, ed., 1985, p.62) then we see how public passivity can be shaped and maintained by the media, and that “the media are not a neutral, common-sensed, or rational mediator of social events, but essentially help reproduce preformulated ideologies” (van Dijk, 1988, p. 11).

Where CDA differs from traditional (“empirical”) news analysis methods (such as textual or content) is found in the fundamental idea that media messages are not treated as transparent but rather as “[having] a complex linguistic and ideological structure” (van Dijk, 1988, p. 11). CDA insists on studying both text *and* context, and media messages are seen as a complex web of socially relevant and extremely influential discourse.

Data Collection

For the purposes of this study, newspaper articles were selected from the period between January 1, 2004 and December 31, 2004. The year 2004 was significant for the GMO battlefield for a number of reasons. One of those reasons is that the European Union succumbed to the US trade pressures and ended its blanket moratorium on GM foods, making the corporate grip on food and cultural understanding of food ever more evident. But, even more importantly, 2004 was the year that the Supreme Court of Canada delivered its decision in the *Schmeiser v. Monsanto* case. The significance of that decision lies in the fact that this was the first time in history that a farmer has *legally* been denied the right to save seeds. The decision set a precedent of international importance, a

²¹ Exceptions, of course can be found in incidents such as hate crimes etc.

precedent that may worsen the way judicial systems around the world handle patent laws in the realm of food production.

Canadian News Stand was used for selecting newspaper content to be analyzed in this study. Full text articles found on this database enable the researcher to gather coverage from 17 papers in 15 large Canadian cities, allowing for a thorough assessment of similarities and differences of the understanding of GMOs between provinces. The following papers were available thorough the NewsStand database: Calgary Herald, Daily News (Halifax), Edmonton Journal, The Gazette (Montreal), Guardian (Charlottetown), Kingston Whig-Standard, Leader Post (Regina), National Post (Don Mills/Toronto), The Ottawa Citizen, The Province (Vancouver), Star Phoenix (Saskatoon), Sudbury Star, Telegram (St John's), Times Colonist (Victoria), Toronto Star, The Vancouver Sun, and The Windsor Star.

Two of the above papers (the Kingston Whig-Standard, and the Sudbury Star) are owned by Osprey Media Group; Toronto Star is a part of the Torstar media; St. John's Telegram, the Charlottetown Guardian and the Halifax Daily News belong to Transcontinental; and the rest of the aforementioned papers are owned by Southam - a subsidiary of CanWest Corporation. It should be noted that newspapers from Manitoba and New Brunswick are absent from the above list. Main dailies in Manitoba and New Brunswick are owned by FP Newspapers and Irving Media, respectively. Although such monopoly over provincial print media is of concern in both cases, their archives are not easily accessible and

obtaining articles from Manitoban and Brunswick's dailies would have taken my research beyond the scope of this study.

The NewsStand data base search was performed using the following parameters: *gene*and modif* or engin**. The search returned 596 articles for the year 2004. Many of those articles were found irrelevant to this study as they only briefly mention genetic modification (or engineering) and such articles were disregarded. This left me with 279 articles discussing GM technology and associated controversies. 16 of those 279 articles were printed in identical format in more than one newspaper (due to the papers' shared ownership), totaling 80 "duplicate" articles. As a result, 199 full text copies of articles were assessed, although duplicate articles were taken into consideration as far as national coverage is concerned. The articles were analyzed through the method of critical discourse analysis, described above, and copies of all articles were retained for future reference.

CHAPTER 7:

CANADIAN PRESS COVERAGE OF GM FOOD: AN ANALISYS

The articles analyzed for this study appear to in many ways resemble the way in which the biotech industry and their public relations firms have promoted GMOs. The myths associated with GMOs are perpetuated by the coverage and many of the claims made by the biotech firms themselves are echoed in the mainstream media. For the purposes of clarity, I have broken down the analysis to roughly correspond with material presented in the previous chapters. The themes are divided under the following subheadings: GM crops are beneficial, Feed the world; Farmers love GMOs; GMOs are not unsafe; GMOs are good for the environment; Opponents are bad; Economic benefits of GMOs; and Greenwash. These themes only highlight the most common aspects of biotech propaganda found in the press, but it should be noted that this propaganda is far from being that simple and compartmentalized.

To define an article as positive or negative coverage of GMOs, proved difficult, but my focus was kept on the overall effect of a given article. Neoliberal labels, taking GMOs for granted, and glorifications of GM “inventions” were seen as defining an article as being in favour of GMOs. On the other hand, explicit expressions of proven problems with GM food were seen as main indicators of an article being opposed to GMOs. The articles categorized as neutral were the ones that acknowledged the existence of the opposition and even mentioned the oppositions’ arguments in combination with presenting the voices of those who promote GMOs.

The focus of this study was news coverage, therefore, *letters to the editor* were not treated as news, but it is of note that they were found to be overall more progressive than the news content discussed below. Out of the 23 *letters*, only 6 seemed to treat GMOs as a positive thing, and those 6 only reiterated the industry's myth that GMO will feed the world. As for the rest of the articles (176 in total), 53 were found to be "neutral", attempting to present "both sides". In other words, those articles gave a glimpse of both proponents and opponents' arguments.²² 17 articles were found to overall disagree with the GM industry and favour the opposition's stance. A staggering 106 out of 176 articles were in favour of GMOs. They ranged from seemingly neutral articles that treated GMOs as a fact of life with no opposition, to vicious attacks on opposition and hyperbolic descriptions of GMO promises.

It should be noted that besides the *letters to the editor*, 21 of the 199 articles (or 279, counting "duplicates") were simple financial reports and I only selected one or two quotes to illustrate the press' treatment of food as a business curiosity. Additionally, 8 articles dealt with GMO as just another issue on the long lists of party descriptors, a form of political knowledge that may be useful come election time. Finally, some of the articles were found to share similar arguments and I found it unnecessary to quote each one. As a result, just over 60 articles are cited in the following chapter. All other articles were assessed but not necessarily cited.

²² Each one of these "neutral" articles could be further analyzed for structure and weight given to the opposing arguments. That may very well give us a different perspective on the apparent

GM Crops are Beneficial

The press seems to insist on turning a blind eye to the proven and suspected risks related to GMOs. Similar to the websites of large agribusinesses, the press describes GM food as something to be welcomed with open arms. Though the health problems associated with trans fats took years to be defined, consumer concerns about the not yet understood GMOs are not convincing enough for our press. Instead, they tell us that GM foods are good for your health as “Monsanto is working on genetically modified ‘Visitive’ soybeans, bread to produce oil with less need for partial hydrogenation, and so less trans fatty acid.”²³ Other GM products are also glorified. Genetic modification will give us “better wines.”²⁴ Genetically modified shrimp may help save the US shrimp industry from the competition that is “dumping large quantities of their product in the US market.”²⁵ And to save us time by reducing the number of trips to the grocery store, “Syngenta is developing the StayRipe banana, a genetically modified variation that would remain edible up to five days longer than a conventional banana.”²⁶

The Montreal Gazette tells us that GM flax seed will help those at risk of developing prostate and breast cancer.²⁷ The same paper reports that three GM female pigs, which lawfully had to be incinerated, were mistakenly transformed

neutrality” of the news.

²³ *National Post*, November 23, 2004, p. A18

²⁴ *Star-Phoenix*, February 12, 2004, p. C8

²⁵ *Montreal Gazette*, March 23, 2004, p. B2

²⁶ *Vancouver Sun*, May 27, p. F1

²⁷ *Montreal Gazette*, October 31, 2004, p. D6

into animal feed²⁸, but food safety concerns receive far less attention than the promising “advantages” of GMOs.

These are just some examples of how the papers promote the supposed “benefits” of GM food. The corporate owned and influenced Canadian press seems to be doing little more than reiterating the lines delivered by the biotech spin doctors. And if you’re still sceptical, you are simply buying into the unfounded fear-mongering of Europeans and the unknowing activist groups. But this is not all.

Feed the World

One of the main advertising lines of the biotech industry is the one that claims that GMOs will solve the problem of world hunger. The articles analysed here not only repeat this line, but even elaborate on it by demeaning the opposition and framing GMO resistance as an absence of compassion.

Angola took a principled stand yesterday, turning down 19,000 tonnes of corn from the United States because it had been genetically modified, a move that could leave two million Angolans wondering where their next meal is coming from...Washington believes African governments have fallen prey to misinformation from the EU and non-governmental organizations opposed to modified crops on principle. But African indulgence in what is really a rich-country debate is doing nothing to reduce the continent’s dependence on outside help for its survival.²⁹

The quote above seems to imply that 19,000 tonnes of corn are enough to solve the problem of hunger, that African countries should simply kowtow to the demands of the U.S. and that they have no right (not being a rich country) to participate in the debate of what is best for people and environments. It also

²⁸ *Montreal Gazette*, February 19, 2004, p. A7

²⁹ *National Post*, March 31, 2004, p. A13

implies that biotech companies are benevolent and that feeding the world's hungry is their primary concern. However, the extent to which biotech companies really care to help the hungry world and its hard-working farmers is clearly illustrated in a Vancouver Sun report informing us that Monsanto is withdrawing its soy crops from Argentina due to piracy. A Monsanto representative is quoted as saying that Monsanto is leaving Argentina "because it's simply not profitable for us."³⁰ While Monsanto's PR material alleges that the company cares about farmers and the malnourished populations, this statement demonstrates what their priority is.

The idea that we cannot supply enough food for the world's growing population remains the dirtiest PR trick of all. Still, the Canadian press repeats it over and over, and it is not only found in opinion columns. The National Post goes as far as to give a brief on a job vacancy with the Plant Biotechnology Institute at the University of Saskatchewan – opening with "If you want to help feed the world, here is your chance."³¹

And Robert Sopuck's *Comment*, once again in the National Post, refers to Paul Driessen, a PR pundit affiliated with the Centre for Defence of Free Enterprise who coined the term eco-imperialism, as an "American revolutionary" and quotes him as saying: "People starve, while activists campaign against far-fetched, hypothetical threats of genetically modified food, which could feed the world's hungry."³² This is very much in line with what Herman and Chomsky call "demonizing the dissidents" (1988). Whenever the establishment wants to sway

³⁰ *Vancouver Sun*, January 20, 2004, p. D5

³¹ *National Post*, January 21, 2004, p. FP12

public opinion against their opposition “a demonization campaign is unleashed” (Herman, 1992, p.50). The establishment then becomes the “good guy” by default. The media not only regurgitate the PR materials, but also attempt to guilt their readers into supporting GMOs.

Farmers Love GMOs

Another GMO myth that is perpetuated by the mainstream press is the one that claims that GMOs are good for farmers. Biotech giants continue to advertise their products as promising greater yield and therefore greater income to farmers. The press, once again, echoes this. Bocock, of the Toronto Star, quotes Ricardo Acuna from Parkland Institute in Edmonton as saying that the Supreme Court’s decision in *Schmeiser vs. Monsanto* “shows that that farmers will have no recourse to stop their organic or conventional crops from being contaminated [with GMOs].” But Bocock adds that “Some Alberta farmers disagree. They say that agriculture in this province will benefit from increased investment in biotech research.”³³ The Toronto Star also quotes a Saskatchewan farmer in favour of “safe biotechnology” who believes in “both food safety and industry growth in biotechnology.”³⁴ The obvious strategy here is to convince us that farming should be left to its experts - our farmers, and the fact that there are many farmers who oppose GM crops should be seen as an anomaly.

While Prince Edward Island (P.E.I.) is tackling the difficult task of deciding whether or not to ban GM crops in the province, P.E.I.’s capital paper harshly criticizes the organic growers’ resistance saying that “Organic growers have

³² *National Post*, December 28, 2004, p. A19

³³ *Edmonton Journal*, May 22, p. A5

brought this problem on themselves by choosing to set standards for the presence of GMOs that are difficult or impossible to meet in modern agriculture” and that “Growers elsewhere in Canada have realized the tangible benefits by growing GM crops.”³⁵

The Guardian further makes a claim that stricter GM regulation “will take a technology that has proven environmental benefits out of the hands of those who wish to reduce pesticide use on the island”. The article was written by a graduate student at the University of Guelph, giving us an example of how academic mouthpieces are used by the industry. Using “experts” and “third party opinions” to comment on social issues is a well-established PR strategy often used by the corporate press.

GMOs Are Not Unsafe

The press also resonates with the industry’s argument that GMOs have not been proven unsafe, the suggestion being that they then must be safe. Consumers should stop worrying, because “research on GMOs hasn’t yielded any nightmare scenarios about damage to life and limb.”³⁶

Moreover, those who oppose GMOs are nothing more than “special interest groups.” Herman argues that whereas “special interests” used to refer to a narrow range of business groups, the term has been co-opted to depict “minority” groups fighting against oppression, racism, environmental devastation and such (Herman, 1992, p.75). He also argues that the ideological propaganda has portrayed such special interests as directly opposed to “national interests”,

³⁴ *Toronto Star*, November 22, 2004, p. D02

³⁵ *Charlottetown Guardian*, January 14, 2004, p. A7

creating the dichotomy often described by CDA researchers as necessary for the perpetuation of dominant ideology (van Dijk, 1998). In a January issue of the *Guardian*, P.E.I. Federation of Agriculture representative claims “Much of this emotion and misinformation has been spread by special interest groups and by the local media who have been, on many occasions, unable to balance their presentations”, adding that “not a lot of consumers are asking whether the food they are buying is GMO free.³⁷” And in April, the *Leader Post* informs readers that:

The survey released by the Consumers Association of Canada in 2003, stated that 91 per cent of Canadians, after being asked a leading question – ‘Do you feel foods containing genetically modified materials should be labelled?’ – agreed. This is in direct contrast to a US survey conducted by the International Food Information Council (IFIC). That survey found 77 per cent of consumers couldn’t think of any additional information not currently included on labels they would like to see added.³⁸

While the work of IFIC was already discussed in Chapter 4, the *Leader Post* is questioning the reliability of the Consumer Association’s survey. But given the fact that many Canadian consumers don’t know that GMOs are in their food, and that many others are not even clear as to what GMO stands for, this shouldn’t be surprising. “GM foods have been grown in Canada and the United States for years without great public outcry.”³⁹ Where could such outcry come from, one has to wonder, if GMO infiltrated our food without our knowledge.

Mihlar, of the *Vancouver Sun*, proposes that “Risk is the driver of our health and wealth” and that “the Royal Society of Canada and the Royal Society

³⁶ *Toronto Star*, July 22, 2004, p. D05

³⁷ *Charlottetown Guardian*, April 3, 2004, p. A8

³⁸ *Leader Post*, April 8, 2004, p. B8

of the United Kingdom have concluded that there are no scientifically established health risks related to genetically modified food.”⁴⁰ Here, the expert “third party” sources are used to legitimize the presence of GMOs on the market.

In the same vein, according to the corporate press, Europeans can now stop debating GMOs since scientists and governments tell them that they are safe. The British government “delivered a report giving the final verdict in the government’s assessment of the modified crop”⁴¹ and “Scientists tasked by the EU Commission have found the [GM] maize safe”⁴²

And, of course, genetic modification is just an extension of human curiosity. Bill Taylor writes about a Toronto woman who is trying to defend the use of pesticides and hopes to take on “the biotech thing” in the near future. She says “There have always been plant biologists...mankind has always monkeyed with nature. That’s why we have pharmaceuticals.”⁴³

Furthermore, just because we have regulations, no matter how insufficient they may be, we can rest assured that our safety is guaranteed. Even though Monsanto promised to discontinue their work on GM wheat, sixteen fields in Alberta were still used for the GM crop with the approval of the Canadian Food Inspection Agency, but we are to be comforted by the fact that “the field trials are occurring in accordance with agency regulations.”⁴⁴ And apparently, an Alberta farmer said “consumers should also be confident in the regulation of Genetically

³⁹ *Calgary Herald*, March 10, 2004, p. D5

⁴⁰ *Vancouver Sun*, June 14, 2004, p. A6

⁴¹ *Windsor Star*, January 14, 2004, p. B2

⁴² *Toronto Star*, June 29, 2004, p. C06

⁴³ *Toronto Star*, August 29, 2004, p. B06

⁴⁴ *Calgary Herald*, August 18, 2004, p. C3

Modified Organisms technology, which is monitored by Agriculture Canada, Environment Canada and Health Canada.”⁴⁵ Additionally, the argument of ‘not proven unsafe’ is reiterated: “It has yet to be proven ...that GMOs are harmful to either people or the environment.”⁴⁶

While the Calgary Herald quotes Vandana Shiva as saying that possible health risks have “not been responsibly and fully answered”, this statement is followed by a statement from a Fraser Institute pundit saying that Shiva’s concerns are unfounded.⁴⁷ Overall, the supposed “lack” of evidence that GMOs are harmful should automatically imply that they are safe. This attitude merely mirrors the arguments delivered by the industry.

GMOs are Good for the Environment

The assertion that GMOs will decrease pesticide use, and benefit the environment is also found throughout the mainstream newspapers.

The Guardian looks at the Schemiser v. Monsanto case arguing that “Conventional farmers, including farmers on P.E.I. who are using GMO seed to grow soybeans and corn, dispute his [Schmeiser’s] claims against GMO seed use”⁴⁸ and add that “the chemical bill – and the water table on P.E.I. – was spared 80 percent less chemical application last summer to grow about 5,000 acres of soybeans.” The confusing sentence structure aside, the Guardian gives no indication as to where these numbers came from.

⁴⁵ *Edmonton Journal*, April 14, 2004, p. 18

⁴⁶ *Charlottetown Guardian*, April 3, 2004, p. A8

⁴⁷ *Calgary Herald*, April 1, 2004, p. C4

⁴⁸ *Charlottetown Guardian*, January 6, 2004, p. A3

The theme of pesticides reappears even though the Leader-Post informs us that “Potentially cultivating Roundup Ready wheat where there is already Roundup Canola may increase the use of the herbicide in areas, resulting in an increase of Roundup resistant weeds.”⁴⁹ Still, a *Guest Opinion* in Charlottetown Guardian makes the claim that “The use of GM commodities helps lessen agriculture’s environmental footprint.”⁵⁰ And - “Genetically modified salmon spawns a trout” is the title of a column in the Kingston Whig that promises that the result of this unlikely mating “could dramatically improve the output and profits of fish farms. It could also be used to help protect endangered species of fish such as bluefin tuna, the scientists say”⁵¹, although there is no explanation as to how this would help the endangered species of the sea.

Opponents Are Bad

The opposition gets to have their say, but only occasionally. In most instances, however, they are portrayed as a rowdy, ignorant bunch. When 29 were arrested during an anti GMO demonstration in San Francisco, the Times Colonist makes sure we know that “[t]hey did cause minor disruptions, however, harassing and heckling conference attendees.”⁵²

Percy Schemiser gets no sympathy from the press; he is either handled as another boring court case or as a criminal. Will Verboven’s column in Calgary Herald calls Percy Schmeiser a “thief” and portrays Monsanto as a victim, as a company “whose patents he stole.” Environmental groups are said to be waging

⁴⁹ *Regina Leader Post*, January 13, 2004, p. B3

⁵⁰ *Charlottetown Guardian*, June 10, 2004, p. A7

⁵¹ *Kingston Whig*, August 6, 2004, p. 31

⁵² *Times-Colonist*, June 9, 2004, p. A9

a “holy war” against GMOs, and are accused for a “lack of understanding of agriculture and the independent nature of farmers.”⁵³ This is another example of “demonization” of the dissidents. The worse the opposition is made out to be, the better the proponents look.

Schemiser’s supporters are no better as we get to hear from a Monsanto spokeswoman:

Groups such as the Saskatchewan Organic Directorate, Greenpeace, and the British Soils [sic] Association are simply using this lawsuit as a platform to advance their anti-GMO position in the public arena and this is not an appropriate use of the court’s time and resources... These groups are engaging in a scientific, social and political debate concerning GMOs rather than having a legitimate legal dispute.⁵⁴

The resistance is ridiculed in a column in the Post: “Europe has become a profoundly conservative society nearly paralyzed [sic] by the Precautionary Principle, which is a political idea, not a scientific theorem.”⁵⁵ It is interesting that someone defending the conservative, pro-corporate ideology would accuse Europe of being conservative.

Additionally, “The campaign against GMOs was successful despite the lack of sound scientific data demonstrating a threat to society,” writes Jillian Buriak for the Vancouver Sun.⁵⁶ How dare the opposition be suspicious of such a generous industry.

⁵³ *Calgary Herald*, June 6, 2004, p. A17

⁵⁴ *Leader Post*, October 23, 2004, p. B4

⁵⁵ *National Post*, October 5, 2004, p. FP15

⁵⁶ *Vancouver Sun*, October 18, 2004, p. A11

Economic Benefits of GMOs

Whereas both the NFU and the CFA argue that the farm economy has been experiencing an increasingly serious crisis, the press continuously argues that opposition to GMOs is interfering with agricultural economy. The emphasis is placed on the economic aspects of GM farming and safety concerns are downplayed. "A coalition from Japan, one of Canada's largest wheat buyers, warned yesterday that the country will block Canadian imports if the government allows the production of genetically modified wheat."⁵⁷ And this is how the ditching of GM wheat is explained. No mention of what exactly it is that makes Japanese consumers more suspicious of Frankenfoods. This is presented as simply a trade issue.

Peter Morton's "US battered by trade rulings" column⁵⁸ argues that the WTO is "out of control" and that "rows over genetically modified food" are one of the examples of the US trade laws being "under attack, mostly by the World Trade Organization."

In the meantime the press is treating our food as just another business enterprise. In 2003, Canadian farmers planted 4.4 million hectares of GM crops and reports of this are titled as "GM crops enjoying strong growth in Canada"⁵⁹ and "Modified corps gain."⁶⁰

⁵⁷ *Ottawa Citizen*, March 23, 2004, p. E2

⁵⁸ *National Post*, September 7, 2004, p. FP5

⁵⁹ *Edmonton Journal*, January 14, 2004, p. F3

⁶⁰ *Toronto Star*, January 14, 2004, p. C02

Of course, the industry is always looking out for the farmers as is suggested by the following: "Monsanto still hopes to commercialize Roundup Ready wheat, but will not do anything to jeopardize Canada's wheat markets."⁶¹

The National Post still manages to deliver the most business-minded coverage. Terence Corcoran writes that many are afraid of technology because they "have been sucked into this precautionary mode, or are deliberately creating an atmosphere of fear."⁶² A few days later he writes:

One of the more painful experiences in business journalism is to watch an unprepared corporation or industry stumble through an encounter with junk science. Whether it's the oil industry's pathetic response to Kyoto, [or] biotech firms capitulating to the genetically modified food scare...⁶³

Similarly, a *Guest Editorial* in the Vancouver Sun titled "An irrational market has spoken", states "It's hard to say whether the fear of genetically modified wheat is a function of normal scepticism of the unknown, environmentalist scare tactics, or European governments using alleged health concerns to protect their own wheat farmers from North American competition."⁶⁴

Corporate representatives are used much more frequently than the opposition. As the PM proposes "The mass media are drawn into a symbiotic relationship with powerful sources of information by economic necessity and reciprocity of interest" (Herman and Chomsky, 1988, p. 18). This third filter of the PM is more than evident in the corporate press. In a Star-Phoenix article, a manager of communications for Ag-West Biothech Inc. argues that "mandatory

⁶¹ *Saskatoon Star-Phoenix* (p. A8) and *Regina Leader Post* (p. B4), January 12, 2004

⁶² *National Post*, June 22, 2004, p. FP11

⁶³ *National Post*, June 26, 2004, p. FP11

labelling of genetically modified products is unnecessary because we have been consuming them worldwide for more than eight years with no diagnosed health problems.”⁶⁵ The same manager had supplied an opinion letter to the Star-Phoenix a few days earlier arguing that labels are seen as warnings, and there is nothing about GMOs that consumers need to be warned of.⁶⁶

When the German government decided to tighten up their regulations of GMOs, the Post interviewed a Greenpeace representative in support of the new regulation, and no less than three GMO proponents. The proponents cited are as follows: i) a European Commission representative concerned about how the bill would discourage GM research; ii) managing director of a biotech association who worries that “it will set the use of technology in agriculture years back”; and iii) Arno Krotzky, a biotech company executive who claims that “we are making the same mistake we made in the 1980 when we [Germany] banned the production of insulin. The pharmaceutical industry has yet to recover.”⁶⁷ The reference to insulin may garner some sympathy, except that Krotzky’s regrets about the German insulin ban seem to be only industry and profit related.

We are further to believe that corporations equal progress. The Toronto Star provides a story of improved facilities amounting to “the ultimate tool of big pharma” and actually *congratulates* the University of Toronto for taking “another step in its commitment to supporting the commercialization of Canadian science

⁶⁴ *Vancouver Sun*, May 24, 2004, p. A6

⁶⁵ *Star-Phoenix*, April 15, 2004, p. A16

⁶⁶ *Star-Phoenix*, April 2, 2004, p. A11

⁶⁷ *National Post*, November 26, 2004, p. FP10

in Canada [sic].⁶⁸ They go on to say that the University's move "can provide academia with a valuable stream of royalty" and will open doors to "innovative breakthroughs" as Toronto is already "the third most intensive biotech centre in North America."

Moreover, we need to leave patent laws alone, despite the fact that they only serve the industry. "This is an issue for Parliament to resolve"⁶⁹ an editorial states in reference to the Schmeiser vs. Monsanto case. Resistance to this idea is seen as regressive because "Scientific stagnation [is] feared if [the] court outlaws plant patent."⁷⁰

The attention paid to the already contrived economic aspects far exceeds that attention given to all other issues surrounding GMOs. It unintentionally outlines where the press' interest lie.

Greenwash

Greenwashing the corporate image has not been restricted to the industry, the press seems to be relentlessly reproducing the contrived images of the industry delivered by their PR firms.

A National Post column, titled "Green power, black death"⁷¹ accuses the environmental movement of depriving the world's hungry of the bounty of GMOs and refers to their activism as "environmental colonialism." In addition to being another example of demonization, the above quote provides us with a perfect example of how the opposition's terminology gets co-opted. The article quotes

⁶⁸ *Toronto Star*, November 22, 2004, p. D02

⁶⁹ *Vancouver Sun*, May 26, 2004, p. A16

⁷⁰ *Times Colonist*, January 21, 2004, p. A6

⁷¹ *National Post*, January 9, 2004, p. A12

Patrick Moore, a salmon farmer and once a Greenpeace activist who is now frequently used as a mouthpiece for the industry, as saying: “the banning of Golden Rice, a GMO that may prevent blindness in half a million children every year is rejected out of hand by these anti-humanists.” The Golden Rice scam was already discussed, but one has to wonder if Moore was privy to that information, given that it was made public by Greenpeace, which Moore was formerly affiliated with.

Another example of co-optation is found in the Post later in the year:

Ms. Medford, whose work is also funded by DARPA [Pentagon’s Defence Advanced Research Project Agency], is genetically modifying weeds like the ones found in sidewalk cracks to make them change colour if exposed to a biochemical attack. Her research may be a high-tech answer to the canaries that miners once carried underground to warn of toxic fumes.⁷²

The environmental movement has for a long time used the “canary in a coal mine” analogy with respect to environmental devastation, nothing is sacred in the corporate world, it seems.

The process of co-optation has also caught up to the opposition’s growing distaste for PR. The Charlottetown Guardian declares that “many within the agricultural community favour the use of GMOs” and reminisce over the “promising” GM potatoes that failed to capture the market.

McCain Foods, citing consumer resistance, announced that it would discontinue the use of genetically- modified potatoes in its processing lines. In that case, public relations trumped science and genetically-modified potatoes disappeared from the marketplace.⁷³

⁷² *National Post*, November 26, 2004, p. A18

⁷³ *Charlottetown Guardian*, November 22, 2004, p. B6

Negative Coverage of GMOs

In all fairness, not everything printed in the corporate press is pure PR. Kevin Arsenault's *Guest Opinion* in *Charlottetown Guardian* delivers an interesting finding. Whereas the *Guardian* reported that a three-year research project in Britain showed that there was no GMO contamination of conventional crops, Arsenault states that the said study did not even test for contamination.⁷⁴ A letter in the *Times-Colonist* calls for the recognition of farmers' rights to save seeds, and sends a message to companies who own seed patents that "with ownership comes responsibility"⁷⁵

The *Edmonton Journal* expresses concern over the farmed genetically modified Atlantic salmon that escaped in the Pacific Northwest. "The escape of these GM fish could be disastrous for wild fish populations."⁷⁶ And the *Charlottetown Guardian* confirms that Mexican maize was contaminated by US biotech corn, expressing concern that this may cause some of the traditional varieties to die off.⁷⁷

An editorial in the *Toronto Star* declares that "It is time Canadians had a full and open debate on the merits and pitfalls of bioengineering."⁷⁸ And we also find that "Polling has consistently revealed that up to 85 per cent of Canadian consumers would prefer strict labelling requirements for GM foods."⁷⁹ Mandatory labelling may be favoured because "Canadians are worried about the patenting

⁷⁴ *Charlottetown Guardian*, June 2, 2004, p. A7

⁷⁵ *Times-Colonist*, June 1, 2004, p. A11

⁷⁶ *Edmonton Journal*, January 13, 2004, p. A13

⁷⁷ *Charlottetown Guardian*, March 13, 2004, p. B12

⁷⁸ *Toronto Star*, May 25, 2004, p. A26

⁷⁹ *Vancouver Sun*, July 14, 2004, p. A8

of genes, organs and higher life-forms, and don't trust either Parliament or the Supreme Court to deal with the issue, a federal study says."⁸⁰

Dr. Bert Christie, formerly employed by Agriculture Canada, is cited in the *Guardian* accusing "his former employer, Agriculture Canada, of being in a conflict of interest because it is both licensing GMO crops and producing them."⁸¹ And David Suzuki agrees: "[The] Canadian Food Inspection Agency and Health Canada are like cheerleaders."⁸²

Nine out of the seventeen papers report on the audit findings of Auditor General Sheila Fraser that GM "crops are being released into the environment without documentation of their long-term effects" though the CFIA responded to this saying that "the assessments are being done, but they are just not being documented under the category of 'long-term'"⁸³

A refreshing article comes from the *Vancouver Sun* and discusses heirloom seed collectors as people planning for our future in case new hybrids and GM seeds fail.⁸⁴ More scepticism is found in the *Toronto Star*:

Perhaps these [GM] seeds will make people healthier some day; they may even safeguard the environment. But any development expert will tell you that inequitable land distribution, and unfair trade policies are as much causes of world hunger as poor crop yield.⁸⁵

Another pleasant surprise comes from the *Calgary Herald* Editorial Board regarding Korean research into genetically modifying cows for resistance to bovine spongiform encephalitis (BSE). The Board argues that the money used

⁸⁰ *Montreal Gazette*, April 13, 2004, p. A11

⁸¹ *Charlottetown Guardian*, April 3, 2004, p. A8

⁸² *St. John's Telegram*, October 24, 2004, p. B6

⁸³ *Calgary Herald*, March 31, 2004, p. A5

⁸⁴ *Vancouver Sun*, February 27, 2004, p. C1

for such expensive research “would be better and more cheaply spent testing every head of cattle for the disease, for that is the only way to ensure a safe supply of meat.”⁸⁶

Discussion

Though 279 articles were found within the parameters of this study, the articles were printed in seventeen papers over a period of one year, averaging a little over 16 articles per paper – or about 1.3 articles a month. Given the importance of the issue, it can be said that this coverage is minimal, and that the Canadian corporate press prefers to ignore the issue rather than opening it to a sound public debate. It is not surprising then that many Canadians know nothing about GMO’s (see p. 69).

Despite the small space provided to opponents of GMOs, the press coverage generally tends to promulgate the PR line of the biotech industry. The ideas of GMOs being a sign of progress, helping farmers, delivering healthier foods, and being good for the environment were repeated throughout the articles analysed. Whereas the opposition is not ignored, the opponents are variably portrayed as activists, tree-huggers, ignorant of what GMOs really are, and trying to pursue purely political agendas. The label of “junk science” is assigned to prominent scientists who oppose GMOs. This discredits the opposition despite the fact that there is no clarification as to what makes their research “junk”.

Proponents, on the other hand, are always experts, scientists, or economic gurus, who are ensuring the safety of our food and arguing that GMOs

⁸⁵ *Toronto Star*, February 24, 2004, p. A17

⁸⁶ *Calgary Herald*, January 23, 2004, p. A18

are helping Canadian farmers establish a competitive place in the world market. Even though virtually all scientists who support of GM food are funded by agri-business, their credibility is never questioned. Moreover, science is supposed to be the new religion, even if the scientists in question are paid by the biotech industry. If they tell us that there is no evidence of GMOs being unsafe, than they simply must be safe. One exception is found in a column printed in the Guardian, claiming that “GM crop is only secondarily a scientific question. Primarily it is an ethical and social question...And in that regard, scientific and technical experts are no more qualified than anyone else.”⁸⁷

The Prince Edward Island debate over the possible GM crop ban is portrayed as a political dispute between traditional and GM farmers, and not an issue of consumer safety. Similarly, the findings of the Auditor General, with respect to the absence on long-term effects research on GMOs, are reported on as a problem relating to government incompetence without elaborating why the Auditor General found this a serious concern.

Several papers address the failure of Spudco GM seed potatoes in Saskatchewan, a government facilitated venture that was terminated after McCain foods declared they would not use GM potatoes due to consumer resistance. The articles question neither the safety of Spudco, nor the reasons behind consumer resistance; rather, Spudco is used to illustrate incompetence of the provincial NDP government. In the same vein, other issues are left out. The international significance of the Schmeiser v. Monsanto case is not mentioned in any of the articles. There importance of this legal precedent is ignored. Instead,

⁸⁷ *Charlottetown Guardian*, January 27, 2004, p. A4

after years of court battles, Schmeiser is described as someone taking advantage of environmental groups and riding on the coattails of generous donations given to those groups. It is interesting that in the world ruled by the bottom line, the fact that such organizations still receive funding is not considered important by the corporate press.

The sins of omission extend even further. North American Natives have, for a couple of years now, been dealing with an unprecedented dilemma – in order to protect the cultural and nutritional importance of wild rice, they are now considering patenting their rice varieties in order to prevent agribusiness from beating them to the patent office. This greatly contradicts the traditional Native understanding of nature and food sources and indicates that the effects of colonization extend further than imagined. Canadian press, however, does not discuss this issue at all.

The press seems to address only the short-term issues relating to GMOs, and completely ignores long-term health and environmental effect. This risk-management approach frames food security into a small segment of immediate safety. On the other hand, much of the world (e.g. countries that refuse GMO food aid) appear to see food safety and food security as long-term concerns, with an understanding that growing GM food and its consequences on biodiversity and soil quality can jeopardize food security in the long run.

Competition on the market seems the most important matter for most of the papers, especially the National Post, where the majority of GM related articles appeared in the financial section of the paper. A significant portion of the

coverage reports on market figures, how much GM crop was planted and where, what numbers Monsanto can boast in any given quarter, and how the world's resistance to GMOs is hurting Canadian and US trade. The European Union's respect for their consumers' health and environmental worries are portrayed as a trade challenge. This treatment of concerns relating to our food security, health and the environment, as if it was just another number on the stock market is offensive to say the least.

Voluntary labelling is generally described as a solution, even though many food distributors refuse to sell products labelled GMO-free. In other words, voluntary labelling isn't worth the paper it's described on. The biotech industry still argues that labels equal warnings. How does one then justify labels such as "low-fat" and "cholesterol-free"? Moreover, if GMOs were indeed harmless, what would the industry have to worry about? These and other questions are left unaddressed in the corporate press coverage.

Though favourable light is usually cast on the proponents, opponents are often negatively portrayed in a variety of ways. Their scepticism is seen as unjustified and stimulated by other "food scares" such as BSE and Avian flu. Their "unfounded" fears are presented as a result of aggressive eco-colonialists and competition-worried European governments.

Overall, my findings are disappointing. Whereas the media are meant to inform and provide space for a democratic debate, their slanted views are far from serving the needs of the citizenry. Rather, these snapshots of Canadian mainstream press confirm what media critics have been saying for years – that

corporate media are just that—corporate. The only thing they are doing successfully is selling the product, the product in this case being both GMOs and neoliberal ideology. Given that these snippets of coverage come from fifteen major Canadian cities is more reason to worry. It is unfortunate that in the world of corporate press “diversification” only applies to market shares and not to the range of opinions that should be represented in a truly democratic society.

CONCLUSION

As I attempted to critically assess genetically modified food, and more specifically its coverage in the Canadian press, several concerns continuously reappeared. Firstly, the corporatization of food production is proving to be a growing injustice as well as a serious environmental threat. The careless and greedy attitude of agri-businesses is a clear manifestation of “the Fifth Freedom”, something that Chomsky coined and described as “understood crudely but with a fair degree of accuracy as the freedom to rob, to exploit and to dominate, to undertake any course of action to ensure that existing privilege is protected and advanced” (Chomsky, 1988, p.1.). Absolute commercialization of food in the so-called “developed” world has brought about a different understanding of food production, and we now talk about agri-*business* more than we do about agri-*culture* (Mogyorody, personal communication). Many have discussed the way this process had fit into the broader process of corporate globalization. I will only emphasise that one of most disturbing aspects of that process has been the fact that corporations have treated food (just like medicines and more recently water) as just another exchangeable commercial commodity, and not a survival necessity.

Secondly, Klaehn’s aforementioned argument, that the propaganda model is now more relevant and important than ever before, needs to be reiterated given my findings. The infiltration of propaganda into the mainstream discourse is becoming ever more subtle and ever more powerful. This is reinforced by the continuously shrinking number of media corporations and their growing holdings

and interconnectedness. As a result, we are left with a singular mainstream voice mixed as per Ellul's 40-year old prescription:

To make the organization of propaganda possible, the media must be concentrated, the number of news agencies reduced, the press brought under single control, and radio and film monopolies established (Ellul, 1965, p.103).⁸⁸

The resulting "news" sources work in accordance with the PM argument that the media will take on controversial issues as long as they remain within "the boundaries of the expressible". The opposition to GMO has to be mentioned, even allowed to talk, as it cannot be ignored anymore. However, specific findings of independent scientists cannot be discussed, as that would take us beyond those boundaries. The frightening facts are not "expressible".

Finally, the finesse with which public discourse is manipulated, not only by what is discussed in the mainstream, but by how issues are framed and what is omitted, is yet another illustration of CDA researchers' arguments. The corporate press that dominates Canadian mainstream discourse is toeing the line drawn by corporations and their PR firms. Public debate is therefore minimized and the overall impression given to the readers is this: GMOs (just like corporate globalization) are inevitable and a sign of progress, the future of GM food shall be determined by their profitability, those who oppose GMOs are misinformed and affiliated with the "radical left", and GMOs are well-tested and safe.

The findings of this study show the extent to which the neoliberal ideology has failed to show respect for three crucial aspects of human existence – the right to food security and control over what we eat, the importance of long-term

well being of our natural environment, and the right of the public to receive accurate and complete information about such important issues.

Social Responsibility

Corporate

Chapter 7 illustrated the irresponsible manner in which the Canadian press has misinformed the public about the serious risks associated with GM food. This is only a sliver of how corporate media manipulates public opinion in favour of larger corporate interests. From farmers to consumers to legislators, everyone in Canada has failed to prevent the rapid spread of GMO on farm fields and in grocery stores. This is not a case of voluntary ignorance; it is a systemic problem where those who are supposed to inform us continue to obscure the truth not only about GMOs, but also about the wider context in which this industry has managed to flourish.

The media's contribution to the neoliberal project has involved a number of forms of deception from obscuring facts to blatant lies, and in terms of food issues they have done a great job of treating GMOs as an issue completely separate from corporate globalization. David Ehrenfeld argues that the issue of GM food has been an "ethical question in an unethical context" (2002). In other words, hiding the basic truths becomes much easier when the issue is separated from the complex questions that surround it. He argues that proponents of GMOs continue to claim that they contain no harmful substances. This has been their main argument. Even if this was entirely true (and it seems not to be), that still

⁸⁸ Ellul argued that propaganda was not inherently evil, but he also understood it as indicative of the pending demise of democracy as well as humanity.

does not answer the questions of how harmful they are to other species, ecosystems, farm economy, the broader local economy of farming communities, workplace health and safety for farmers and workers in plants that produce pesticides associated with GMOs, long term soil quality, etc. Not regulating the industry in accordance with such a broader context is arguably negligent. The industry has been given more or less unlimited freedom as long as their product doesn't cause instantaneous death or illness. And the press has given itself the same kind of freedom in order to hush those who dare call for stricter regulations. They keep telling us that we have nothing to fear, but a question that then begs to be asked is this: "What does the industry have to fear?" If what they are doing is harmless (and even beneficial) and if they have the ability to convince the public that this is so, then there is nothing about regulation that they should fear.

Slavoj Zizek believes that:

...we need these measures independently of the biogenetic threat, simply in order to control the potential of the global market economy. Maybe the problem is not biogenetics itself, but rather the context of power relations in which it functions (2003, p. 4).

And as Charman writes:

The same vested interests that didn't trust the public enough to inform us up front that they were introducing genetically engineered food into the environment and our grocery stores are now asking us to trust them as reliable experts on the questions of whether this innovation is safe and good (1999, p.5).

Intergenerational

In his 1999 speech at Oberlin College, William McDonough said that if the US Declaration of Independence were to be written today it would speak not simply of remote tyranny, rather it would refer to a "remote intergenerational

tyranny". Today's technological "advancements" bear with them consequences that may not be manifested in our lifetime. Nevertheless, the possibility that what we are doing today may affect future generations (of more than just human species) is a real one. Languages and cultures have disappeared due to colonial-style oppressions, land mines lay scattered and unmapped throughout many areas of the world, Agent Orange residue still affects Vietnamese soil and water decades later (BBC, 2005b), and more and more evidence is surfacing showing that icecaps indeed are melting as a cumulative result of industrialization. Yet, we act as if we learned nothing at all. Jeopardizing our food sources and ecosystems necessary for food production may yet prove to be the worst mistake of all. We are liable to future generations to leave them with reasonably safe ecosystems and food security.

Environmental

Cataclysmic projections with respect to genetic modification are not far fetched. The soil bacterium incident described in Chapter 3 supports this theory. The damage that humans have done to our natural surroundings since the beginning of the industrial revolution is enormous. The curbing of this trend has been a slow process, as cleaning the planet up is a longer and more complicated process than destroying it has ever been. Genetically modified crops are an example of how the industrialized world is constantly tempted to take one step forward and then two back. Our fragile ecosystems can barely take any more strain. In order to preserve the Earth's biodiversity, protect our soil, and decrease the use of pesticides, GM crops should be completely eliminated. Some argue

that genetic modification bears great promises in the field of medicine. But if lab-contained work can deliver benefits not available through other venues it does not mean that we should continue contaminating our environment with unsafe products when alternatives are available. The human race has managed just fine with the alternative – for millennia. We can produce enough food, we produce too much as it is. Genetically modified foods are not only dangerous, they are unnecessary.

What Now?

Policy development and implementation

Whereas Canadian regulations are to some extent stricter than those in the United States, the GMO industry has barged its way into our food supply in a way that puts the Canadian regulatory system to shame. There is a pressing need to develop new policies that protect Canadian farmers and consumers from the inevitable spread of GMOs and the related risks. This needs to be done before the potential disasters become a reality. Enough losses have already been incurred. Saskatchewan organic canola farmers and Saskatchewan Organic Directorate recently filed a class action lawsuit against Monsanto and Aventis (now Bayer) asking to be compensated for revenue loss due to crop contamination resulting from Aventis and Monsanto's GM canola. The Court of Queen's Bench in Saskatoon dismissed the case (Hursh, 2005). This decision, combined with the results of Schmeiser v. Monsanto case puts the Canadian legal system into question. Opening doors to further income losses to already struggling farmers is unacceptable, and regulations must be put in place to

prevent this from happening. Placing a moratorium on any further introduction of GMO crops and developing a strategy that will wean the farmers off of already used crops, should be done immediately.

In addition to protecting farmers, the consumers have to be protected as well. Food products containing GMOs must be labelled allowing the consumers to choose whether they want to support the industry or not. Once again, the claim that there is no evidence that GMOs are harmful is faulty and even if it was true it does not automatically imply that they are safe. It merely is a reflection of selective research. GMOs are still questionable at best, and their manufacturers are responsible for informing the consumers of, at the very least, the presence of their products in our food.

Public education

The level of consumer knowledge about GMOs in Canada is inexcusable. The Canadian press insists that Canadians have been eating GMOs for years. How is it then that so few Canadians know this, let alone understand the implications and risks? More public education is clearly needed. The information on GMOs has to be handled as a health and consumer safety issue, in addition to a concern of the farm economy.

Pressuring media outlets to deliver increased and more accurate coverage is another strategy that needs to be more thoroughly utilized by consumers and farmers as well as anti-GMO groups. Exposing the “dirty tricks” of biotech industry has been one of the priorities of the anti-GMO movement. Such exposes must be insinuated into mainstream media. The workings of the PR industry

need to be uncovered if we want to continue to believe that we live in a democracy. “Or as Alex Carey, the pioneering [critic] of PR, put it, the role of PR is to so muddle the public sphere as to ‘take the risk out of democracy’ for the wealthy and corporations” (McChesney, 2000, p. 7). The Canadian public can no longer afford to be manipulated by these “social engineers.”

Finally, boycotting the industry by refusing to purchase GMO products can be done individually and is generally an effective strategy. Consumer resistance was responsible for the market failure of Spudco potato, as well as for Monsanto’s withdrawal of GM wheat project. However, this strategy has to be done in cooperation with farmers, as it will hurt Canadian farmers first – long before it hurts biotech giants.

Suggestions for Future Research

While this study encompasses many different aspects of the GMO controversy, it truly only scratches the surface. Some of the additional areas that could (and should) be looked into are as follows: i) analysing more than one year of press coverage to see if and how the coverage may have changed over time; ii) include press coverage from Manitoba and New Brunswick, as well as Canadian francophone papers, for a complete look at the Canadian press; iii) developing a strategy for informing the public; iv) comparing mainstream media to alternative media coverage; vi) analysing actual hard copies of the papers to see if there is a link between how GMOs are covered and how much and where in the papers biotech giants are advertising⁸⁹; and vii) developing specific policies

⁸⁹ This is an important research question. The use of database unfortunately limited my ability to assess this issue.

and food legislation proposals. The last suggestion, and likely the most pressing one, can be done through collaborating with existing groups working on the issue of GMOs such as the National Farmers Union, Canadian Organic Growers, the Council of Canadians, and others.

Personal Note

The compassionate side of me is tempted to think that as a privileged North American university student, I have no right to an opinion as to whether the hungry in the world should or should not have access to the bounty of biotechnology. Whatever the long-term consequences, no human on this planet should be hungry. Yet, the rational side of me has been disenchanted by corporate globalization to such an extent that I can only applaud the underprivileged who have been brave enough to keep GMOs off their tables and away from their fields. The suggestions I make with regards to food policies and outright resistance to GM food can only be effective in conjunction with strong resistance to neoliberalism. Whereas such resistance efforts should continue to be international in nature, Canadians do bear a responsibility to the rest of the world community. This responsibility stems from the fact that Canada is one of the leading producers of GM food. It is time to put an end to unregulated, greedy corporate market manipulations, in order to protect not only Canadian consumers and farmers, but also those countries to which Canadian crops and farm input materials are being exported. While Canadian trade-related fears of our neighbouring superpower are real and immediate, we have recently set some important precedents by not participating in the latest war in Iraq and by signing

the Kyoto Accord – both of which were accompanied by threats and warnings. It is now time to take control over food security as well, and stand up to trade agreements and entities that have more power than sense – for our own sake, for the sake of all of humanity, and for the sake of our fragile environment.

Vandana Shiva's insights seem to offer an appropriate and fitting conclusion to this thesis and to the concerns that have been raised therein:

The centralized, undemocratic rules and structures of the WTO that are establishing global corporate rule based on monopolies and monocultures need to give way to an earth democracy supported by decentralisation and diversity. The rights of all species and the rights of all peoples must come before the rights of corporations to make limitless profits through limitless destruction (2000, p.43).

References

- Ainger, K. (2003). Is George Bush the new Bob Geldof? *New Statesman*. 132 (June 30, 2003), p.22, 24.
- Alcoff, L. (1993). "How is epistemology political?" in Gottlieb, R. (Ed.) *Radical philosophy: Tradition, Counter-Tradition, Politics*. Philadelphia: Temple University Press, p. 65-85.
- Armstrong, F. and Ross, W. (2002). Using libel laws to silence critics, in Lubbers. E. (Ed.) *Battling big business: Countering greenwash, infiltration and other forms of corporate bullying*. Monroe, Maine: Common Courage Press. p. 78-85.
- Austin, J.L. (1962). *How to do things with words*. Cambridge, Ma: Harvard University Press.
- BBC (no author). (2005a). US behind Bolivia crisis – Chavez. *BBC News*. June 13, 2005). Available on-line at <http://news.bbc.co.uk/2/hi/americas/4086452.stm>, accessed July, 2005. (3 pages).
- BBC (no author). (2005b). The legacy of Agent Orange. *BBC News* (April 29, 2005). Available on-line at <http://news.bbc.co.uk/2/hi/asia-pacific/4494347.stm>, accessed April, 2005. (3 pages)
- Benjamin, W. (1968). *Illuminations*. New York: Schocken.
- Bourdieu, P. (1991) *The political ontology of Martin Heidegger*. Stanford, California: Stanford University Press.
- Bueckert, D. (2005). *Health Canada whistle-blowers win round against public service integrity office*. (Canadian Press Newswire, May 2, 2005). Available on-line at http://www.geocities.com/Baja/7635/Federalpublicservice/healthcanada/healhtcanada_chopra_fedct_0505.doc, accessed May, 2005. (4 pages)
- Byrnes, J. (2001). US Embassy's November 28, 2001 letter to the Croatian Ministry of agriculture and Forestry, available on-line at www.zelena-akcija.hr/ge/hrv/us-memo.html, accessed October 2004. (2 pages)
- The Calgary Herald (2002). *Writer deplores scary science*. (March 28, 2002).

Canadian Federation of Agriculture. (2005). *Farm income in the context of WTO*. Available on line at <http://www.cfa-fca.ca/upload/Cartable%20anglais.pdf>, accessed May, 2005. (70 pages).

Canadian Food Inspection Agency. (2004). *Proposed amendments to the Plant Breeders Rights Act to bring existing legislation into conformity with the 1991 UPOV Convention*. Available on-line at <http://www.inspection.gc.ca/english/plaveg/pbrpov/ammende.shtml>, accessed November 2004. (8 pages)

Canadian Food Inspection Agency. (2005). *Plant Breeders' Rights (PBR) Act amendments consultation update*. Available on-line at <http://www.inspection.gc.ca/english/plaveg/pbrpov/updatmisee.shtml>, accessed April 2005. (3 pages)

Canadian News Stand Database.

Cartagena Protocol on Biosafety. (2003). Available on-line at <http://www.biodiv.org/biosafety/default.aspx>, accessed February, 2004. (24 pages)

Chadwick, R. (Ed.). (2001) *The concise encyclopedia of the ethics of new technologies*. San Diego: Academic Press.

Charman, K. (1999). Force feeding genetically engineered foods. *PR Watch*. 6(4), p. 1-5.

Christison, B. (2000). *The Impact of Globalization on Family Farm Agriculture* Available on-line at www.inmotionmagazine.com/bcbrazil.html, accessed January 2004. (10 pages)

Chomsky, N. (1988). *The Culture of Terrorism*. Cambridge: South End Press.

Clark, A. (1999). *Ten reasons why farmers should think twice before growing GE crops*. Available on-line at <http://www.plant.uoguelph.ca/research/homepages/eclark/10reasons.htm>, accessed February 2005. (11 pages)

Coale, K. (2002). Seeds of secrecy: Mutant corn in Mexico. *Mother Jones*. 27(3). p. 18.

Coghlan, A. (2003). Weedkiller may encourage blight. *New Scientist*. 179 (August 16). p. 6.

- Consumer Alert. (2005). *About Consumer Alert*. Available on-line at <http://www.consumeralert.org/AboutConsumerAlert.htm>, accessed April, 2005. (1 page)
- Corporate Watch. (2002a). *Hill and Knowlton*. Available on-line at <http://archive.corporatewatch.org/profiles/hk/hk1.htm>, accessed February, 2005. (5 pages)
- Corporate Watch. (2002b). *Buston-Marsteller*. Available on-line at <http://archive.corporatewatch.org/profiles/burson/burson1.htm>, accessed February, 2005. (3 pages)
- Council of Canadians. (2005). *National food fight launched to stop genetically engineered crops – Media release, June 2, 2005*. Available on-line at Canadians.org, accessed June 2005. (2 pages)
- Croteau, D. (1998). Challenging the “liberal media” claim. *Extra!* 11(4). p. 4
- Cummings, C.H. (2004). Silent winter? Biopharmed crops are turning wildlife – and us – into lab animals. *World Watch*. 17(3). p. 10-17.
- Dawkins, K. (2003). *Behind US challenge of Europe on GMOs*. Available on-line at http://www.organicconsumers.org/ge/gmo_wto.cfm. accessed May 2004. (2 pages)
- Diamond, J. (1999). *Guns, Germs and Steel: The Fates of Human Societies*. New York: W.W. Norton.
- Dorn, B.R. (2000). Chakrabarty in the era of genomics. *Journal of Technology, Law and Policy*. 6 (1). Available on-line at <http://grove.ufl.edu/~techlaw/vol6/issue1/dorn.html>, accessed October 2004. (6 pages)
- Dow web site. Available on-line at <http://www.dow.com>, accessed February 2004.
- Dunfield, K.E., and Germida, J.J. (2004). Impact of genetically modified crops on soil- and plant-associated microbial communities. *Journal of Environmental Quality*. 33 (3). p. 806-15.
- DuPont web site. Available on-line at <http://www1.dupont.com>, accessed February 2004.
- Ehrenfeld, D. (2002). The cow tipping point. *Harper's Magazine*. (October, 2002). p. 13-19.

- Ericsson, S. (Director). (2001). *Constructing public opinion*. [Film]. Northampton, Massachusetts: Media Education Foundation.
- Ellul, J. (1965). *Propaganda: The formation of man's attitudes*. New York: Random House.
- Erjavec, K. (2004). Beyond advertising and journalism: hybrid promotional news discourse. *Discourse and Society*, 15 (5), 553-578.
- Ewen, S. (1996). *PR! A Social History of Spin*. New York: Basic Books.
- Fadden, R.B. (2004). Roundup Ready wheat may lead to more chemicals. *Regina Leader-Post*. (January 13, 2004), p. B3.
- Fairclough, N. (1989). *Language and Power*. London: Longman Group Limited.
- Fairclough, N. (1995). *Critical discourse analysis: The critical study of language*. London: Longman Group Limited.
- Fairclough, N. (2000). Language and neoliberalism. *Discourse and Society*, 11(2), 147-148.
- Fairclough, N. (2002). Language in New Capitalism. *Discourse and Society*, 13(2), 163-166.
- Fairclough, N., Graham, P., Lemke, J., & Wodak, R. (2004). Introduction. *Critical Discourse Studies*. 1, pp.1-7.
- Friere, P. (1970). *Pedagogy of the oppressed*. New York: The Seabury Press.
- Foucault, M. (1977) *Language, counter-memory, practice*. Ithaca, NY: Cornell University Press.
- Fox, M.W. (1992). *Superpigs and wondercorn*. New York, NY: Lyons and Burford.
- Fowler, R. (1985), Power, in van Dijk (Ed.) *Handbook of discourse analysis (vol.4)*. London: Academic Press. p. 61-83.
- Fukuyama, F. (2002) *Our posthuman future: Consequences of the biotechnology revolution*. New York: Farrar, Straus and Giroux.
- Gaskell, G, Bauer, M. W., Durant, J., and Allum, N.C. (1999) Worlds apart? The reception of genetically modified foods in Europe and the U.S. *Science, New Series*. 285, No 5426, p. 384-7

Green Network of Vojvodina. (2002). *Biosafety policy and practice in Yugoslavia*. Available on-line at <http://www.genet-info.org/-documents/April2002GMOYugoslavia.pdf>, accessed November 2004. (4 pages)

Greenpeace. (2003). *Genetic Engineering: Understanding Genetically Engineered Foods*. Available on-line at www.greenpeace.ca/e/campaign/gmo/documents/Understand_ge.pdf, accessed January 2004. (2 pages)

Hayden, T. (2003). Globalization and GMOs *The Nation*. June 23, 2003. Available on-line at <http://www.thenation.com/doc.mhtml%3Fi=20030623&s=hayden>, accessed June 2004. (4 pages)

Herman, E. and Chomsky, N. (1988). *Manufacturing consent*. New York: Pantheon Books.

Herman, E. and McChesney, R.W. (1997). *The global media: The new missionaries of corporate capitalism*. London and Washington: Cassell.

Howard, Sir A. (1976, reprint). Introduction, in Darwin, C. *The formation of vegetable mould*. Russelville, AR :Bookworm.

Huckin, T.N. (2005). Social Approaches 6: Critical Discourse Analysis. Available on-line at http://exchanges.state.gov/education/engteaching/pubs/BR/functionalsec3_6.htm, accessed August 2005. (16 pages)

Husseini, S. and Solomon, N. (1998). The right-leaning Rolodex. *Extra!* 11(4). p.13.

Hursh, K. (2005). Class action by organic farmers dismissed. *AgriSuccess Express* (May 20, 2005). Available on-line at http://www.fcc-fac.ca/en/agnews/newsletter/20050520_e.asp, accessed May 2005. (1 page)

IANR News Service, University of Nebraska. (2000) *Research shows Roundup Ready soybeans yield less*. Available on-line at http://www.biotech-info.net/Roundup_soybeans_yield_less.html, accessed April 2005. (3 pages)

IFIC. (2005). a. *About*. Available on-line at www.ific.org/about/index.cfm, accessed April, 2005. (3 pages)

- IFIC. (2005). b. *Food biotechnology*. Available on-line at <http://www.ific.org/food/biotechnology/index.cfm>, accessed April, 2005.
- The Independent Science Panel. (2003). *The case for a GM-free sustainable world (executive summary)*. Available on-line at <http://www.indsp.org/ISPreportSummary.php>, accessed August, 2003. (6 pages)
- International Forum on Food and Agriculture. (1998). *The Vancouver Statement on the globalization and industrialization of agriculture*. Available on-line at <http://www.ifg.org/vancouver.html>, accessed July 2004. (9 pages)
- The International Forum on Globalization. (2002). *Alternatives to economic globalization: A better world is possible*. San Francisco, California: Berrett-Koehler Publishers, Inc
- Jager, S. (2001). Discourse and knowledge: theoretical and methodological aspects of a critical discourse and dispositive analysis, in Wodak, R. & Meyer, M. (Eds.). *Methods of Critical Discourse Analysis*. Thousand Oaks, Ca: Sage. p. 32-62.
- Kaiser, J. (2000). Panel urges further study of corn. *Science*. 290, no. 5498, p. 1867.
- Kaplan, M. (2002). *Deconstructing supper*. [Film]. Vancouver: MSK Productions.
- Kellner, D. (1995). *Media culture*. New York & London: Routledge.
- Khor, M. (1999). Colonialism Redux. *The Nation*. Nov. 1999, 263(3), p. 18-20.
- Kimbrell, A. (2003) Engineering hunger, excerpt from Fatal Harvest: The tragedy of industrial agriculture. *The Ecologist*. 33(4). p. 58-9.
- Klaehn, J. (2002). A critical review and assessment of Herman and Chomsky's 'Propaganda Model'. *European Journal of Communication*. 17(2). P. 147-182.
- Klaehn, J. (Ed.). (2005). *Filtering the news: Essays on Herman and Chomsky's Propaganda Model*. Canada: Black Rose Books.
- Knight, J. (2003). Agency "ignoring its advisers" over Bt maize. *Nature*. 422 (March 6), p.5
- Korten, D.C. (1995). *When corporations rule the world*. West Hartford, Connecticut: Kumarian Press.

- Kuyek, D. (2004). *Stolen seeds: the privatization of Canada's agricultural biodiversity*. Sorrento, BC: Ram's Horn.
- Lakoff, G. (2004). *Don't Think of an Elephant! Know Your Values and Frame the Debate*. White River Junction, Vermont: Chelsea Green Publishing.
- Lambrecht, B. (2001). *Dinner at the New Gene Café*. New York: Thomas Dune Books.
- Lee, W., Tsong, E.S, and Choi, S.M. (2004). Food for thought: a content analysis of food advertising during prime-time television. Paper presented at the Association for Education in Journalism and Mass Communication in Toronto, Canada, August 2004. Available on line at <http://list.msu.edu/cgi-bin/wa?A2=ind0410e&L=aejmc&F=&S=&P=1287>, accessed April, 2005. (8 pages)
- Lubbers, E. (2002). Introduction, in Lubbers. E. (Ed.) *Battling big business: Countering greenwash, infiltration and other forms of corporate bullying*. Monroe, Maine: Common Courage Press. p. 11-15
- MacKay, J. (2004). Monsanto Canada Inc. v. Schmeiser et al. in MacOdrum, D.H. (Ed.) *Patent law in Canada: Cases and materials (section: Patentable matters)*. Toronto: Lang Michener, LLP.
- Margulis, L. (1998). *Symbiotic planet: A new look at evolution*. New York: Basic Books.
- Matthews, J. (2005). The fake parade hits New York. *Network of Concerned Farmers Newsletter*. Available on-line at http://www.non-gm-farmers.com/news_details.asp?ID=1938, accessed January, 2005. (6 pages)
- Maxwell, J. (2004). A lobotomy for democracy. *Common Sense*. November 7, 2004. Available at <http://www.jamaicaobserver.com>, accessed November, 2004. (6 pages)
- McLachlin, B. (2004). Supreme Court of Canada, personal communication.
- McQuaig, L. (2001). *All you can eat: Greed, lust and the New Capitalism*. Toronto: Penguin.
- Meyer, M. (2001). Between theory, method, and politics, in Wodak, R. & Meyer, M. (Eds.). *Methods of Critical Discourse Analysis*. Thousand Oaks, Ca: Sage. p.14-31.

- McChesney, R.W. (2000). Journalism, democracy ...and class struggle. *Monthly Review*. 52(6). p.1-15.
- McChesney, R.W. (2001). Global media, neoliberalism, and imperialism. *Monthly Review*. 52(10). p. 1-18.
- McChesney, R.W. and Scott, B. (2002). Upton Sinclair and the contradictions of capitalist journalism. *Monthly Review*. 54(1). p. 1-14.
- McDonnough, W. (1999). November 30, 1999 lecture at Oberlin College, Oberlin, Ohio, available at the National Public Radio Archives, Cleveland, Ohio
- McKenzie, D. (2001). Public oblivious to GMO debate: Few are aware of genetically modified food, survey shows. *National Post* (July 23, 2001). p. A7.
- Mogyorody, V. (2005). University of Windsor, personal communication.
- Monbiot, G. (2002). The greens get eaten, in Lubbers. E. (Ed.) *Battling big business: Countering greenwash, infiltration and other forms of corporate bullying*. Monroe, Maine: Common Courage Press. p. 53-55.
- Monsanto. (2004). *Homepage*. Available on-line at <http://www.monsanto.com>, accessed October, 2004.
- Monsanto. (2003). *2003 Annual Report*. Available on-line at http://www.monsanto.com/monsanto/content/media/pubs/2003/2003_Annual_Report.pdf, accessed February 2004.
- National Farmers Union, Canada. (1999). *National Farmers Union policy on sustainable agriculture*. Available on-line at <http://www.nfu.ca/sustag.htm>, accessed December 2003. (6 pages)
- National Farmers Union, Canada. (2000). *National Farmers Union policy on genetically modified (GM) foods*. Available on-line at http://www.nfu.ca/misc_files/GM_FOOD_POLICY.misc.pdf, accessed December 2003. (4 pages)
- National Union of Public and General Employees. (2002). *NUPGE condemns famine exploitation to sell GM foods (October 9, 2002)*. Available on-line at www.nupge.ca/news_oc02/n09oc02a.htm, accessed December 2002. (1 page)
- Nature (no author). (1999). Assessing the threat to biodiversity on the farm. *Nature*. 398. p. 654-656.

- New Rules. (2005). *Genetically modified organism (GMO) production ban in Mendocino County, California*. Available on-line at <http://www.newrules.org/agri/gmomendocino.html>, accessed May, 2005. (1 page)
- Platform Latijn-America. (2004). *GMO's, agri-business and the FTAA*. Available on-line at http://noticias.nl/global_eng_artikel.php?id=283, accessed January 2004. (1 page)
- Phutyle International. (2004). Available on-line at <http://homepage.tinet.ie/~peterc/a/a13.html>, accessed September, 2004. (1 page)
- Project Censored. (2005). # 11: *The Media Can Legally Lie*. Available on-line at <http://www.projectcensored.org/publications/2005/11.html>, accessed August, 2005. (5 pages).
- Purdue University (1999) Butterfly brouhaha. *Purdue University Entomology Newsletter* (July 16, 1999). Available on-line at www.entm.purdue.edu/entomology/ext/targets/p&c/P&C1999/P&C17_1999.pdf, accessed February, 2004. (6 pages)
- Quindel, J. (2004) *Over 100 professors and UC Berkeley Graduate Assembly criticize Chancellor on tenure case*. Available on-line at http://www.tenurejustice.org/pages/tenure_letter.htm, accessed January, 2004. (2 pages)
- Rampton, S. and Stauber, J. (2001). *Trust us, we're experts: How the industry manipulates science and gambles with your future*. New York: Penguin Putnam Inc.
- Rampton, S. and Stauber, J. (1995). *Toxic sludge is good for you: Lies, damn lies and the public relations industry*. Monroe, Maine: Common Courage Press.
- Rifkin, J. (2003) Bush's evangelising about food chills European hearts. *The Guardian* (June 2, 2003). Available on-line at <http://www.guardian.co.uk/comment/story/0,3604,968356,00.html>, accessed July 2004. (2 pages)
- Roy, A. (2004). The New American Century. *The Nation*. (February 9, 2004). Available on-line at <http://www.thenation.com/doc/prtn.mhtml?i=20040209&s=roy>, accessed August, 2004. (6 pages)

- Rowel, A. (2002). The spread of greenwash, in Lubbers. E. (Ed.) *Battling big business: Countering greenwash, infiltration and other forms of corporate bullying*. Monroe, Maine: Common Courage Press. p. 19-32
- Sanders, J. and Clement, A (2004). *Seeds of change*. [Film]. Winnipeg, Manitoba: dada world data.
- Sanders, J. (2004). Personal communication.
- Scatamburlo-D'Annibale, V. (2005). In 'Sync': Bush's war propaganda machine and the American mainstream media. In Klaehn, J. (Ed.). *Filtering the news: Essays on Herman and Chomsky's Propaganda Model*. Montreal: Black Rose Books. p. 21-62.
- Shah, A. (2002). *Large, corporate-owned media are "free" trade proponents*. Available at <http://www.globalissues.org/HumanRights/Media/Corporations/FreeMarkets.asp>, accessed July 2004. (7 pages)
- Shiva, V. (2000). The threat to third world farmers. *The Ecologist*. 30(6). p.supp 40-43.
- Smith, J. M. (2003) *Seeds of deception: Exposing industry and government lies about safety of the genetically modified foods*. Fairfield, Iowa: Yes! Books.
- Soil Association. (2003). *Seeds of doubt executive summary*. Available on-line at http://www.biotech-info.net/Roundup_soybeans_yield_less.html, accessed November 2004. (5 pages)
- SourceWatch. (2005). *Ketchum*. Available on-line at <http://www.sourcewatch.org/index.php?title=Ketchum>, accessed February, 2005. (8 pages)
- Spinwatch. (2005). *Profiles: Powell, Doug*. Available on-line at <http://www.spinwatch.org/modules.php?name=Encyclopedia&op=content&tid=324>, accessed April, 2005. (6 pages)
- Stainsby, M. (2002). Scientist deplores scary science. *Calgary Herald*. (March 28, 2002), p. C4.
- Steward, G. (2000). Genetically engineered superweeds emerge in Canada. *The Globe and Mail*. June 15, 2000. Available on-line at <http://www.organicconsumers.org/ge/superweed.cfm>, accessed January, 2005. (5 pages)

- Suzuki, D. and Dressel, H. (1999). *From naked ape to superspecies*. Toronto: Stoddart Publishing.
- Syngenta web site. Available on-line at <http://www.syngenta.com>, accessed February 2004.
- Swenarchuk, M. (2003). *The Harvard mouse and all that: life patents in Canada*. (Publication #454). Toronto: Canadian Environmental Law Association.
- Swenarchuk, M. (2004). Canadian Environmental Law Association, personal communication.
- Trouillot, M.-R. (2003). *Global transformations: Anthropology and the modern world*. New York: Palgrave MacMillian.
- van Dijk, T.A. (Ed.). (1985). *Handbook of discourse analysis*. London: Academic Press.
- van Dijk, T.A. (1988). *News as discourse*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- van Dijk, T.A. (1998). *Critical discourse analysis*. Available on-line at www.hum.uva.nl/~teun/cda.htm, accessed December 2002. (34 pages)
- Wallach, L. and Sforza, M. (1999). *Whose Trade Organization: Corporate globalization and erosion of democracy*. Washington, D.C.: Public Citizen.
- Weinberg, P. (2004) *Fired scientists spoke out on drug approvals*. Available on-line at http://rabble.ca/news_full_story.shtml?sh_itm+4c60db8b77b8cc333, accessed August, 2004. (3 pages)
- Wingspread Statement on the Precautionary Principle. (1998). Available on-line at www.gdrc.org/u-gov/precaution-3.html, accessed March 2003. (3 pages)
- Winiacki, D., (2004). Boise State University, personal communication.
- Winter, J. (2002). *MediaThink*. Montreal: Black Rose Books.
- Wodak, R. (Ed.). (1988). *Language, power, and ideology*. Amsterdam: John Benjamins Publishing Company.
- Wodak, R. (2000). *Does sociolinguistics need social theory? New perspectives in critical discourse analysis*. Available on-line at

<http://www.cddc.vt.edu/host/Inc/Incarchive.html>, accessed June 2004. (28 pages)

Wodak, R. (2001). What CDA is about – a summary of its history, important concepts and its developments, in Wodak, R. & Meyer, M. (Eds.). *Methods of Critical Discourse Analysis*. Thousand Oaks, Ca: Sage. p. 1-13.

Zizek, S. (2003). Bring me my Philips Mental Jacket. *London Review of Books*. 25 (10). Available on-line at http://www.lrb.co.uk/v25/n10/print/zize01_html, accessed July 2004. (6 pages)

APPENDIX

GNU Free Documentation License Version 1.2, November 2002

Copyright (C) 2000,2001,2002 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

0. PREAMBLE

The purpose of this License is to make a manual, textbook, or other functional and useful document "free" in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondly, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

1. APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The "Document", below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as "you". You accept the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A "Modified Version" of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A "Secondary Section" is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any

mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The "Invariant Sections" are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The "Cover Texts" are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A "Transparent" copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, LaTeX input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML, PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML, PostScript or PDF produced by some word processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, "Title Page" means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

A section "Entitled XYZ" means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in another language. (Here XYZ stands for a specific section name mentioned below, such as "Acknowledgements", "Dedications", "Endorsements", or "History".) To "Preserve the Title" of such a section when you modify the Document means that it remains a section "Entitled XYZ" according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties: any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.

2. VERBATIM COPYING

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

3. COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

4. MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

- A. Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.
- B. List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five), unless they release you from this requirement.
- C. State on the Title page the name of the publisher of the Modified Version, as the publisher.
- D. Preserve all the copyright notices of the Document.
- E. Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.
- F. Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the terms of this License, in the form shown in the Addendum below.
- G. Preserve in that license notice the full lists of Invariant Sections and required Cover Texts given in the Document's license notice.
- H. Include an unaltered copy of this License.
- I. Preserve the section Entitled "History", Preserve its Title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section Entitled "History" in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.
- J. Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the "History" section. You may omit a network location for a work that was published at least four years before the Document itself, or if the original publisher of the version it refers to gives permission.
- K. For any section Entitled "Acknowledgements" or "Dedications", Preserve the Title of the section, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein.
- L. Preserve all the Invariant Sections of the Document, unaltered in their text and in their titles. Section numbers or the equivalent are not considered part of the section titles.
- M. Delete any section Entitled "Endorsements". Such a section

- may not be included in the Modified Version.
- N. Do not retitle any existing section to be Entitled "Endorsements" or to conflict in title with any Invariant Section.
 - O. Preserve any Warranty Disclaimers.

If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material copied from the Document, you may at your option designate some or all of these sections as invariant. To do this, add their titles to the list of Invariant Sections in the Modified Version's license notice. These titles must be distinct from any other section titles.

You may add a section Entitled "Endorsements", provided it contains nothing but endorsements of your Modified Version by various parties—for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

5. COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled "History" in the various original documents, forming one section Entitled "History"; likewise combine any sections Entitled "Acknowledgements", and any sections Entitled "Dedications". You must delete all sections Entitled "Endorsements".

6. COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

7. AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an "aggregate" if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.

8. TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled "Acknowledgements", "Dedications", or "History", the requirement (section 4) to Preserve its Title (section 1) will typically require changing the actual title.

9. TERMINATION

You may not copy, modify, sublicense, or distribute the Document except

as expressly provided for under this License. Any other attempt to copy, modify, sublicense or distribute the Document is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

10. FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See <http://www.gnu.org/copyleft/>.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License "or any later version" applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation.

VITA AUCTORIS

Irena Knezevic was born in Zenica, former Yugoslavia in 1975 and graduated from Mahmut Busatlija High School, Bugojno, Bosnia and Herzegovina in 1993. She pursued her undergraduate studies at the University of Windsor, Windsor, Ontario, from 1995-1999, graduating with an Hon. B.A. in Psychology. She is currently a candidate for the Master's degree in Communication and Social Justice at the University of Windsor and hopes to graduate in September of 2005.