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Understanding the Rhetoric Used in the Discussion of GM Seeds and Biotechnology

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UNDERSTANDING THE RHETORIC USED IN THE DISCUSSION OF GM SEEDS
AND BIOTECHNOLOGY

By
Meghan Fraser

A Thesis
Submitted to the Faculty of Graduate Studies
Through Criminology
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Windsor, Ontario, Canada

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Understanding the Rhetoric Used in the Discussion of GM Seeds and Biotechnology

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Abstract

Using qualitative methods this research uses Aristotelian theory as a framework to explore the rhetorical strategies used in the discussion and portrayal of biotechnology within Canada's seed industry. Using Aristotle's modes of persuasion (ethos, logos, and pathos) and his three types of rhetoric (deliberative, forensic, and epideictic) this research analyzed an example of each type of rhetoric. As an example of deliberative rhetoric this research analyzed a House of Commons debate on agricultural policy and biotechnology. The lawsuit between Monsanto and Percy Schmeiser was analyzed as an example of forensic rhetoric. Lastly, as an example of epideictic rhetoric, Monsanto's Canadian website was analyzed. This research also highlights the approaches which need to be taken by anti-GMO groups in order for their messages to be received by the general public.

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List of Abbreviations

AAFC – Agriculture and Agri-Foods Canada

CEPA, 1999 - Canadian Environmental Protection Act, 1999

CFIA - Canadian Food Inspection Agency

FDA - Food and Drug Act

GATS - General Agreement on Trade in Services

GMFs - Genetically Modified Foods

GMOs - Genetically Modified Organisms

GM – Genetically Modified

IPRs – Intellectual Property Rights

PBRs - Plant Breeders' Rights

WTO - World Trade Organization

UPOV - International Union for the Protection of New Varieties of Plants

TBT Agreement - Technical Barriers to Trade Agreement

WIPO - World Intellectual Property Organization

Introduction

In North American societies, many people take food for granted and do not realize, understand, or attempt to educate themselves on the production process of food. Consciously thinking about the seeds farmers use to grow their crops, and how these seeds were created in a laboratory by manipulating genetic material is not a common consideration. Nevertheless, this research is asking the reader to participate in conscious deliberation, and take an interest in the food production concerning crop farming and the increasing use of genetically modified (GM) seeds. This research addresses concerns which have been previously identified regarding the social costs/safety concerns of biotechnology¹, as well as reflects my personal interests in Canada's agricultural practices and the seed industry. Coming from a family which has been farming the same land in Southern Ontario for four generations I have been exposed to many farming practices and technologies which need to be questioned by society.² I am interested in biotechnology and how it will affect future farming practices regarding the use of GM seeds. Our crops consist of Monsanto's Roundup Ready soy beans and their Roundup Ready canola seeds; this means that we are also obligated to use Monsanto's Roundup Ready herbicide in order to receive the benefits of the GM seeds. Not using GM seeds would mean a significant monetary loss because we would not be able to produce the

¹ Many scholars (Shiva, 2000; Carvalho, 2006; Huffman, 2004; Pusztai and Bardocz, 2007) and environmental activists (Kuyek, 2007; Robin, 2010; Rees, 2006) have identified biotechnology, and the genetic modification of our food supply as a serious societal concern. The increasing use of biotechnology is a multifaceted concern for many, some of the implications identified include: negative health consequences (in both human and non-human species), environmental degradation, increased reliance on pesticides/herbicides, monopolizations in the seed industry, and the loss of seed diversity.

² For confidentiality reasons I will not disclose the exact farming location.

same high yields, and would also be risking the possibility of a lawsuit if Monsanto's patented traits were found in future crops.³

As farmers we depend on the reliability of seeds to produce a profitable crop each year. When farmers enter into a contract with biotechnology companies they are forfeiting past practices of seed-saving, and are putting their trust in a new technology. An unsettling element of biotechnology is that there is no previous record of success or failure for a farmer to access when making the decision of whether or not to purchase GM seeds. However, farmers who do not purchase GM seeds are at an economic disadvantage, because they cannot compete with the high yielding GM crops. Farming crops using non-GM seeds means that they will produce less because crops are typically smaller due to the greater amounts of labour required, and are more vulnerable to invasive plant species. Therefore, it is easy to identify why farmers turn to biotechnology as an alternative to the more traditional farming practices of seed-saving. But biotechnology lacks sufficient independent research regarding the safety of GM seeds, and due to the novelty of the technology there is limited knowledge on the long-term effects of GM crops.

In recent years the media and many grassroots organizations have been increasingly questioning the ethics of the business practices of leading biotechnology companies. There has also been increasing literature on the risks associated with all GMOs, and many warnings issued by researchers/environmentalists to stop using biotechnology to manipulate the food chain. But it seems the recommendations to stop

³ In order to have access to patented seed technology farmers must sign a contract with Monsanto, the "Technology Use Agreement" requires farmers to pay usage based royalty fees, comply with single crop planting restrictions, and grants Monsanto access to property for crop inspection. See Monsanto's 2013 Technology Use Guide: <http://www.genuity.com/stewardship/Documents/TUG.pdf>

relying on GM seeds are disregarded because current Canadian policy encourages the research and development of biotechnology. Within the social sciences there has already been a considerable amount of research covering biotechnology and GM seeds; however, most of this research has either concentrated on the social consequences of biotechnology, or on the dominant discourses used in the discussion of biotechnology. In order to provide an alternative perspective on the issue, this research focuses on the rhetorical strategies used to influence the public perception of biotechnology. Although closely related to discourse, rhetoric is used to describe the process/strategies which influence (or persuade) which discourses becomes dominant in a society. Rhetoric is important because once there is a dominant discourse established, it becomes the common frame of reference through which information is interpreted and analyzed by the mass population (Chong and Druckman, 2007a). Therefore, this research argues that it is important to identify the rhetorical devices used by biotechnology companies and governments because they have created/controlled the dominant discourses used in public discussions. In order for grassroots movements/anti-GMO groups to succeed in providing a competitive alternative discourse to the public, they must identify the methods through which the current discourses have been created, and utilize the same methods/strategies.

There are three branches of rhetoric – forensic, deliberative, and epideictic – this research analyzes an example of each branch in order to identify the differences/similarities in the rhetorical strategies used in each rhetorical situation

(Aristotle, 1960:17).⁴⁵ As Aristotle (1960) describes, forensic rhetoric is associated with the language used in judicial settings and highlights legal reasoning and argument as a means of persuasion (p.17). In this research the example of forensic rhetoric being explored is the legal case of *Monsanto Canada Inc. v. Schmeiser* (2004) in which the two parties argue about the validity of patents on specific plant varieties.⁶ *Monsanto Canada Inc. v. Schmeiser* (2004) deals with the legal technicalities related to patents and whether or not the genes (traits) in Monsanto's Roundup Ready canola should be considered patentable material. Therefore, in the Supreme Court ruling, the issue was no longer whether or not Schmeiser knowingly planted the Monsanto variety seeds⁷, instead it was a case revolving around the language of patenting laws, and the concept of 'use' in patent infringement (Journal of Environmental Law, 2005:84). *Monsanto Canada Inc. v. Schmeiser* (2004) is the leading case for Canadian farmers in creating the legal precedent for patents on GM seeds, as well as placing the onus on the farmer to ensure (and prove) that their crops remain uncontaminated. *Monsanto Canada Inc. v. Schmeiser* (2004) was chosen as the example of forensic rhetoric because it is the legal platform where the interpretation of language was the most important for establishing Canadian case law on

⁴ The rhetorical situation is a term often used to describe the context of a rhetorical event; factors may include: the perception of the speaker, the audience being addressed, the subject matter, and the occasion/medium where the information is spoken/displayed (Bitzer, 1999:218).

⁵ The source used for Aristotle's "Rhetoric" is a translations by Cooper, a late professor of the English language and literature at Cornell University. The translation, "The Rhetoric of Aristotle: An Expanded Translation with Supplementary Examples for Students of Composition and Public Speaking," was initially published in 1932, and then republished in 1960.

⁶ The *Monsanto v. Schmeiser* case was originally conducted by the Federal Court of Canada (Saskatoon) in June, 2000. After a verdict in favour of Monsanto during the proceedings Schmeiser appealed the ruling. The case of *Monsanto v. Schmeiser* was then heard by the Federal Court of Appeal (Saskatoon) in May, 2002 which again ruled in favour of Monsanto. *Monsanto v. Schmeiser* (2004) is the Supreme Court of Canada ruling on January 20, 2004. The role of the Supreme Court of Canada is to be the final court of appeal.

⁷ In the Federal Court ruling in June, 2000 it was had already been established that between 95-98% of Schmeiser's crop contained transgenic material. Therefore, the judge ruled that Schmeiser should have recognized the crops as Roundup Ready Canola, after he had sprayed Roundup Ready herbicide around the ditches/power poles, and then saved the seeds of the surviving plants.

the patent infringement of GM seeds. *Monsanto Canada Inc. v. Schmeiser* (2004) is an exemplary case of rhetorical argumentation, and highlights the Aristotelian (1960) means of persuasion used to influence judicial rulings.

Deliberative rhetoric is used to persuade an audience, such as in a political context, and is used when discussing the future and recommending a specific course of action (Aristotle, 1960:18). The example of deliberative rhetoric used in this study is a House of Commons debate where the Standing Committee on Agriculture and Agri-Food is discussing the future of agricultural policy and biotechnology. During the House of Commons debate, the Standing Committee invited witnesses with backgrounds in farming to discuss the role that biotechnology takes in their farming practices. The Standing Committee was delegated with the task of making improvements to the former agricultural policy framework (*Growing Forward*). *Growing Forward* expired in March 2013, and was replaced with *Growing Forward 2*; the committee wrote a report – *Growing Forward 2: Report of the Standing Committee on Agriculture and Agri-Food* – which provided a list of recommendations for the federal government. The debate used in this analysis was used to provide recommendations on biotechnology policies that were included in the final report by the Standing Committee. The House of Commons debate was chosen as an ideal example of deliberative rhetoric to be analyzed because it takes place within a political setting, and contains deliberations between political party members with different agricultural priorities and agendas.

The final branch of rhetoric this research analyzes is epideictic rhetoric, this branch focuses on the speaker's goal of either praising or blaming (Aristotle, 1960:46). This research is using Monsanto's Canadian website as an example of epideictic rhetoric

because it is the most public medium Monsanto has to endorse their technology and encourage farmers to purchase their products.⁸ When analyzing epideictic rhetoric it is important to consider the character of the speaker and the emotions involved in the persuasion, and how they affect the audience (Aristotle, 1960:91). This research is interested in how Monsanto portrayed themselves as a company to the public, and what rhetorical strategies they used to gain the viewer's trust and acceptance.

Biotechnology, and the use of GM seeds, is a relatively new technology used by Canadian and international farmers. Although it is apparent that GM seeds provide many benefits to the farmer, there is also a lack of knowledge about the health and safety of GM seeds. It has only been 15 years since the first GM crop has been approved, therefore, the long-term effects are still unknown, and need to be addressed by society. Therefore, this research takes a social harms approach in order to concentrate on the policy issues related to biotechnology, and to create public awareness about the potential harm GM seeds could have on agricultural practices.

Background Information

A Brief History of the Canadian Seed Industry

The seed industry in Canada has experienced many profound transition periods which changed a once public exchange of seeds to a seed industry monopolized by a few biotechnology companies. Before scientific intervention was used to develop new varieties of seeds, Canadian farmers relied on seed-saving practices to secure seeds for future crops. Plants naturally adapt and create new varieties each season in accordance to

⁸ This study only looks in to Monsanto's Canadian website because Monsanto has different websites for every country, each containing different information and images.

seasonal demands; from the plants which adapted more successfully, the seeds are saved and used in the future when similar crop conditions are present.⁹ It was not until the late 19th century that the Canadian government took an active role in the development of seed knowledge, and created experimental farming operations to test new varieties of seeds (Fowke, 1947:224). The experimental farming operations largely depended on farmer knowledge of the current seed varieties, environmental conditions, and farming practices used in agriculture. However, the 1970s marked a transition from state-sponsored public systems to the state-facilitated commercialization and privatization of the seed industry (Phillips, 2008:6).

During the 1970s-80s, pesticide companies experienced a decline in revenue and responded by purchasing seed companies and investing in biotechnology (Kuyek, 2007:50). Biotechnology in the scientific manipulation of the genetic material within a cell structure, and can be used to produce GM seeds (Canadian Food Inspections Agency (CFIA), 2007). Although biotechnology was (and still is) a new technology, with little known about its side-effects, it was seen as the answer to food shortages and declining agricultural revenue. Also, during the 1980s there was a push to liberalize trade agreements and open up the markets to encourage foreign investments and create more competitive trade environments. Investing in science and technology was a priority on the government's agenda, and in 1982 the Canadian government created the "Task Force on Biotechnology," which would be responsible for producing a biotechnology strategy

⁹ The crop conditions which farmers have to consider vary depending on the needs they need met, conditions can include: the crop season (summer vs. winter), predicted weather conditions (ex. warm, dry, rainy, or cold weather), and specific geographical conditions (ex. soil composition). For information regarding predicted weather forecasts farmer's [still] resort to the *Farmers' Almanac*. The *Farmers' Almanac* is a North American publication which provides a long-range forecast for seasonal weather conditions, and has been in print since 1818. See: <http://www.farmersalmanac.com/about/>

plan, and assist in developing policy (Kuyek, 2007:52). In 1983, the “National Biotechnology Strategy” (NBS) was released, and focused on promoting private sector business and increasing global competitiveness. In 1993 the NBS was replaced by the *Canadian Biotechnology Strategy (CBS)* and the government approved the *Federal Regulatory Framework for Biotechnology (CFIA)* (2007:12). The CBS and the new regulatory framework were designed to build on existing legislation by including biotechnology regulations, rather than develop a new act or establish a separate agency. The *Federal Regulatory Framework for Biotechnology* included science-based assessments and risk management strategies to protect the environment and human/animal health. In 1997 CFIA took over the regulatory responsibilities from Agriculture and Agri-Foods Canada (AAFC) for novel agricultural products under the *Seeds Act, Feeds Act, Fertilizers Act, and Health of Animals Act*; these acts were amended to include the same definition of ‘biotechnology’ used in the *Canadian Environmental Protection Act (CEPA, 1999)*(CFIA, 2007:12).

Currently, Canada is the fourth largest producer of GMOs in the world; the United States is the largest, second is Argentina, and third is Brazil (GMO Compass, 2013). Unfortunately, there are minimal regulations in place to prevent biotechnology companies from monopolizing the seed industry through the use of intellectual property rights and patents to secure their technology. The development and research on biotechnology has been encouraged by governments through the promotion of policies which prioritize a competitive market economy; some of these Canadian policies include the *Patent Act* (Government of Canada, 1985b)¹⁰, the *Seeds Act* (Government of Canada,

¹⁰ The *Patent Act, 1985* was designed to assign ownership to patentable physical inventions.

1985c)¹¹, and the *Plant Breeders' Rights Act* (Government of Canada, 1990)¹². Cross-border trade of GMOs is regulated through the World Trade Organization, and intellectual property rights are controlled through the World Intellectual Property Organization (WIPO).

At an international level, policies have been enforced to reduce trade barriers to make it easier for biotechnology companies to compete in global markets. The World Trade Organization (WTO) is responsible for the global policies of trade between nations and attempts to create universal regulations between nations in order to address concerns about the health and environmental safety of GMOs. Currently, the largest issue the WTO is experiencing regarding GMOs is the mediating of labeling requirements of GMOs once the products have reached the consumer (WTO, 2013). The WTO, and countries such as the United States and Canada, do not want mandatory labeling because they argue that it creates unnecessary trade barriers, as well as gives the impression to the consumer that the product is unsafe for consumption (WTO, 2013). However, other countries including the European Union, New Zealand, and Japan are pressing for mandatory labeling as a way to ensure consumers can make informed decisions when purchasing food products (Caswell, 2000). In order to remove trade barriers such as mandatory labeling the WTO created the *Technical Barriers to Trade Agreement* (TBT Agreement) as a way to standardize testing and levels of protection (WTO, 2013).

¹¹ The *Seeds Act, 1985* is administered under the Canadian Food Inspection Agency to ensure that seeds, imported or exported, from Canada meet quality standards. The *Seeds Act, 1985* is also responsible for the regulations pertaining to the advertising, packaging, labeling, and the sale of seeds. Initially, the *Seeds Act, 1985* was designed to protect farmers from purchasing seeds which had not been approved and quality tested.

¹² The *Plant Breeders' Rights Act, 1990* is used to protect seeds which are considered to be a protected variety. Plant Breeders' Rights (PBRs) are a form of intellectual property used to grant exclusive rights to the breeder to ensure that their variety is not exploited by others without permission.

Related to the TBT Agreement is *The Agreement on the Trade-Related Aspects of Intellectual Property Rights* (TRIPS Agreement), which specifically addresses intellectual property rights and the minimal levels of protection required for patented GMOs (WTO, 2013). In the area of service trade *The General Agreement on Trade in Services* (GATS) provides rules for cross-border trade, and came into force in 1995 as a means to "liberalize" trade and resolve disputes between countries (Foreign Affairs and International Trade Canada, 2012).

Within Canadian boundaries the task of monitoring and regulating GMOs/GMFs is divided among Health Canada and Environment Canada. Under the *Food and Drugs Act* (FDA), Health Canada is responsible for "science-based regulation, guidelines and public health policy, as well as health risk assessments concerning chemical, physical and microbiological contaminants, toxicants and allergens in the food supply" (Health Canada, 2012). Within these regulations are specific guidelines pertaining to biotechnology – under the class of "novel foods" (Part B, Division 28) – in which there is required to be a seven to ten year period for research to assess the safety of GMFs before reaching the public. Additionally, Health Canada and the Canadian Food Inspection Agency (CFIA) are both responsible for the food labeling policies under the FDA; however, at this time labeling of GMOs/GMFs is voluntary; labeling is only mandatory if there is a health or safety issue with the product (Health Canada, 2012). Environment Canada is concerned with the long-term environmental effects of GMOs and the herbicides/pesticides used in the cultivation process. Environment Canada is mandated under the CEPA, 1999 to regulate new biotechnology products in order to manage and assess risk to human and environmental health (Health Canada, 2006).

Genetic Modification of Seeds

The purpose of GMOs is to increase profit margins by increasing the overall crops yield through means of agricultural practices. Biotechnology companies and government policy emphasize that GM foods are beneficial to society because they alleviate food scarcity, provide enhanced nutrition, increase farmer profits, reduce pesticide usage, and also that they have been adequately tested (Food and Agriculture Organization of the United Nations, 2013). However, there has been research that disagrees with the claims that biotechnology poses no risks, and warns that if humans consume GMO they are more likely to experience adverse health effects such as cancerous tumors and hormone imbalances (Seralini, Clair, Mesnage, Gress, Defarge, Malatesta, Henequin and Spiroux de Vendomois, 2012:4230).¹³ Another study using human placenta cells, embryonic cell lines, and umbilical cord cells determined that glyphosate (Roundup) altered the human DNA composition (Gasnier, Dumont, Benachour, Clair, Chagnon, and Seralini, 2009:189). Although there is research which suggests GMOs are unsafe and should be subjected to greater testing, the products of GM seeds are still allowed to be distributed without labeling.

To genetically modify a seed means that there has been intentional changes to the heritable traits of a plant (FDA, 1985a). This means that seeds can be “improved” in one, or multiple ways, whether it is to withstand differing climate conditions or to become resistant to specific types of herbicides. It is often claimed that in order for biotechnology companies like Monsanto to be competitive in the global seed market it is

¹³ This study published in *Food and Chemical Toxicology*, was conducted over a two year period and analyzed the effects of Roundup-tolerant maize on rats. The test groups died 2-3 time more rapidly than the control group, and developed large tumors, liver congestion, kidney failure, and damage to the pituitary gland.

important that their scientific discoveries are protected. By using intellectual property rights and patents these companies can be assured that their work/knowledge becomes and remains their property. Therefore, for any other company or individual to have access to this specific technology they must pay royalties and sign contracts which outline the terms of agreement for the appropriate usage and distribution of the specific product.

Since biotechnology companies have the ability to control the production of GM seeds, and the distribution, this leaves little room for farmers to make their own decisions with their crops. By signing into a contract with a biotechnology company, farmers must pay for their seeds every year and purchase the corresponding herbicide or pesticide specific to those seeds. Farmers may choose not to purchase the seeds/technology, but this makes them vulnerable to lawsuits from the biotechnology companies if any of their seeds are found on their property.

Currently, GM crops account for 170.3 million hectares globally, which is a growth rate of 6% since 2011 and 100% since 1996, making it the fastest growing crop technology in history (James, 2012). The top three leading seed companies in 2007 were: Monsanto (23%), DuPont (15%), and Syngenta (9%), and in Canada the main crops being grown from GM seeds are maize, soybean, canola, and sugarbeet (ETC Group, 2008). The percentage of GM crops significantly outweigh the number of crops derived from unmodified seed varieties; this is due to the fact that without the use of GM seeds the crop yield is smaller and therefore farmers make less money per bushel. For this reason GM seeds are an attractive option to farmers because it means less intervention with weeds and provides them with the ability to plant larger crops. The majority of trait

enhanced seeds are modified to withstand a specific herbicide, for example Monsanto's soybeans are tolerant to the Roundup Ready herbicide and this allows farmers to spray without concern that the crops will be damaged.

Literature Review

Framing, Rhetoric and Discourse

Rhetoric and discourse are important concepts to consider when framing an issue; framing is successful when one discourse prevails over other less successful discourses. In order for a dominant discourse to become such, the parties involved rely on rhetorical strategies; rhetorical strategies can include using metaphors and analogies, creating themes, using imagery to appeal to the senses or emotions, and the repetition of specific words etc. (Aristotle, 1960:187,197,240; Miller, 2008:12; Gross, 2008:169). These strategies are used to present information which strengthens the position/argument of the persuader, and take control of the conversation by creating the dominant discourse. Clark (1984) states that when a persuader is trying to influence a message they can either appeal to the self-interest of the audience, or appeal to the altruistic nature of the audience by bringing attention to the concern for society's well-being (p.24). However, Clark (1984) also states that when trying to persuade an audience one of the largest obstacles to overcome is the already established beliefs of the audience (p.7). Beliefs are difficult to change because they reflect an individual's schema and altering this would mean changing pre-established behaviours and thought processes. In order to overcome a person's, or a society's set of beliefs, the persuader's message must reinforce the idea that change is urgent and without it there will be dire consequences for society (Clark, 1984:8). Therefore, the framing process is an essential component to rhetoric because

once a discourse becomes dominant it then becomes the schema through which information is filtered.

Chong and Druckman (2007a, 2007b) are leading scholars in research on framing political issues, and how the successful framing of arguments can be used to persuade public opinion. Chong and Druckman (2007a, 2007b) are well-known for their contributions to framing theory, and how framing is a psychological process which requires individuals to process new information through their existing frames/principles. Many individuals base their opinions on the common frames of reference in society; “a common frame of reference is an interpretation of an issue that has been popularized through discussion” (Chong, 1996:196). Chong and Druckman (2007a, 2007c) have identified that most of the common frames of reference are created by ‘elites,’ because they command a greater amount of public exposure and therefore are most often the first to define how an issue is framed.¹⁴ A consequence of having dominant frames of reference is that they are the most difficult to reverse because they are the frames which are recalled first. In order to persuade the public to consider alternative frames of reference this would require the public to partake in the conscious deliberation of an issue; however, this is a difficult task to accomplish because the public must first be motivated to think about an issue from competing perspectives. The best way to motivate the public to consider a policy issue is to relate the issue to their own experiences and connect it to the values which they already hold (Chong and Druckman, 2007a:639).

¹⁴ In Chong, D. and Druckman, J.N. (2007c). “A Theory of Framing and Opinion Formation in Competitive Elite Environments,” they use the example of how in 1999, New York Mayor Rudolph Giuliani determined and art exhibit to be “disgusting” and withdrew public funding, as well as evicted the Brooklyn Museum of Art from the city-owned building. Chong and Druckman (2007c) illustrate that although this example was framed as an issue of taxpayer money, it could have alternatively been framed as the artist’s right to free expression (p.99).

O’Keefe (2002) defines persuasion as, “a successful intentional effort at influencing another’s mental state through communication in a circumstance which the persuadee has some measure of freedom” (5).¹⁵ In Chong and Druckman’s (2007a) study they use O’Keefe’s concepts of persuasion as a beginning point for their analysis of how individuals form policy opinions when the public is presented with competing frames of reference.¹⁶ The findings of Chong and Druckman’s (2007a) research indicate that although the frequency to which an individual is exposed to a frame is important, the most important factor is the strength of the frame when influencing public opinion (p.645). In this study the frequency, or repetition, of a frame was typically more important for those participants who had limited knowledge on the given topic (Chong and Druckman, 2007a:639). Above all, Chong and Druckman (2007a) concluded that strong frames are ones which emphasize applicable considerations, and are deemed to have achievable and desirable outcomes; whereas, weak frames are determined inapplicable and have limited effects on persuading public opinion (p.640). An important finding to consider is that even though an individual may (under isolated conditions) support the ‘weaker’ frame, they might resist because that frame does not provide realistic measures to attain their goals (Chong and Druckman, 2007a:640). Therefore, framing an issue depends not only on identifying what should be done, but also relies on determining what can be done.

¹⁵ O’Keefe (2002) recognizes that there are many ways one could define persuasion, this definition reflects the “shared features of exemplary cases of persuasion” (p.5)

¹⁶ In Chong and Druckman’s (2007a) study, “Framing Public Opinion in Competitive Democracies,” they used questionnaires to measure participant (adults and college students) opinions on policy issues related to environmental conservation and hate rallies. Participants completed a background questionnaire prior to receiving a description of the issues, and reading either ‘strong’ or ‘weak’ arguments from editorials discussing the issues being debated.

In terms of a rhetorical analysis, Miller (2008) states that we must first ask ourselves, “What versions of rhetoric are going to be of use to us in a particular situation?” (p.1); answering this question is crucial for understanding the history of the issue. In order for a dialogue to take place the discourses used rely on past experiences, and how they have shaped our cultural understandings and shared definitions (Miller, 2008:1). To help establish trust between the audience and the persuader, the persuader must utilize these shared definitions and incorporate them into their discourses to portray their 'trustworthiness.' Both Miller (2008) and Wynne (2001) discuss the importance of trust in scientific discussions, and how trust is used as a tool to persuade audiences based on the perceived shared best interests of all parties. Concerning the public trust of GMOs, Wynne (2001) identifies how new technologies rely heavily on the public's confidence in science and experts; the amount of trust the public puts in biotechnology generates a type of risk analysis (p.445).

Beck (1996) states that the public is willing to accept certain risks when the benefits are perceived as outweighing the potential consequences. In a risk society there is a greater importance placed on the acquisition of wealth rather than on the distribution of risk (Beck as cited by Jensen and Blok, 2008:759). Biotechnology is an example of this shift from industrial society to risk society, a society in which risks are analyzed from an actuarial or monetary viewpoint (Beck, 1996). Within risk society the consequences of technology are unknown because of its novelty; this is what creates a discourse of risk, and political institutions are supposed to regulate and manage the levels of risk within society. In order to mediate the risks surrounding biotechnology the seed companies and

the government must also generate a risk profile that highlights the benefits of innovation and portray themselves as credible and trustworthy.

The concept of harm, and harm reduction, is also important to “risk society” and the discussions on biotechnology and policies which are based on scientific advice. Lash, Szerszynski, and Wynne (1996) and discuss how the opinions of scientists can be used as “legitimizing rhetoric” in order to form public policies (p.8). However, Wynne (1996) discusses that scientific knowledge has flaws and is notoriously uncertain; therefore scientific knowledge should not be considered absolute (p.70). In terms of policy creation, harm reduction is the goal for policies which are attempting to regulate science and technology. With any technology there is always a certain amount of risk, which is why policies are needed to minimize these risks to the public. Biotechnology falls into this realm of uncertainty because of its limited history, and as a result, policies are geared towards reducing the negative impacts on the environment and human/animal health.

Gaining public trust by illustrating the competence and value of experts in the field of biotechnology is a persuasive strategy used to influence public opinion (Wynne, 2001; Tindale, 2011). However, there is a divide between experts and lay persons, and this knowledge divide generates an area of uncertainty (Wynne, 2001). In order for a lay person to comprehend the information given, shared discourses and cultural knowledge are used to create a common understanding. In the case of biotechnology and the public sphere these shared discourses are bonded through the desire to produce greater amounts of crops to supply enough food to the global population. The public is trusting technology because they recognize the importance of being able to produce food for society, and this factor appeals to the altruistic nature of society. As Miller states, “many

mechanisms around uncertainty function symbolically and charismatically, not logically or analytically” (p.3), as a result the portrayal of information generally has more influence over the public than reason.

The concept of globalization is important to the discussion of biotechnology and GMOs because globalization discourse focuses on the advantages or disadvantages of expanding agribusiness across borders. Globalization is the international integration of a world product which relies on regulatory policy convergence as a way to determine international standards and open the market for more trade opportunities (Drezner, 2005:841). Economic globalization is important to large biotechnology companies because this development would reduce the barriers for all market participants and create a more profitable and competitive environment. The role of government in the process of globalization is significant because it is the state which acts as the primary negotiating agent when developing regulatory standards (Drezner, 2005:843). Newell (2003) discusses the governance of international biotechnology, and the policy issues that governments have to manage. The policy issues which Newell (2003) identifies as political matters revolve around the health and safety assessments of novel foods, facilitating trade agreements, and meeting the standards set in different countries (p.60). Since the government is so involved with the movement of biotechnology companies it is understandable that globalization is one of the main discourses of biotechnology. However, some countries (such as Peru) are against the globalization of GM seeds because they want to protect biodiversity, and fear that GM seeds will contaminate other species of food. Recently, Peru has put a ten year ban on Monsanto in order to ensure

food security, and has imposed regulations to end the importing of GMO derived products (Peruvian Times, 2012).

Food security is another discourse of biotechnology and it can be interpreted in two different ways; food security can be defined as the ability to supply a sufficient amount of food to a population, or it can be thought of as protecting the original food supply. Biotechnology companies emphasize the ability of GM seeds to increase crop yields, and also increase the nutrient value of food. By emphasizing these characteristics of GM seeds biotechnology companies are trying to insinuate to the consumer that without this technology we would experience a global shortage of food. But a food shortage is normally caused by multiple factors such as human conflict, natural disasters, poverty, and droughts (Carvalho, 2006:687; Zerbe, 2004:594). The other side of the food security argument is concerned with the side effects of biotechnology, such as loss of biodiversity due to agrichemicals having negative effects non-target species (Carvalho, 2006:688).

Currently, the literature on biotechnology concentrates on the harmful effects associated with GMOs, or on the dominant discourse used in the discussion of biotechnology. This research is concerned with the rhetoric of biotechnology, and the rhetorical strategies used by biotechnology companies and governments in order to influence public opinion and gain support. Presently, there is no literature directly discussing the rhetoric of biotechnology, and this research argues that rhetoric is important to identify because those who use the most successful forms of rhetoric ultimately control the discourses and dialogue used in society. In order for there to be

policy changes more in line with the needs of farmers, there must first be a shift in the dominant frames of reference used in society.

Aristotelian Rhetoric

An essential component to this research is the incorporation of Aristotelian rhetoric as a framework for the rhetorical analysis. Aristotle (1960) believed that persuading an audience requires strategy, and identifies that a speaker should utilize the three means of persuasion (logo, ethos, and pathos) in order for their arguments to be persuasive. In *Rhetoric*, Aristotle (1960) discusses how a speaker should frame their arguments depending on the rhetorical situation, and the available means of persuasion (p.xxxvii). Aristotle (1960) identifies three branches of rhetoric – deliberative, forensic, and epideictic – and each branch requires the speaker to use different techniques of persuasion. The means of persuasion which Aristotle (1960) discusses are the logical arguments (logos), the arguments which refer to the speakers character (ethos), and the arguments which appeal to the audiences emotions (pathos).

Deliberative Rhetoric

Deliberative speech refers to the dialogue used within a deliberative setting, such as a political debate where the members are providing counsel/advice for future actions. Aristotle (1960) states that deliberative speech concerns matters of justice and injustice, and that there are five main subject of deliberation, the ways and means; war and peace; defense of the country; exports and imports; and legislation (p.19). This research is concerned with the deliberative speech used when discussing exports and imports, and legislations. Exports and imports refers to supplies either produced within a country or

imported into the country, in order for countries to export/import supplies they must arrange treaties and agreements with other states (Aristotle, 1960:22). Therefore, before a government signs a trade agreement with another country their own political party members must first deliberate on the terms which best suit the country's needs. It is important for a state to make careful considerations before making trade agreements because as Aristotle states, "there are two sorts of alien powers with which we must see to it that our citizens maintain good relations – the stronger, and those that are useful for commerce" (p.22). Deliberative speech concerning exports and imports is essential to the discussions on biotechnology because political parties need to consider what policy measures will be best for the nation economically. Within the Conservative (Harper) Canadian government there is strong advocacy for the promotion of international trade, and also funding of research for science and technology; therefore, policies and trade agreements relating to biotechnology reflect the ideals of the current form of government.

Legislation as a subject of deliberative rhetoric refers to the State and its laws, and how legislation is representative of the type of government in power. Aristotle (1960) states that a deliberative speaker must be knowledgeable in legislation, because it helps create an understanding about the form of government and their desired outcomes (or aims) (p.23). In the context of this research the form of government is a democracy, which Aristotle (1960) identifies the aim of democracy is freedom, and "it is with reference to this end that people make their choices" (p.45). Thus, when considering the legislation on biotechnology we must also take into consideration the character/tendencies of the political parties involved because each party has its own interests, and these interests guide the deliberative speech used in discussions.

In deliberative speech the speaker's aim is to either exhort or dissuade an idea, and does so by relating their arguments to either happiness or unhappiness (Aristotle, 1960:29). Aristotle states that "the object of all human action is happiness," and therefore we base our decisions of what will bring us the most happiness (p.24). However, 'happiness' has many definitions and is different for every individual, which is why Aristotle's also discusses the notion 'good,' and how we decide on the action which will provide the 'greatest good' to society (p.38). Therefore, in order to be persuasive in deliberative speech the speaker must be knowledgeable in terms of the political parties involved, the audience being addressed, and understand the how to appeal to the character (tendency) of the government (Aristotle, 1960:45).

Forensic Rhetoric

Forensic rhetoric is used when discussing subjects of accusation or defense, normally within the confines of a judicial setting. It is within forensic speech that a speaker should construct enthymemes to explain their wrong-doings; enthymemes are based on the past, and therefore, provide the best opportunity to explain and demonstrate their situation (Aristotle, 1960:54). An enthymeme is a conclusion based on probabilities, and the material/evidence used to draw that conclusion may not be concrete, but rather it is founded on an assumption (Bitzer, 1959:400).¹⁷ However, when deciding if a 'wrong-doing' was committed Aristotle states that we must always consider, "the nature and number of the motives from which men do wrong; the states of mind in which they do it; and the kinds of people who are wronged, and their situation" (p.55).

¹⁷ Bitzer (1959) notes that in Aristotle's *Rhetoric*, there is no formal definition of 'enthymeme,' therefore scholars have had to interpret, and distinguish, the enthymeme from the syllogism. The syllogism being a deductive argument based on concrete evidence, whereas the enthymeme is an argument based on probability.

Aristotle (1960) also discusses the importance of the distinction between written laws and universal laws, and the notion of ‘equity’ (p.80). Written laws are those that govern a particular state, and universal laws are the unwritten principles which are understood, and accepted, as natural to all mankind (Aristotle, 1960:55). Written laws are subject to change, and can be used in either accusation or defense, depending on the speaker’s circumstances.

Epidictic Rhetoric

Within Aristotelian rhetoric, epideictic rhetoric pertains to the speech of praise or blame, and makes reference to the virtuous (or non-virtuous) characteristics displayed by the person or object (Aristotle, 1960:46). Epideictic speech is an attempt to persuade an audience into accepting another as trustworthy based on the elements of virtue they exhibit; Aristotle (1960) lists the elements of virtue as: justice, courage, temperance, magnificence, magnanimity, liberality, gentleness, prudence, and wisdom (p.47). In order to display oneself as virtuous the speaker must obtain material which can be used as examples, and thus, illustrate their trustworthiness to the audience. However, Aristotle (1960) identifies that the audience is crucial to epideictic speech because it is easy to praise a person or object to an audience of supporters; the difficulty with epideictic speech lies in persuading an audience which does not support the person/object, and has reservations about the ‘virtuous’ character being magnified (Aristotle, 1960:51). Aristotle (1960) also states that magnifying ones virtuous qualities naturally enters into epideictic speech; however, the speaker must take care in the materials they present because the opposite arguments (blame) are also derived from this material (p.55).

Theoretical Alignment: Social Harm Perspective

The social harm perspective is presented as an alternative approach to criminological research, instead of focusing our attention on acts that are defined as criminal this approach broadens the scope of criminology. The benefit of using the social harm approach means that this research project was less restricted, and was able to explore areas that are not traditionally researched under a criminological lens. Another advantage of taking a social harm approach is that it allows research to determine the extent of social harm experienced by a population or subpopulation. One of the primary interests of the social harm perspective is the use of policymaking as a means to rectify an unfavourable condition, rather than a more traditional punitive response (Hillyard, Pantazis, Tombs, and Gordon, 2004). Regarding the social harms incurred through the domination of the seed market by major biotechnology companies, a policy response is the most appropriate form of intervention.

The broadness of the social harm perspective was both a strength and a weakness of this research; the limitation was the difficulty of defining harm, and what constitutes a social harm. However, it can be argued that 'crime' is also a rather ambiguous term in which the definition is often assumed, as Pemberton (2007:29) identifies the notion of crime is problematic because it overlooks the concept of harm, intent, and responsibility; crime is a social construct and those who define crime often exclude acts which cause greater social harms. The criminal justice system focuses on criminal acts and concentrates on individual acts/street crimes, while overlooking acts committed by particular groups of people, corporations, governments or the wealthy (Hillyard and Tombs, 2007:15). In terms of the struggle within society's power relations, the social

harm approach reflects a Foucauldian understanding of how power/knowledge functions to govern society. A Foucauldian perspective views discourse as a creation of the powerful, and the dominant discourses used in the understanding of a topic becomes the governing knowledge (Hall, 2001:75). Similarly, the social harm perspective also recognizes the class/group inequalities in society, and this can be applied to this research because in the case of GM seeds there is a significant power struggle between farmers and the leading biotechnology companies.

The social harm approach best reflects the intentions of this research for many reasons, namely because of the focus on the economic consequences derived from the use of GMOs, and the restrictions/limitations imposed on crop farmers by government policy and biotechnology companies. It is important to consider social harms because of the potential damage they can have on society, often the damages incurred from these social harm is far greater than the damage derived from many criminal acts. A social harm approach provided this research project with the necessary space to focus on collective responsibility, policy matters, and the needs of farmers. Furthermore, a social harms approach compliments a rhetorical analysis because both seeks to answer similar questions such as which groups are involved in the discussion on GMOs, where and when are the discussions taking place, who/whom is providing information, and what strategies are being used to provide policymakers and the public with information. Ultimately, the goal of a social harm perspective is to enhance social justice and create public awareness of issues such as GMOs in order to reduce social harms and influence policy change (Hillyard et al., 2004:3).

Research Methods

Initially, this research used a grounded theory approach in order to explore the issues relating to biotechnology. Using Glaser and Strauss' (2012) qualitative methods, this research started with data collection as a way to discover a more concrete theory (p.2). At the beginning the scope of this research was very broad because biotechnology is encompasses many avenues; therefore, the research was narrowed by choosing to focus on GM seeds and biotechnology companies. When reviewing the literature, it became apparent that many individuals discuss GM seeds, but focus on international countries and the issues their farmers endure as a result of GM seed monopolizes. Since the literature is highly concentrated on international countries and their issues, this research decided to adopt a Canadian perspective on the biotechnology industry and GM seeds. Also, from the literature review it was identified that most researchers focus on the discourses associated with GMOs, and discuss issues such as globalization, food security, and risk/harm (Newell, 2003; Carvalho, 2006; Beck, 1996; Lash et. al. 1996). Therefore, it was decided that this research would instead explore the rhetoric of biotechnology, with the intention that it would bring insight into why these discourses are dominant in society.

Rhetoric refers to the techniques speakers use to persuade others, and focuses on how a speaker can frame their speech using the available means of persuasion (Aristotle, 1960:xviii). This research chose to solely rely on the methods outlined in Aristotle's (1960) book, *Rhetoric*, and analyze an example of each branch of rhetoric – deliberative, forensic, and epideictic (p.17). The reason for analyzing an example of each branch of rhetoric, is because there are different approaches a speaker should use according to the

type of speech they are delivering. As Aristotle states in deliberative speech the speaker is either dissuading or exhorting an idea; the forensic speaker is either defending or accusing in judicial speeches; and in epideictic the speaker is either praising or blaming the actions of themselves or another individual/group (p.17). Therefore, in order to get a well-rounded understanding of the rhetoric used when discussing biotechnology and GM seeds, this research chose an example from each branch of rhetoric to analyze.

In the rhetorical analysis the three units of analysis were a House of Commons debate (deliberative), the legal case of *Monsanto Canada Inc. v. Schmeiser* (forensic), and Monsanto's Canadian website (epideictic). Each analysis focused on how the speakers incorporated Aristotle's (1960) three means of persuasion into their speeches in order to successfully persuade their audiences. The means of persuasion (or "artistic proofs") include the logical arguments (logos), the displays of good character (ethos), and the arguments which appeal to the emotions of the audience (pathos) (Aristotle, 1960:90). The analysis also focuses on "non-artistic" proofs, which are found in the logical arguments, where the speaker uses enthymemes and examples in order to provide supporting facts to their side of the argument. This research identifies the non-artistic proofs used in each example of rhetoric, and determines why or why not, the arguments used were successful in persuading the audience/judges.

Analysis of the Three Branches of Rhetoric

Deliberative Rhetoric

Summary of House of Commons Debate

The source used as an example of deliberative rhetoric was a House of Commons Debate (Hansard) in which the Standing Committee on Agriculture and Agri-Food used

witnesses to discuss agricultural policy, and specifically the future of biotechnology. The committee's goal was to make improvements to the prior agricultural policy, *Growing Forward* (2008-2013), and draft a report of recommendations for the federal government to assist with creating *Growing Forward 2* (GF2). The debate of the Standing Committee on Agriculture and Agri-Food took place on March 24, 2011 (40th Parliament, 3rd Session); they invited four witnesses in order to gather information regarding the use of biotechnology in agricultural practices, and to deliberate on policies relating to trade and GM crops. The main topics of discussion were concerned about science-based regulations and policies; creating low-level presence policies regarding GM material; funding public and private research and development; and the issues surrounding Bill C-474.¹⁸

The Chair of the Standing Committee was Mr. Larry Miller (Bruce-Grey-Owen Sound) of the Conservative Party of Canada (CPC); Larry Miller was initially elected as a Member of Parliament (MP) on June 2004, and works on issues relating to health care, seniors, agriculture, and Great Lakes water levels. Larry Miller is also the founding Chair of the National Rural/Agriculture Caucus, and prior to politics ran a Canadian beef farming operation (Larry Miller, n/d).¹⁹ Also, in attendance from the Conservative Party was Mr. Randy Hoback (Prince Albert); Mr. Pierre Lemieux (Glengarry-Prescott-Russell); Mr. Bev Shipley (Lambton-Kent-Middlesex); Mr. Brian Storseth (Westlock-St.Paul); and Mr. Blake Richards (Wild Rose). Representing the Liberal Party at the

¹⁸ Bill C-474 was not explicitly explained during the debate, however, its sponsor Mr. Alex Atamanenko was present. Bill C-474 was a proposed motion for a moratorium on GM alfalfa, and proposed to amend the *Seed Regulations* in order to “require that an analysis of potential harm to export markets be conducted before the sale of any new genetically engineered seed is permitted.” Bill C-474 was defeated at the report stage on February 8, 2011. (Parliament of Canada, 2011).

¹⁹ See: <http://www.larrymiller.ca/default.asp?ID=11>

Standing Committee were Hon. Wayne Easter (Malpeque); Mr. Francis Valeriote (Guelph); and Hon. Mark Eyking (Sydney-Victoria). From the Bloc Quebecois were Ms. Francis Bonsant (Compton-Stanstead) and Mr. Andre Bellavance (Richmond-Arthabaska); lastly, representing the NDP was Mr. Alex Atamanenko (British Columbia Southern Interior).

Mr. Jim Everson, Vice-President of Corporate Affairs for the Canola Council of Canada, was included as a witness to provide information on the canola sector, and recommend courses of action for future legislation regarding biotechnology. Everson is a consultant/lobbyist for the Parliament of Canada, and is concerned with trade negotiations affecting the canola sector, lowering trade tariffs, and eliminating trade barriers (Office of the Commissioner of Lobbying of Canada, 2013). Mr. Stephen Vandervalk was elected as President of Grain Growers of Canada in 2010, he was used as a witness for the Committee to provide specific insight into how biotechnology had benefitted his farming operation in Alberta (Grain Growers of Canada, n/d).²⁰ Mr. Richard Phillips was used as a witness representing the Grain Growers of Canada as the Executive Director of Grain Growers of Canada; however, he is also a Director of Canada Grains Council, and President of the Canadian Agrifood Trade Alliance. Phillips is a seed grower in Saskatchewan who is interested in creating trade-oriented agricultural policies, and advancing research in biotechnology (Grain Growers of Canada, n/d).²¹ Mr. Richard White is the General Manager of the Canadian Canola Growers Association, and a lobbyist for matters relating to agriculture, science and technology, and international trade policies (Office of the Commissioner of Lobbying of Canada, 2012).

²⁰ See: http://www.ggc-pgc.ca/index.asp?fxoid=FXMenu,2&cat_ID=26&sub_ID=217

²¹ See: http://www.ggc-pgc.ca/index.asp?fxoid=FXMenu,5&cat_ID=21

Analysis of Deliberative Rhetoric

Deliberative rhetoric is used within speeches of council to make recommendations and provide advice for decisions to be made in the future (Aristotle, 1960:17). In the Hansard debate being analyzed the deliberation is regarding GF2, and how to make improvements to its predecessor – Growing Forward – and determine what new measures need to be implemented to meet the needs of the biotechnology industry. The first part of the debate was dedicated to the witnesses introducing themselves, and providing their recommendations for future agricultural policies. The latter part of the debate provided the opportunity for the council members to question the witnesses on the basis of their recommendations. The witnesses used as an advisory panel all have vested interests in the success of biotechnology; therefore, it is no surprise that all of their recommendations were about promoting the biotechnology industry. Two of the four witnesses strongly emphasized the importance of creating policies which would rely on science-based assessments of the GM seeds in order to ensure competitive trade environments.

“Mr. Jim Everson: To start with, we have to ensure that our regulatory system continues to be based on science. Technology companies are investing millions in research and development to bring new innovations to market. To do so, they need to have confidence that the regulatory framework for these products is predictable and is based on sound science. This is also very important to international markets.” (2011:2).

“Mr. Richard White: The current Canadian system of science-based regulatory approval is a critical component of the thriving canola industry. It is rigorous

and it is based on a predictable process with clear measurements. This fosters an investment-friendly atmosphere.”(2011:6).

The aim of the speakers here is to recommend science-based assessments as superior to alternative methods of assessment, such as an economic-based assessment as advocated for by Atamanenko. The means of persuasion used by the witnesses were reflective of the Aristotelian triad of logos, ethos, and pathos. The “logos” refers to the logical proofs used as examples to illustrate the need for science-based assessments in order to ensure the success of biotechnology and GM crops. The example White uses as a logical proof as to why we need science-based assessments is a historical parallel of the European Union, which shows how their agricultural sector has suffered by not adopting science-based assessments:

“Mr. Richard White: I would look at the European example, I guess, as what not to do. They have historically not had a science-based regulatory process with regard to GM material. Technologically, their farmers have, I believe, fallen way behind. They’re quickly trying to catch up. Again, the issue of how the EU was going to regulate GM material was decided quite a few years ago. There was no investment going in there, and they are way far behind now in terms of technology development.” (2011:8).

The enthymeme used as a historical proof by White not only appeals to a logical argument for the continuation of science-based assessments, but also to the pathos of the situation and the ethos of the speaker. The “pathos” is what Aristotle refers to as the emotional appeals used in an argument in order to influence the emotions of the audience; in this example White relates his argument to how the farmers has suffered as a result of

the EU not using science-based research. Casting a shadow of pity for the EU's farmers' makes the audience think about how the consequences would affect their own Canadian farmers. Furthermore, by taking into consideration the needs of the farmer, White is also displaying himself as a man of virtue. The 'ethos,' as described by Aristotle (1960), refers to the character and good-will a speaker portrays when addressing an audience (p.90). By successfully incorporating all three means of persuasion (logos, ethos, and pathos) into his argument, White has gained confidence in his audience by portraying himself as an intelligent, credible, and moral source of information.

Whereas, White uses the needs of the farmers for his reason as to why Canada needs science-based assessments, Everson advocates for science-based assessments in relation to international trade. For logical proofs Everson relies on citing statistics that in Canada "a total of 80%-90% of our canola production is exported" (2011:2). However, Everson believes that if our assessments are not science-based it would impose an additional trade barrier due to the delay it would create in the approval process. Everson's main concerns with agricultural policies were related to international trade, and the funding private and public biotechnology research. As a solution to trade barriers, Everson also recommended that the government create low-level presence policies for GM material. For Everson, the reason for creating low-level policies is to remove unnecessary trade barriers to ensure that Canada remain competitive in the global market. In terms of rhetorical style, Everson mostly concentrated his arguments towards the "logos" (the logical proofs) of the situation. In Everson's enthymemes he only offered the examples, and the facts for his conclusions; missing from Everson's speech were any appeals to the emotions of the audience, and the illustration of moral character.

Vandervalk and Phillips (both representing the Grain Growers of Canada) took very different, and interesting approaches to their introductions to the members of council. Neither began with their recommendations, instead they concentrated on building confidence, moral character, and establishing themselves as credible witnesses. Phillips began by introducing himself as a farmer from Saskatchewan, where he and his wife farm the land together. This was an important element to Phillips' speech, by situating himself as a farmer he has portrayed himself as relatable, credible, and a man of virtue. Also, Phillips chooses to dedicate some of his time towards addressing the prejudices associated with the seed industry, and the safety of GM seeds.

“Mr. Phillips: I have three quick points to raise. The first is a misconception about corporate concentration in the seed business and farmers being forced to buy seeds from one or two companies. Nothing could be further from the truth. I have here a couple documents that I will leave with the clerk. The first is from SeCan. SeCan is the largest supplier of certified seed to Canadian farmers. It is a private, not-for-profit, member organization with more than 800 farmers across Canada who are growing, cleaning, and marketing seed. SeCan has more than 430 varieties of field crops, including cereals, oilseeds, pulses, special crops, and forages. Most of the varieties they sell were developed by publically funded Canadian plant-breeding organizations such as Agriculture and Agri-Food Canada, provincial ministries of agriculture, and universities. Farmers can purchase these SeCan varieties at most local seed dealers, many of whom are their neighbours” (2011:4).

In this enthymeme, Phillips is using a specific example in order to show that farmers do have a choice in the seeds they purchase, proving that biotechnology companies have not monopolized the seeds industry. Phillips also uses this to support his recommendation that there needs to be more publicly-funded research in order to help farmers conduct research in areas where the private sector does not see a commercial return in their investments. As for addressing the prejudice associated with the safety of GM seeds, Phillips uses a report published by the European Commission in which they reviewed GMO food safety, and he provides this quote:

“the main conclusion to be drawn from the efforts of more than 130 research projects, covering a period of more than 25 years of research, and involving more than 500 independent research groups, is that biotechnology, and in particular GMOs, are not per se more risky than e.g. conventional plant breeding technologies” (2011:4).

Although, Phillips provides a direct quote from a research study, the actual information provided did not prove his enthymeme, because it was based on what Aristotle’s (1960) terms as a “fallible sign” (p.178). Enthymemes are derived from four sources – probabilities, examples, infallible signs, and fallible signs – which can be used to provide the deduction. The weakest source for an enthymeme is a fallible sign because these are only based on assumptions which are partly true; for that reason they are also the easiest to refute because they are logically inconclusive. The problem with Phillip’s enthymeme was that the information he was quoting to prove the safety of GM seeds was based on a study which was researching GMO food safety (not GM seeds), and their overall conclusion did not specifically state that GMO foods were safe. The European

Commission's research only concluded that GMOs were not "*per se more risky*," meaning that there was no definitive answer to the question of safety. However, since nobody refuted Phillips's enthymeme, and he did seem to be knowledgeable on the subject, and used a credible source as his means of proof, his attempts to eliminate prejudice may have been successful among some members of parliament.

During Vandervalk's time to address the audience he took a far different approach from any of the other witnesses. Vandervalk did not provide any recommendations for the committee; however, what he did provide was a personal narrative of a farmer's experience with GM seeds. Not only did Vandervalk use his recent personal experience to discuss biotechnology, but he also included his father's experience as a farmer to compare how farming technologies and practices have advanced. Vandervalk's delivery was highly effective because he spoke with naturalness, and used language which represented the voice of the farmer. Aristotle (1960) states that, "naturalness is persuasive, artifice just the reverse. People grow suspicious of an artificial speaker, and think that he has designs upon them" (p.186); therefore, Vandervalk's speech was perceived as genuine and worthy of consideration. Furthermore, even though Vandervalk did not make specific recommendations to the committee he still did appeal to each means of persuasion. Vandervalk's character (ethos) was established by his portrayal of himself as a modest farmer. Also, Vandervalk connected emotions (pathos) to his speech by using language which created images of him and his father "tilling the land," for example,

"Mr. Vandervalk: Back in the days of Treflan to control wild oats and canola, you needed to spread the product on and fully till the soil up to four inches deep,

twice. Then you were ready to fertilize and seed and would then till a third time and sometimes a fourth time. Finally, there were no more products whatsoever to control the wild broadleaf weeds. By tilling the ground so often, you exposed the soil, now black powder, to all sorts of environmental factors, including the wind. Watching your land blow away has to be the most sickening feeling in the world” (2011, 3).

By describing how much effort it took to maintain their farmland before using GM seeds, Vandervalk has gained sympathy from the audience, because no matter how hard they worked, their efforts weren't enough to produce a healthy crop. Vandervalk, also instilled a mental image into the minds of the audience, of watching his land vanish after all his labour, and retelling to them how it made him feel; Vandervalk's deliberative speech relied heavily on the emotional connection he was able to create. As for the logos of Vandervalk's speech, he was successful in proving that biotechnology was the best solution to his specific situation; however, his enthymeme was seemingly incomplete because his conclusion was alluded to, rather than clearly stated.

During the question period of the debate, the topics of concern concentrated on the safety and regulation of GM crops/Bill C-474, exporting GM crops/potential trade barriers, and predictions about the future of biotechnology. Committee members²² concerned with the safety of GM crops made reference to Bill C-474, which was initially sponsored by committee member Mr. Alex Atamanenko before being turned down at the report stage. Bill C-474 was proposing to place a moratorium on GM alfalfa due to the alleged cross-contamination issues with non-GM alfalfa crops. Bill C-474 was also

²² Committee members concerned with the safety of GM crops: Mr. Andre Bellavance (BQ); Mr. Alex Atamanenko (NDP); Mr. Pierre Lemieux (CPC); and Mr. Francis Valeriote (LIB).

proposing that an economic assessment be required of GM seeds before reaching the market in order to protect the farmers of non-GM alfalfa crops from loss of income.

Some of the questions the committee members posed to the witnesses included:

“Mr. Andre Bellavance: In terms of adding to the bill the analysis of the impact on international trade, as well as the analysis being done on health and the environment, would you be able to give me an example of a country where an analysis like that has been enforced and where it affected at least one agricultural sector or brought an entire agricultural sector to its knees?” (2011:8).

“Mr. Francis Valeriote: I’m just wondering, do any of you know whether, in that environmental assessment that was undertaken by Health Canada, the coexistence issue or threat to biodiversity is examined?” (2011:11).

Both Everson and White addressed Bellavance’s question regarding providing an example of a country in which adding an economic impact assessment to new GM seeds affected the agricultural sector. Everson responded by stating that he did not “know of any specific circumstances where that kind of procedure was in place” (2011:8); but, Everson believed that if Canada were to require such an assessment it would create a trade barrier because our criteria would not be consistent with other countries. As an example, White referred to Argentina’s approval policies being geared more towards “market acceptance criteria over and above scientific criteria” (2011:8). However, White’s example is flawed because there has been no significant impact on Argentina’s agricultural sector due to their approval assessments. White acknowledges the lack of proof in this argument by stating that:

“So it may not be immediate, but over time, longer term, I would see and expect that research and investment dollars would be somewhat spooked away from that kind of environment where you’re not relying solely on science. You are opening it up to other subjective criteria, and investors and companies that invest in research may not be there in the longer term” (White, 2011:8).

It was Atamanenko who discredited White’s argument by stating two of its weaknesses, the first weakness is that White’s argument isn’t based on any actual evidence, merely speculation; the second weakness is that science-based assessments are also subjective because it all depends on whose science is used in determining safety (p.8). Atamanenko provides a specific example of a scientific study by Seralini in which the results indicated that there are health risk associated with Monsanto 810 corn.

Also, in response to Valerioté’s question concerning whether or not there has even been an assessment on the coexistence of GM crops and non-GM crops, White provides an another unfounded argument. White states that (to the best of his knowledge) there have been no diversity assessments thus far, but justifies this by claiming GM seeds are no different from traditional seeds, with the exception of the particular trait (p.11). White’s argument follows the same logic as the “principle of substantial equivalence,” in which GM foods are generally assumed to be as safe as their traditional counterparts (Schauzu, 2000:1). All of White’s arguments used to answer Bellavance’s and Valerioté’s questions were examples of “sham enthymemes,” because they were not logically displayed, and based on false assumptions.

Regarding trade barriers and the future of biotechnology the committee members were interested in learning what the largest concern to trade was for farmers; as well as,

what they thought advancing research in biotechnology would accomplish in the future. The witnesses unanimously agreed that the most important change in agricultural policy would be to create a low-level tolerance policy for the presence of GM material. The argument provided for why Canada needs to establish a low-level tolerance policy is because zero-tolerance is too much to expect, and if that policy was to continue some food/animal feed would no longer be accepted. In order to magnify the witnesses' argument, Everson states that:

“The issue in a zero tolerance world will be one of food and feed security for countries that really depend on imports and won't be able to get them because they're detecting GM products that really have no impact from a health and safety point of view” (Everson, 2011:19).

Everson uses magnifying as a rhetorical technique to refer to the suffering which would be caused if Canada did not develop low-tolerance presence policies for GM material. The intention for magnifying the situation is to generate a sense of urgency amongst the audience to imply that action needs to be taken now (Aristotle, 1960:122).

As for the future of biotechnology, the witnesses seemed quite confident that with increased funding directed to research the possibilities were limitless. When asked what advancements were likely to be seen from biotechnology in the future the witnesses responded with incredible answers; for example:

“Mr. Richard Phillips: I think you'll see heat resistance and drought resistance. You'll see a lot of health traits in there, whether they are high-oleic canolas or low-lin canolas. You may see traits with more vitamins in them. In 20 years from

today I bet we will see wheat with different gluten structure for people with celiac disease” (2011:15).

“Mr. Richard White: Mr. Phillips took the words right out of my mouth. Looking ahead 50 years, as long as we allow biotechnology to lead the way and innovation to flourish in this country, I think we’re going to see similar crops with new traits. They won’t be just agronomic ones; they will benefit consumers’ health – heart issues, cancer reduction traits, who knows” (2011:15).

The witnesses provided a very positive, and pleasurable image of the advancements to be seen from biotechnology if we keep fostering its research and development. Aristotle (1960) identifies that people’s actions are either influenced in order to end pain, or create more pleasurable situations (p.60). Therefore, arguments related to increasing happiness, and which also contribute to the “greater good” are generally the most persuasive.

At the end of the debate the concluding remarks were made by Phillips; instead of restating the recommendations to the committee, Phillips once again addresses the prejudices of biotechnology. Phillip’s states, “its fear of the unknown about whether GM products are safe or not.” (p.19); and suggests that if people have any doubts, and need proof about the safety of GM seeds then they should refer to the regulations enforced by the CFIA, Health Canada, and Ag Canada. Phillips seems to believe that the only reason people are against biotechnology, and GM crops, is because they under the false impression that they are unsafe because there are not enough safety measures in place to protect the public. However, Phillips urges that Canada has numerous safety assessments, and therefore, GM crops should be encouraged as a legitimate alternative for farmers.

Forensic Rhetoric

Summary of Monsanto Canada Inc. v. Schmeiser (2004)

The legal battle between Monsanto and Saskatchewan farmer Percy Schmeiser is a well-documented case because of its role in determining the extent to which patents can be applied to plants and higher-life forms. The lawsuit initially began in 1997 when a Monsanto investigator went onto the public road allowances between Schmeiser's fields to obtain samples of his canola crops (*Monsanto Canada Inc. v. Schmeiser*, 2004:928). After testing the canola for Roundup Ready genetic marker, Monsanto claimed that Schmeiser's 1,000 acres consisted of 95-98% Roundup Ready plants (*Monsanto Canada Inc. v. Schmeiser*, 2004:903).²³ Monsanto notified Schmeiser of their findings, but Schmeiser went ahead with treating the seeds and planting them in his 1998 crop (*Monsanto Canada Inc. v. Schmeiser*, 2004:928). Schmeiser, and his wife, had been farming their crops for over fifty years, and throughout that time they saved their most prosperous seeds for future crops. The argument Schmeiser provided for the majority of his crop consisting of Roundup Ready canola, was that it must have blown onto his land from neighbouring crops, and survived when he sprayed Roundup Ready herbicide around his ditches and power poles (*Monsanto Canada Inc. v. Schmeiser*, 2004:912).

In 2002, the Federal Court of Canada ruled in favour of Monsanto on the grounds that the defendant (Schmeiser) failed to "show that the Commissioner of Patents erred in allowing the patent" (*Monsanto Canada Inc. v. Schmeiser*, 2004:903). Whether or not Schmeiser intentionally planted the patented seeds did not matter in the federal court

²³ Monsanto has a patent on "Roundup Ready Canola" which is resistant to glyphosate herbicide "Roundup" which is manufactured by Monsanto (*Monsanto Canada Inc. v. Schmeiser*, 2004:913).

because with infringement intention is not required, instead the focus is on the “use” of the patent. Despite the fact that Schmeiser had never benefited from using the corresponding Roundup Ready herbicide, he had still used Monsanto technology and had therefore breached the *Patent Act*, s.42, by depriving the inventor of the full enjoyment of the monopoly (*Monsanto Canada Inc. v. Schmeiser*, 2004:905).²⁴ The Federal Court of Appeal upheld the ruling by the Federal Court, but made no decision regarding the validity of Monsanto’s patent (*Monsanto Canada Inc. v. Schmeiser*, 2004:903). The case then went on to the Supreme Court of Canada, the final court of appeals, where “the issues on this appeal are whether Schmeiser infringed Monsanto’s patent, and if so, what remedies Monsanto may claim” (*Monsanto Canada Inc. v. Schmeiser*, 2004:912).

Analysis of Forensic Rhetoric

Forensic rhetoric is used in judicial settings when we are referring to events which have happened in the past, and forensic speeches are used either to accuse or defend. Forensic speech provides the best opportunity to use enthymemes as proof, because since the acts being discussed have already happened this provides the speaker with material to demonstrate either innocence or guilt. Regarding *Monsanto Canada Inc. v. Schmeiser* (2004), Monsanto is the respondent, and Schmeiser is the appellant; Schmeiser is appealing the ruling which were determined by the Federal Court of Canada and the Federal Court of Appeal. Schmeiser believes he has wrongly been accused, and found guilty of patent infringement, arguing that Monsanto’s patent on Roundup Ready Canola

²⁴ *Patent Act* (1985), s.42, “Every patent granted under this Act shall contain the title or name of the invention, with a reference to the specification, and shall, subject to this Act, grant to the patentee and the patentee’s legal representatives for the term of the patent, from the granting of the patent, the exclusive right, privilege and liberty of making, constructing and using the invention and selling it to others to be used, subject to adjudication in respect thereof before any court of competent jurisdiction.”

is invalid and should never have been approved by the Commissioner for Patents in Canada. Therefore, in the Supreme Court Ruling the onus is on Schmeiser to prove that the patent is invalid; also, the onus is on Monsanto to prove that Schmeiser did commit patent infringement by collecting, saving, and planting seeds containing Monsanto's patented gene (Monsanto Canada Inc. v. Schmeiser, 2004:918).

The methods used by the appellant and defendant can be analyzed using Aristotelian (1960) theories on forensic rhetoric; Aristotle identifies methods which can be used by a speaker when the law is in your favour, and also methods to use when the law is not in the speakers favour. In this case, the written law is in favour of Monsanto, since they already had an approved patent on the Roundup Ready Canola. When the written law is in your favour, Aristotle (1960) states that you must "argue that law is impartial, and if the law does not get enforced then it should have never been enacted" (p.81). Monsanto did use the law as a 'non-artistic' means of persuasion, however, the Supreme Court required Monsanto to prove that their patent was infringed. This case presented some difficulty in establishing patent infringement because it was unclear if Schmeiser "used" the patented material in a way that deprived Monsanto of their monopoly rights as an inventor. Since the patented gene regenerated itself in the offspring of the Roundup Ready Canola, this means that the patent would have to extend itself include plants under the scope of the patent, which would be a higher life form. However, Monsanto argued that Schmeiser knew he was planting Roundup Ready Canola because the concentration was so high in his crops; and the trial judge in the Federal Court ruling agreed, and stated that:

“It may be that some Roundup Ready seed was carried to Mr. Schmeiser’s field without his knowledge. Some such seed might have survived the winter to germinate in the spring of 1998. However, I am persuaded by evidence of Dr. Keith Downey...that none of the suggested sources could reasonably explain the concentration or extent of Roundup Ready Canola of commercial quality evident from the results of tests on Schmeiser’s crops” (*Monsanto Canada Inc. v. Schmeiser*, 2004:929).

Additionally, the Supreme Court used three means to determine the proper interpretation of the word “use” as it is stated in the *Patent Act*; they stated the means as,

“First the inquiry into the meaning of “use” under the *Patent Act* must be purposive, grounded in an understanding of the reasons for which patent protection is accorded. Second, the inquiry must be contextual, giving consideration to the other words of the provision. Finally, the inquiry must be attentive to the wisdom of the case law” (*Monsanto Canada Inc. v. Schmeiser*, 2004:919).

In order to establish the purpose of s.42 of the *Patent Act*, the court referred to H.G. Fox, *The Canadian Law and Practice Relating to Letters Patent for Inventions*, and the case *Lishman v. Erom Roche Inc.* From these two examples, the court determined that the purpose of s.42 is to “define the exclusive rights granted to the patent holder” and therefore, what is prohibited is “any act that interferes with the full enjoyment of the monopoly granted to the patentee” (*Monsanto Canada Inc. v. Schmeiser*, 2004:919). In the contextual analysis of s. 42 of the *Patent Act*, the court determined the patentee’s monopoly generally protects business interests, therefore, using a patented invention to

further your own business interest constitutes infringement; the information used in the contextual analysis was retrieved from Professor D. Vaver, *Intellectual Property Law: Copyright, Patents, Trademarks (1997) (Monsanto Canada Inc. v. Schmeiser, 2004:920)*.

For the last approach used to interpret s. 42 of the *Patent Act*, the courts relied on case law to guide their decision as to what constitutes “use”. The purpose of using case law is to provide guidance through the use of analogous cases, in order to determine the appropriate response to a difficult case. Case law also represents what Aristotle (1960) terms as a historical example, which is used as the basis of an argument; therefore, the example is used to create an enthymeme (p.147). In this example, the court needs guidance “to determine whether patent protection extends to situations where the patented invention is contained within something else used by the defendant” (*Monsanto Canada Inc. v. Schmeiser, 2004:921*). From the case law, the court determined that the patented invention does not need to be used for its intended purposes in order for there to be infringement.²⁵ Also, through case law, the court determined that although Schmeiser never used Roundup Ready herbicide to fully benefit from the patented material, it still held “insurance value,” because if the need arose, Schmeiser would have had the option available.²⁶ Therefore, the court ruled that Schmeiser must prove that the patented genes were never used, intended to be used, not even through its stand-by utility (*Monsanto Canada Inc. v. Schmeiser, 2004:926*).

²⁵ Cases cited: *Saccharin Corp. v. Anglo-Continental Chemical Works, Ltd* (1900), 17 R.P.C. 307 (H.C.J.); *Betts v. Neilson* (1868), L.R. 3 Ch. App. 429 (aff’d 918710, L.R. 5 H.L. 1); and *Dunlop Pneumatic Tyre Co. v. British and Colonial Motor Car Co.* (1901), 18 R.C.P. 313 (H.C.J.)

²⁶ Cases cited: *British United Shoe Machinery Co. v. Simon Collier Ltd.* (1910), 27 R.P.C. 567 (H.L.); *Stead v. Anderson* (1847), 4 C.B. 806, 136 E.R. 724 (C.P.); *Hoechst Celanese Corp. v. BP Chemicals Ltd.* (1998), 25 F.S.R. 586 (Pat. Ct.); *Illinois Tool Works Inc. v. Cobra Anchors Co.* (2002), 221 F.T.R. 161, 2002 FCT 829; *Computalog Ltd. v. Comtech Logging Ltd.* (1992), 44 C.P.R. (3d) 77 (F.C.A.); and *Adair v. Young* (1879), 12 Ch. D. 13 (C.A.)

Schmeiser's appeal of the initial rulings are on the grounds that the Commissioner erred in granting Monsanto a patent for their Roundup Ready Canola. Schmeiser provides three arguments for his case; that the patent is invalid because patenting a gene also restricts the use of the plant, and you cannot have a patent on a higher life form; secondly, he never "used" Monsanto's patent because he never took commercial advantage of it by using Roundup Ready herbicide; lastly, Schmeiser argues that "Monsanto's activities tread on ancient common law property rights of farmers to keep that which comes onto their land" (*Monsanto Canada Inc. v. Schmeiser*, 2004:936). Schmeiser's second argument has already been addressed, because the Supreme Court used case law to establish that in regards to patent infringement, the patented invention does not need to be used for its intended purposes (*Monsanto Canada Inc. v. Schmeiser*, 2004:924).

In order to prove that Monsanto's patent was invalid, Schmeiser provided the *Harvard College v. Canada* as an analogous legal comparison. In *Harvard College v. Canada*, Harvard was attempting to patent a mammal (mouse) which they had altered to become susceptible to cancer (*Monsanto Canada Inc. v. Schmeiser*, 2004:940). The patent on the "Harvard Mouse" was rejected because patents are not allowed on higher life forms, which includes plants. However, the courts rejected Schmeiser's argument because Monsanto's patent was specifically on the gene and cell used to modify the plant, not the plant itself (*Monsanto Canada Inc. v. Schmeiser*, 2004:940). For this argument, Schmeiser failed to prove that Monsanto's patent was invalid because he used an enthymeme base on fallible signs as his justification (Aristotle, 1960:178). The fallible sign to Schmeiser's argument was that it was only partially true, Harvard College was

denied a patent on a higher life form; but, Monsanto's patent was never for a higher life form, it was specifically for the gene and cell used in the modification of the canola plant.

Schmeiser's last argument, that "Monsanto's activities tread on ancient common law property rights of farmer to keep that which comes onto their land," was turned down by the courts because "ownership is no defence to a breach of the *Patent Act*" (*Monsanto Canada Inc. v. Schmeiser*, 2004:936 & 937). However, Schmeiser's argument is interesting because Aristotle (1960) states that when the written laws are not in the speaker's favour, they must appeal to the universal laws understood by mankind (p.55). Schmeiser was also attempting to appeal to principles of equity, in which the judge should take merciful consideration of the circumstances, especially since the law was not precise in its interpretation of how "use" was applied in s.42 of the *Patent Act* (Aristotle, 1960:76).

From an Aristotelian perspective, this legal case was always in favour of Monsanto, simply because they had the most facts on their side (Aristotle, 1960:158). The successful use of forensic rhetoric for Monsanto, was derived from the historical parallels (case law) used in determining the how the word "use" should be applied in s. 42 of the *Patent Act*. Additionally, Monsanto's success was also a result of Schmeiser's fallible enthymemes, which failed to prove his arguments because they were either not based on written law, or the historical parallels (*Harvard College v. Canada*) used in his defence did not provide strong analogies.

Epidictic Rhetoric

Monsanto's Canadian Website: Analysis of Epidictic Rhetoric

Epideictic rhetoric is used in speeches which provide praise or blame to an individual, or in this case a corporation. Monsanto's Canadian website is used as the example for epideictic rhetoric because it utilizes the three means of persuasion (logos, ethos, and pathos) identified by Aristotle, and also provides an understanding for how biotechnology companies portray themselves to the public. Monsanto uses their website as a platform to provide their audience (anyone who visits their website) with information to either persuade an individual to purchase their products, or to provide information on the benefits of biotechnology. Monsanto has a pledge posted on their website which portrays the company as virtuous, with high morals and good character (pathos).²⁷

“The Monsanto Pledge is our commitment to how we do business. It is a declaration that compels us to listen more, to consider our actions and their impact broadly, and to lead responsibly. It helps us to convert our values into actions, and to make clear who we are and what we champion” (Monsanto Company, Monsanto's Pledge, 2012).

Monsanto uses this pledge to gain the public's trust, by assuring them that Monsanto's business practices are always in the best interest of the public, and that they take careful consideration before they act. The virtues which Monsanto displays in their pledge represent what Aristotle's (1960) identifies as liberality, justice, courage, magnanimity, and prudence (p.47). On Monsanto's pledge page it also highlights eight principles/ideals which their company incorporates into their business practices; the principles are as follows: integrity, dialogue, transparency, sharing, benefits (referring to how their science benefits customers and the environment), respect, acting as owners to achieve goals

²⁷ See Appendix A

(referring to accountability), and to create a great place to work. Monsanto is magnifying their virtues, and as Aristotle (1960) states, “magnifying naturally enters into laudatory speeches, since it has to do with superiority, and superiority belongs to noble things” (p.54).

Monsanto also appeals to the emotions (ethos) of their audience by stating that they are committed to maintaining sustainable agriculture, and producing better crop technologies “in order to keep pace with rapidly increasing demands” (Monsanto Company, Our Commitments, 2012). Monsanto is attempting to create an image that they are a compassionate company, and their sole interest is with providing the world food security. Monsanto’s website also displays many images of farmers from all over the world enjoying their crops, and benefiting from the services Monsanto provides.²⁸ By focusing their website on the farmer’s needs, Monsanto has also made themselves relatable to the average farmer, and they’ve worded their arguments in such a way that the reader can apply it to themselves, or other family members; for example, on their page “Who We Are,” they state,

“If there were one word to explain what Monsanto was about, it would have to be farmers. Billions of people depend upon what farmers do. And so will billions more. In the next few decades, farmers will have to grow as much food as they have in the past 10,000 years – combined. It is our purpose to help farmers do that exactly. To produce more food. To produce more with less, conserving resources like soil and water. And to improve lives. We do this by selling seeds,

²⁸ See Appendix A

traits developed through biotechnology, and crop protection chemicals”
(Monsanto Company, *Who We Are*, 2012).

In this example, Monsanto is attempting to appeal to the reader’s emotions by stating how much the future will depend on societies being able to produce enough food, and the only way for that to happen is to utilize biotechnology.

Another way Monsanto uses emotion to gain the trust of the public is by advertising their charitable donations to farming communities. On their website, Monsanto accepts applications from farmers for “The Monsanto Fund,” where Monsanto gives \$2,500 to a community charity of the winner’s choice. In 2012, there was a total of 58 winners, and Monsanto donated \$145,000 to charities in Quebec, Ontario, Manitoba, Saskatchewan, Alberta, and Northeastern BC; in 2013, Monsanto will giving a total of \$150,000 to the farming communities across Canada (Monsanto Company, *News & Views*, 2013). Additionally, Monsanto gives scholarships of \$1,500 to high school students from farming families wanting to enter into post-secondary school in a field related to agriculture (Monsanto Company, *Our Commitments*, 2013). Monsanto’s practice of donating money to the farming community builds trust in their company, and also loyalty to their products. By extending their help to farmers and their families, Monsanto is building relationships and demonstrating/presenting a noble and selfless character. Aristotle (1960) emphasizes that when trying to persuade an audience, the speaker must use proofs of moral character, and reveal a moral purpose (p.230); Monsanto has accomplished this by using examples of their charitable nature, and concern for the welfare of their customers, as well as their family members.

As for the logical (logos) arguments Monsanto uses to persuade the public, Monsanto markets their products as “the highest-yielding conventional and biotech seeds on the market; advanced traits that enable more nutritious and durable crops; and the safest and most effective crop protection solutions” (Monsanto Company, Products – What We Do, 2012). Thus, as a farmer, one of the most important factors to consider is the expected yield for your crop. A farmer’s income is based on their total crop yield, so farmers are willing to use GM seeds because it is a more reliable source of income. By using GM seeds, this means that farmers will not have to till their land as often, and also that they can use herbicides to eliminate invasive plants. Monsanto appeals to the logical factors which farmers have to consider before planting their crops, and they are successful in their persuasion because they understand the motivating factor for farmers. Farmers want to see an economic return from their crops, and are willing to pay a premium for seeds to increase their overall profit.

Monsanto also addresses some of the prejudice they experience from the public as a result of negative media attention. Monsanto specifically addresses *Food, Inc.*, a documentary on the food industry which questions the corporate practices of major food corporations. Monsanto has dedicated a webpage to answering the questions which they have received from the public after the documentary was released.²⁹ Aristotle (1960) states that when there is prejudice, it is best for the speaker to address it before the audience can (p.226); this way the speaker has the opportunity to control how the information is received, and also instills confidence amongst the audience. Monsanto

²⁹ See Appendix B

states why the facts appear to be negative against them, and provide reasons for the false impression; for example:

Question 1: “Why do you sue farmers for saving seeds? Aren’t many of them forced to settle their cases because they don’t have the financial resources to go up against a large corporation in lawsuit?”

Monsanto’s Response: “Monsanto files suit against farmers who breach their contracts and infringe our patents – not against farmers who did not intentionally take these actions. As a company dedicated to agriculture, Monsanto is committed to the success of farmers. Farmers are our customers, and we work hard to deliver products that meet their needs and expectations. Monsanto values every customer. A decision to file suit against a farmer is very carefully considered. Every effort is made to resolve the matter outside of the litigation process, and when we do file suit it is because we feel it is the only option available to us. We need to meet our obligations to all the farmers who honor their commitments and who insist we maintain integrity in the market” (Monsanto Company, Food, Inc. Movie, 2013).

In Monsanto’s response, they appeal to the emotions of the audience, because they are attributing their concern for farmer’s welfare as the reason they file lawsuits against farmers. Whereas, in the legal case, *Monsanto Canada Inc. v. Schmeiser*, the reason provided was because they were “deprived of their monopoly rights.” Monsanto portrays themselves as a company with integrity, and a company devoted to its farmers; therefore, legal action is the result of the farmer being unreasonable.

Another interesting way in which Monsanto disassociates from prejudice is by stating on their history page that,

“Monsanto is a relatively new company. While we share the name and history of a company that was founded in 1901, the Monsanto of today is focused on agriculture and supporting farmers around the world in their mission to produce more while conserving more. We’re an agricultural company.” (Monsanto Company, Company History, 2013).

Monsanto is attempting to remove the negative image the public has of the company when it was the manufacturer of Agent Orange during the Vietnam War (1961-1971); Agent Orange was used by the United States forces to clear foliage and destroy crops to deplete food sources (Stellman, Stellman, Christian, Weber, and Tomasallo, 2003:681). Monsanto also provides a timeline beginning at 1901 to the present where they state Monsanto’s business activities, they do not mention Agent Orange and the corresponding lawsuit during the timeline.³⁰ However, Monsanto does address Agent Orange under “News & Review,” where they state that:

“From 1965 to 1969, the former Monsanto Company was one of nine wartime government contractors who manufactured Agent Orange. The government set the specifications for making Agent Orange and determined when, where and how it was used. Agent Orange was only produced for, and used by, the government” (Monsanto Company, News & Reviews, 2013).

³⁰ See: <http://www.monsanto.com/whoweare/Pages/monsanto-history.aspx>

Monsanto's approach to alleviating prejudice is by placing the blame on the government, and insisting that they did not have any involvement with how Agent Orange was used. Also, Monsanto suggests that manufacturing Agent Orange was unavoidable, since it was government facilitated and a part of a wartime effort; this tactic is a strategy identified by Aristotle (1960) as a way to deal with prejudice, "by urging that the thing was a mistake, or a mischance, or unavoidable" (p.227). Simply by acknowledging Agent Orange, Monsanto is restoring credibility, and appealing to the emotion of "pity" from the audience, because it was a misfortune any could have experienced if the government has also required them to manufacture Agent Orange (Aristotle, 1960:120).

Monsanto's epideictic speech is so successful in persuading the public audience because they concentrate on emotional appeals. Monsanto emphasizes their ability to provide farmers with the "necessary tools" to farm larger, and stronger crops using their GM seeds. Monsanto also portrays itself as generous, and concerned about the overall welfare of farmers and their families. In doing so, Monsanto has established good moral character, and gains the trust of farmers because Monsanto seems to give back to the farming communities. The largest obstacle Monsanto faces with the public is their past as a manufacturer of Agent Orange; Monsanto attempts to distance themselves from that fact, but due to the recent class action lawsuit it is a difficult stigma to escape. Monsanto's history with Agent Orange dishonors their company's integrity, and therefore is a significant barrier to gaining public trust. However, by stating that Monsanto is a "new" company, they are attempting to redeem their reputation by clearing the slate of past infractions.

Discussion

The function of rhetoric is to persuade, and in order to do so the speaker must use the means of persuasion to the best of their ability. Rhetoric does not have a specific topic, it can be applied to many areas, and can take the format of the written word, oral speech, or a visual image. Nevertheless, it is not simply the verbatim words or facts which influence persuasion, there are many external factors which play an important role in whether or not rhetoric is successful in its aims. Regardless of the facts, rhetoric also takes into account the character (ethos) of the speaker, the emotions (pathos) of the audience, and demonstration/delivery of the facts. Although facts are very influential proofs on their own, there is also technique required in the delivery of facts, which is why rhetoric can be thought of as an 'art.' Although there is a certain manner in which all arguments are delivered, the techniques applied by each speaker are unique to that individual, because the argument is always shaped by their own personal style and experiences.

Collectively throughout the debate there are many examples of how the witnesses successfully appealed to the committee about why biotechnology is important for the advancement of Canadian agriculture. The witnesses incorporated arguments which displayed the logical proofs, such as by focusing on international trade barriers as the logical reason why science-based assessments are needed to ensure that Canadian GM seed approvals match the same standards as other competitive countries. The witnesses were also highly successful in appealing to the emotions of the committee, especially Vandervalk, whose primary means of persuasion was emotion. Vandervalk did not provide any recommendations for the committee, instead he served only to provide

personal experience as a farmer who plants GM crops. Vandervalk's speech was persuasive to the committee because he emphasized how important GM seeds were to his farming practice, and used language which created visual images of the labour farming required without GM seeds. However, Vandervalk's appearance at the committee hearing did seem out of place, because although he came as the President of the Grain Growers of Canada, Vandervalk did not leave the impression that he prepared to give advice on agricultural policy. The majority of the recommendations and evidence were provided by Everson, White, and Phillips; these witnesses proved their arguments by relying on logical proofs and using examples to illustrate their points. Another successful technique used by Phillips, was to address and eliminate the prejudice that is associated with GM crops and biotechnology. Addressing prejudice is important because it displays confidence in the speaker, and helps to provide the audience with the reasons why the prejudice is not true. Overall, the committee seemed to be persuaded by the recommendations made by the witnesses; this is also represented by fact that all of the witnesses' recommendations were included in the committee's final report to the federal government – *Growing Forward 2: Report of the Standing Committee on Agriculture and Agri-Food*.

Within *Monsanto Canada Inc. v. Schmeiser*, it is obvious that Monsanto was the most successful in persuasion because the court ruled that Schmeiser did infringe on Monsanto's patent. Monsanto was successful in proving their case because the patent had already been granted on their Roundup Ready Canola; therefore, the onus was on Schmeiser to prove that the Commissioner of Patents erred in approving Monsanto's patented genetic material. However, Schmeiser was unsuccessful in proving his case

because the case law he used, *Harvard College v. Canada*, was not directly applicable to Monsanto's patent. Schmeiser's argument was loosely based on *Harvard College v. Canada* where they attempted to patent a mammal (mouse), and being a higher life form this was considered unpatentable; Monsanto's patent was approved specifically for the gene and cell used to modify the canola plant, not the plant itself. Monsanto, on the other hand, were highly successful with the proving that Schmeiser infringed on their patent because the case law used to define "use" was in Monsanto's favour. Therefore, the Supreme Court of Canada upheld the rulings of the previous courts because it was determined that although Schmeiser did not benefit from the GM seeds by using Roundup Ready herbicide, Schmeiser still "used" the gene when he replanted the saved seeds, and benefited from stand-by utility of the Roundup Ready tolerant trait.

Even though Schmeiser never intended to harm Monsanto by planting their Roundup Ready Canola, intention was not necessary to prove guilt. The standby benefit of Monsanto's technology was enough to warrant the potential harm and "use" of the patented gene. Therefore, by Monsanto successfully proving that Schmeiser "harmed" their business interests, and that intentions are not necessary, they were able to frame what is meant by harm. Interestingly, Monsanto claims that they do not intend to harm farmers when they pursue lawsuits for patent infringement, but rather they justify these actions by stating that they are protecting farmers who are loyal to Monsanto. On Monsanto's website they even state that "Monsanto files suit against farmers who breach their contracts and infringe our patents – not against farmers who did not intentionally take these actions" (Monsanto Canada – Food, Inc. Movie, 2013). Therefore, depending

on the circumstances, it seems as though Monsanto manipulates the terms “intent” and “harm” to always benefit their side of the debate.

Monsanto’s Canadian website is an interesting example of epideictic rhetoric because it does not take the form of an oral speech, but rather it is a visual representation of Monsanto. Monsanto’s website uses arguments which appeal to the emotions of the reader in order to persuade people to accept biotechnology as a legitimate technique used to create GM seeds. Monsanto is successful in their appeals to the audience’s emotions because they show that they are devoted to helping every farmer, and that their goal is to produce sustainable agricultural practices. Monsanto also displays that they are a company of good character and have high morals by donating money to farming communities, and funding scholarships for students coming from a farming family. The majority of the persuasion on Monsanto’s website relies on the emotions (pathos) created, and the displays of good character (ethos); there are examples of logical arguments (logos), however, they are the least apparent on the website.

Interestingly, another successful rhetorical strategy used by Monsanto is how they addressed the prejudice associated with the company due to their past history as a manufacturer of Agent Orange. Monsanto acknowledged that it was the “old company” which manufactured the Agent Orange herbicide requested by the government, and clearly identified that the “new company” had no involvement with Agent Orange, and that it was strictly devoted to developing crop technologies. Additionally, Monsanto acknowledged the questions which were raised by the documentary *Food, Inc.*, and devoted a webpage to answering the questions related to the business practices. Monsanto’s responses were carefully worded, and placed the blame on the farmers

because legal action is the last step the company takes when dealing with patent infringement. Also, Monsanto justifies their actions by stating that in order to protect the integrity of their business, and protect the farmers which invest in their technology, they must attempt to stop farmers from taking their technology.

In the discussion on biotechnology and GM seeds there are many concerns raised about health and safety; the concerns focus on the potential damages that GM seeds and their byproducts could have on human health, the environment, and farmers (Walters, 2004:151). By using the social harm perspective to broaden the scope of criminology we are provided with the space to explore issues that are not criminally defined, yet still cause considerable amounts of harm (Hillyard and Tombs, 2007). By connecting the concept of harm to criminology this research was able to focus on how biotechnology companies and the government control the dominant discourse using rhetorical strategies to frame their arguments; as a result, the harmful consequences arise because society does not question the validity of the information being provided. Due to the successful framing of the issue biotechnology companies and the government control the discourse and development of policy in favour of biotechnology and GM seeds. These policies and regulations allow biotechnology companies to economically exploit the farmer, and have monopoly rights over patented seed technology. This power struggle between biotechnology companies and the farmer's demonstrates how the powerful have the ability to create the dominant discourses which become the governing knowledge in a society (Hall, 2001:75). Walters (2011) states that "the scientific, social, and legal discourses around the acceptance or otherwise of GM food has more to do with issues of politics and economy than hunger and food security" (p.2); in this statement Walters

(2011) identifies that the intentions of the biotechnology companies are not solely to provide a solution to world hunger, but rather, their main concerns are about profit and having a political advantage. Biotechnology companies use rhetorical strategies to create and maintain the dominant discourse to be in their favour by portraying themselves as selfless, and concerned about the welfare of farmers. However, from a criminological perspective the harms created by biotechnology and GM seeds need to be identified because in order for there to be a policy solution the public/consumer needs to be made aware of the issues.

Conclusion

The rhetoric of biotechnology and GM seeds is important to consider because it identifies how persuasive the appropriate strategies can be on an audience.

Biotechnology can still be considered a new technological advancement, and therefore, will be met with public mistrust and skepticism. However, persuasive techniques can be used to alleviate some of the public's concern for how biotechnology will affect

Canadian (and global) agricultural practices. As Clark (1984) identifies, persuasion is not random, "it results when someone identifies a problem and attempts to respond to it by altering the beliefs or actions of others" (p.4). In terms of biotechnology and GM seeds, the public's mistrust is met with messages of reassurance and the belief in scientific knowledge. The way the biotechnology companies, and the federal government frame their arguments using rhetorical strategies is also important to persuading the public.

Framing is a very important concept to consider when discussing biotechnology because Chong and Druckman (2007a) explain that once a frame of reference has been established, this becomes the common frame of reference through which new information

is processed (p.637). Additionally, an established frame of reference is difficult to reverse because that requires a change in thought processes, this can only be accomplished through the presentation of a competing frame of reference; however, it is nearly impossible completely eliminate a frame of reference (Chong and Druckman, 2007a:637). Therefore, anti-GMO groups, and farmer's advocating for bans on GM seeds, need to incorporate strategies which alter the existing frames of reference in society on biotechnology.

In order for anti-GMO groups to make an impact on society in general, they must incorporate persuasive techniques which relate the issue to the entire population, not just individuals who have already taken a stance on biotechnology. Chong and Druckman (2007a) identify strategies which need to be used when there are competing frames in society, and one of the most important techniques that should be used when making an argument is to make the alternative frame seem available and applicable (p.640). The importance of making a frame applicable, is that the public needs to perceive that the goals are achievable; even though some individuals would ideally like to ban GM seeds, the frame is weak because this alternative does not satisfy the same needs that biotechnology can. Currently, biotechnology offers the farmer the ability to produce larger and more profitable crop yields because of the decrease in the amount of labour required in the cultivation of the crop. Consequently, it will be difficult to persuade a farmer against using GM seeds because it is more profitable.

Since banning GM seeds is considered a weak frame of reference because of its consequences for farmers who are currently using GM seeds and Canadian agricultural trade, the next approach is to connect the issue to an already existing belief (Chong and

Druckman, 2007a:639). Clark (1984) identifies that the best way to alter a strong frame is by acknowledging the truth of the frame, but proposing that there are more important factors, and relate those factors to the personal experiences of the audience (p.21-22). Anti-GMO groups need to understand and identify the positive aspects of biotechnology, and then explain why those factors should be overshadowed by more important concerns. For example, anti-GMO groups are concerned about the effects GM seeds will have on organic crops, as well as surrounding biodiversity, and also the human/animal health concerns from ingesting GM seed byproducts. Anti-GMO groups need to emphasize how this is more important than the current financial gain Canadian farmers are experiencing because of GM seeds. While lobbying the government to investigate the potential harm GM seeds have on society, anti-GMO groups also need to raise the entire public's awareness on the issue. By making the public aware, this would pressure the government to look more seriously into the issue, and perhaps pass legislation such as Bill C-474; this bill would have explored the effects of GM alfalfa on organic crops if the public had been more knowledgeable on the proposed bill.

However, biotechnology companies and the Canadian government have successfully framed the issue of GM seeds using rhetorical strategies. Using Aristotle's means of persuasion (logos, ethos, and pathos) the majority of the Canadian public either agrees with the use of GM seeds, or does not view the alternative as applicable in today's society. In order to persuade society to argue for increased regulations on GM crops, this would mean a significant shift in their dominant frame of reference. In order to alter the public's dominant frame of reference, anti-GMO groups need to formulate their argument

to create a sense of urgency, and magnify the issue so that it seems important to society in general.

Appendices

Appendix A

Monsanto at a Glance

Our Pledge

Company Leadership

Partnering and
Licensing

Our Locations

Contact Us

Our Pledge

The Monsanto Pledge is our commitment to how we do business. It is a declaration that compels us to listen more, to consider our actions and their impact broadly, and to lead responsibly. It helps us to convert our values into actions, and to make clear who we are and what we champion.

Integrity

Integrity is the foundation for all that we do. Integrity includes honesty, decency, consistency, and courage. Building on those values, we are committed to:

Dialogue

We will listen carefully to diverse points of view and engage in thoughtful dialogue. We will broaden our understanding of issues in order to better address the needs and concerns of society and each other.

Transparency

We will ensure that information is available, accessible, and understandable.

Sharing

We will share knowledge and technology to advance scientific understanding, to improve agriculture and the environment, to improve crops, and to help farmers in developing countries.

Benefits

We will use sound and innovative science and thoughtful and effective stewardship to deliver high-quality products that are beneficial to our customers and to the environment.

Respect

We will respect the religious, cultural, and ethical concerns of people throughout the world. The safety of our employees, the communities where we operate, our customers, consumers, and the environment will be our highest priority.


Act as Owners to Achieve Results

We will create clarity of direction, roles, and accountability; build strong relationships with our customers and external partners; make wise decisions; steward our company resources; and take responsibility for achieving agreed-upon results.

Create a Great Place to Work


We will ensure diversity of people and thought; foster innovation, creativity and learning; practice inclusive teamwork; and reward and recognize our people.

Appendix B

MONSANTO 

[Who We Are](#) [Products](#) [News & Views](#) [Improving Agriculture](#)

[Home](#) / [Food, Inc. Movie](#) / Food, Inc. Movie



Food, Inc. Movie

[Food, Inc. Movie](#)

[Seeds and Patents](#)

[Seed Saving and Legal Activities](#)

[Monsanto, the Government, Monopoly Claims](#)

[The American Family Farmer](#)

[FAQs](#)

Food, Inc. Movie

Thank you for the opportunity to talk with you about the issues the film Food, Inc. raised regarding Monsanto.

The film highlights important topics. We certainly agree we must have safe food for our families, we have families, too. We should know where our food comes from.

We've heard from a number of you who have seen the film during the past several months. You have questions about Monsanto, our business practices, the safety of our products, and our relationship with farmers – who are essential not only to our business success but to global food security in the future – and we're answering them.

These pages are intended to answer those questions and provide additional information not provided by the film, so you have a more complete picture of what we do and what we are working to accomplish in the years ahead.

Monsanto answers your questions about the movie Food, Inc

MONSANTO ANSWERS YOUR QUESTIONS ABOUT FOOD, INC.

[Why do you sue farmers for saving seeds?](#)

[How do we know biotech crops produce safe food?](#)

[Can a farmer be sued when GM pollen blows into a neighbor's fields?](#)

[What happened in the case of Moe Parr?](#)

[Have former Monsanto employees working in government compromised government decisions on biotechnology?](#)

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